

History of the Royal Botanic Garden, Edinburgh.

BOTANICAL EXCURSIONS

MADE BY

PROFESSOR JOHN HUTTON BALFOUR,

IN THE YEARS FROM 1846 TO 1878 INCLUSIVELY.

BOTANICAL excursions have always been a prominent feature of the teaching of Botany in Scottish Universities. There is no record of when these were instituted in the case of the Edinburgh Chair of Botany, which is the oldest in Scotland, but Sutherland, who was the first professor, tells us in the dedicatory epistle of his "Catalogue of the Plants in the Physical Garden at Edinburgh," published in 1683, that "by many painful Journeys in all Seasons of the year" he had made it his business to "recover whatever this Kingdom possesseth of Variety, and to cultivate and preserve all of them with all possible Diligence." It is not unreasonable to suppose that on some of his journeys he may have been accompanied by some of those who attended his lectures in the Garden, and that therefore journeys made in the first instance for the purpose of obtaining plants to stock the Garden, became in time a recognised method by which students of botany in Edinburgh received an insight under guidance to the vegetation and flora of their native country.

To what extent the Prestons, Alston, Hope, and Rutherford, the successive professors following Sutherland, made excursions with their students I have no information. But amongst Professor Hope's papers which are now in the possession of the Royal Botanic Garden, is a "Calendarium of Plants growing in the neighbourhood of Edinburgh collected in flower, 1765, as a

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sketch of the *Calendarium Floræ* of Edinburgh,"* which shows that Hope took special interest in the flora of Edinburgh and its vicinity. James Mackay and George Don, who were Superintendents of the Royal Botanic Garden, during Professor Rutherford's tenure of the Chair, were noted field-botanists.

There are yet alive those who can tell of the enthusiasm of Professor Graham in the excursions he made all over Scotland,† and yet more who will remember a like enthusiasm in his successor, Professor John Hutton Balfour. Both these professors and Keepers of the Royal Botanic Garden made their excursions serve the double purpose of giving instruction to their pupils and of supplying the Botanic Garden with specimens for cultivation, and to their efforts in the latter direction the Garden owes its early and sustained reputation for its collection of herbaceous and alpine plants.

Professor John Hutton Balfour kept a record of the excursions he made with pupils, and extracts from these appeared from time to time in the Transactions of the Botanical Society of Edinburgh and elsewhere, giving a brief resumé of incidents of the excursions, and the names of some of the plants collected. At his death his "Excursion Diaries" passed into the hands of his eldest daughter, now Mrs. Cleland, wife of the Professor of Anatomy in the University of Glasgow. Mrs. Cleland has lent to me these records and I have found them to be of great service in connection with the excursions which are still made throughout the year with students of botany in Edinburgh. As I think the records will have interest for many students of botany now and in the future, extracts from them are here published in these "Notes of the Royal Botanic Garden."

What is given are those portions of the "Excursion Diary" which deal with the excursions made with botanical students from the years 1846 to 1878 inclusively—the years during which Professor John Hutton Balfour was Keeper of the Royal Botanic Garden and occupied the Chair of Botany in the University of

*A copy of this was printed in "The Annals of Scottish Natural History," July and October 1900, and January 1901.

† See, for an account of an excursion with Professor Graham, Spencer Thomson, "Wanderings among the Wild Flowers," London, 1854, p. 127.

Edinburgh. Incidental private matters which are here and there inserted in the Diary have been omitted, but the wording of the extracts is, as a whole, that of the original.

The names of plants in the lists as they occur in the Diary are not arranged in any scientific order. The method in which the Diary was written did not lend itself to this. It was no more than a mere jotting down in the evening after the excursion, or perhaps on a following day, of the names of the chief plants that occurred to the writer as having been seen during the excursion. As the names of flowering plants and ferns are printed here they are, to facilitate reference, arranged in the order of the London Catalogue, 9th edition, but the old nomenclature is retained.

It has been a question with me whether these records should be published or no. Some botanists to whom I have spoken on the subject have suggested a danger that by giving localities of rare plants these might be exterminated. But in these days of free communication between field-botanists and of publication of local floras, the general distribution of plants in Scotland is so well known that I do not think that any stations are likely to suffer from what appears in the following pages. In a few cases, where directions indicating the exact station of a rare species are set forth in the Diary, they have been omitted.* Is. B. B.

EXCURSIONS IN 1846.

Granton, Cramond Bridge, Craigcrook, Ravelston.

Saturday, 16th May 1846.

About 10 a.m. walked to Granton, thence by shore to Cramond Bridge, and returned by Craigcrook and Ravelston. Home about 6 p.m. Accompanied by 70 pupils.

Picked :—

Viola odorata

Symphytum officinale

Neottia Nidus-avis

* An Index to the Excursions will be found at the end.

Dalhousie, Arniston, Fushie Bridge.*Saturday, 23rd May 1846.*

Party between 60 and 70 went by train at 8.40 a.m. to Dalhousie, proceeded through the woods. Had an order to Mr. Main from H. G. Watson.

Picked :—

Stellaria nemorum

Neottia Nidus-avis

Followed river to Arniston. Had an order from Mr. Trotter to Mr. Brown, forester.

Picked :—

Cardamine amara

Doronicum Pardalianches

Geranium sylvaticum. var.
minor, blue and white

Pulmonaria officinalis

Saxifraga umbrosa

Lathræa Squamaria

„ *Geum*

Convallaria majalis

„ *hirsuta*?

„ *Polygonatum*

Chrysosplenium alterni-
folium

Lilium Martagon

Arum maculatum

Adoxa Moschatellina

Equisetum Telmateia

Went to Fushie Bridge and returned by train leaving South Esk Station at 6 p.m. Fifty returned in the train.

Castlecary, Dennyloanhead, Dunipace, Larbert, Falkirk.*Saturday, 30th May 1846.*

Party of 50 went by Fourth-class train to Castlecary at 7 a.m. Twenty-four took breakfast, then botanized through woods of Cumbernauld, went to Dennyloanhead, thence to Dunipace and Larbert. Visited Carron Iron Works (order from Dawson) and reached Falkirk about 3.45. Party returned to Edinburgh. I went to Glasgow and Dunoon, which I reached at 6.30 p.m.

Amongst plants picked were :—

Ranunculus aquatilis	Solanum Dulcamara
„ hederaceus	Listera Nidus-avis
Trollius europæus	Paris quadrifolia
Cardamine amara	Cystopteris fragilis
Stellaria nemorum	Polypodium Dryopteris
Geranium sylvaticum	„ Phegopteris
Geum intermedium	

Burntisland, Pettycur, Kinghorn, Starly Burn.

Saturday, 6th June 1846.

Party of about 60 met at Granton Pier at 9 a.m. and proceeded by steamboat to Burntisland. Visited island, walked by links and rocks near the shore to Pettycur, thence to Kinghorn, returned by a road behind Kinghorn to Burntisland, thence went to Starly Burn and returned by shore in time for 6 o'clock boat.

Picked :—

Senebiera Coronopus	Echium vulgare
Reseda lutea	Solanum Dulcamara, hairy
Geranium sanguineum	var.
Trifolium scabrum	Salvia Verbenaca
Agrimonia Eupatoria	Parietaria officinalis, var.
Carum Carui	erecta
Scandix Pecten-Veneris	Habenaria viridis
Anthriscus vulgaris	Triticum loliaecum
Torilis nodosa	„ junceum
Anagallis arvensis	Botrychium Lunaria
Convolvulus arvensis	

Some went to Seafeld and picked :—

Malcolmia maritima	Orobanche rubra
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Slateford, Colinton, Woodhall, Currie, Ravelrig, Dalmahoy.*Saturday, 13th June 1846.*

A party of between 30 and 40 met at Canal and walked by Slateford and Colinton to Woodhall, Currie, and Ravelrig, and returned by Dalmahoy and Ratho. Met train at 6.50 p.m.

Picked :—

Meconopsis cambrica
Geranium phæum
Linnaea borealis
Valeriana pyrenaica
Doronicum Pardalianches

Campanula latifolia (not in
flower)
Pyrola minor
Linaria vulgaris
Corallorhiza innata
Listera cordata

Linlithgow, Hopetoun, Blackness Castle, Winchburgh.*Saturday, 20th June 1846.*

About 30 pupils met at railway at 8 a.m. and went to Linlithgow, visited old church, palace, loch. Walked towards Bo'ness, then to Blackness Castle, then to Hopetoun Woods, Duntarvie and Niddry Castles, and Winchburgh. Returned by train about 7.15 p.m.

Picked :—

Ranunculus aquatilis
Nasturtium terrestre
Dianthus deltoides
Callitriche platycarpa
Epilobium angustifolium
Petroselinum vulgare
Veronica Anagallis

Ceratophyllum submersum
Typha latifolia
Eleocharis multicaulis
Scirpus sylvaticus
Blysmus rufus
Poa aquatica

Holyrood, Salisbury Crags, Duddingston Loch, Lochend.

Saturday, 27th June 1846.

Met at Holyrood at 10 a.m. Present, about 40. Went to station for *Euonymus* on Arthur's Seat, and picked it in fruit. Then proceeded by Salisbury Crags to Samson's Ribs, then to Duddingston Loch. Crossed Arthur's Seat to Parson's Green and went to Lochend. Returned between 4 and 5 p.m.

Plants picked :—

Ranunculus aquatilis (two forms)	Æthusa Cynapium
Ranunculus Lingua	Valeriana officinalis
Dianthus deltoides	Carduus acanthoides
Lychnis Viscaria	Tragopogon minor
Arenaria verna	Echium vulgare
Geranium pyrenaicum	Hyoscyamus niger
„ sanguineum	Iris Pseudacorus
Vicia sylvatica	Butomus umbellatus
„ hirsuta	Carex riparia
Agrimonia Eupatoria	Asplenium Trichomanes
Hippuris vulgaris	„ Ruta-muraria
Conium maculatum	„ septentrionale

Ballencrief, Aberlady, Luffness, Gullan, Drem.

Saturday, 4th July 1846.

Party of about 50 met at the North British Railway Station 8.15 a.m. Proceeded to Ballencrief, thence to Aberlady, Luffness, and Gullan, and returned by Drem.

Picked :—

Fumaria micrantha (Railway at Ballencrief)	Geranium pusillum
Cerastium arvense	Melilotus officinalis (in profusion between Gullan and Drem)
Sagina maritima	Trifolium fragiferum
Silene noctiflora	

Parnassia palustris	Solanum Dulcamara (all
Hippuris vulgaris	roadsides)
Hydrocotyle vulgare (fine	Verbascum Thapsus
flower)	Limosella aquatica
Helosciadium repens	Utricularia vulgaris
Sium angustifolium	Hippophaë rhamnoides
Carduus nutans	Sparganium ramosum
Centaurea Scabiosa	Scirpus lacustris
Campanula rapunculoides	" maritimus
" hybrida	Carex intermedia
Anagallis arvensis	" teretiuscula
" tenella	" paniculata
Polemonium cæruleum	Lepturus filiformis var.
Cynoglossum officinale	Lycopodium selaginoides

**Linton, Lawhead, Tantallon Castle, Bass, Canty Bay,
Dirleton, Drem.**

Saturday, 11th July 1846.

Party of 38 met at North British Railway Station at 8.15 a.m. and proceeded to Linton, walked to Lawhead, picking on the way:—

Agrimonia Eupatoria	Ballota nigra
Æthusa Cynapium	Parietaria officinalis
Linaria vulgaris	

Mr. Alex. Howden accompanied us through Binning Wood to Whitekirk. Near Lawhead, *Acinos vulgaris* grows.

In Binning Wood:—

Lythrum Salicaria	Rumex sanguineus, var. viridis
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Saw some large beeches; *Castanea*, about 13 or 14 feet in circumference.

Near Whitekirk, picked:—

Sisymbrium Sophia	Sempervivum tectorum
Potentilla argentea	Epilobium hirsutum
Sedum anglicum	

Lepidium Smithii grows by roadside, but was not seen by us.
Walked to Tantallon Castle, picked :—

<i>Lepidium latifolium</i>	<i>Carduus Marianus</i>
<i>Conium maculatum</i>	<i>Hyoscyamus niger</i>

Then visited the Bass by boat from Canty Bay. On the Bass
the plants seen were :—

<i>Cochlearia officinalis</i>	<i>Urtica dioica</i>
<i>Silene maritima</i>	<i>Agrostis alba</i>
<i>Lychnis dioica</i>	„ <i>vulgaris</i>
<i>Cerastium semidecandrum</i>	„ <i>canina</i>
<i>Lavatera arborea</i>	<i>Holcus lanatus</i>
<i>Geranium molle</i>	<i>Dactylis glomerata</i>
<i>Callitriche platycarpa</i>	<i>Poa annua</i>
<i>Peplis Portula</i>	„ <i>trivialis</i>
<i>Carduus lanceolatus</i>	<i>Festuca ovina</i>
<i>Hieracium Pilosella</i>	„ <i>duriuscula</i>
<i>Beta maritima</i>	„ <i>glauca</i> , var.
<i>Atriplex rosea</i>	<i>Ramalina scopulorum</i>
<i>Rumex crispus</i>	<i>Parmelia parietina</i>

On landing from Bass walked by shore to North Berwick, on
the way picking :—

<i>Cakile maritima</i>	<i>Hyoscyamus niger</i>
<i>Eryngium maritimum</i>	<i>Salsola Kali</i>
<i>Scabiosa Columbaria</i>	<i>Carex arenaria</i>
<i>Apargia hispida</i>	<i>Ammophila arundinacea</i>

From North Berwick walked by road to Dirleton, visited old
castle, and picked :—

<i>Sedum album</i>	<i>Smyrnum Olusatrum</i>
<i>Sedum reflexum</i>	

After a hasty dinner at the inn, walked to Drem and returned
by train to Edinburgh, which we reached about 7.40 p.m.

Loch Lomond.*Thursday, 16th July 1846.*

Party consisting of Dr. Balfour, Mr. H. Balfour, Mr. Beveridge, Mr. A. Christison, Mr. David Christison, Dr. A. Douglas, Mr. Keddie, Mr. Littlejohn, Mr. Jas. Mitchell, Dr. Paterson, Mr. A. W. Smith, Mr. T. Spens, and Mr. Tait, made a trip to Loch Lomond and neighbourhood.

Some of the party went early to Glasgow and visited St. Rollox, Lancefield Spinning Co., College. Rest went by train at 1. All proceeded by steamboat at 4 for Dumbarton and thence up Loch Lomond in "Water-Witch." Reached Inverarnan at 10 p.m., and were comfortably accommodated at M'Lellan's Inn.

Friday, 17th July 1846.

Started about 8 a.m. for Ben Vorlich and picked numerous good alpine plants, amongst others :—

Trollius europæus	Malaxis paludosa
Silene acaulis	Carex pauciflora
Sibbaldia procumbens	„ saxatilis
Saxifraga stellaris	Poa Balfourii
„ aizoides	Asplenium viride
„ hypnoides	Lycopodium Selago
Hieracium alpinum	„ inundatum
„ Lawsoni	„ annotinum
Gnaphalium supinum	„ alpinum
Lysimachia vulgaris	„ selaginoides
Salix herbacea	Isoetes lacustris

Saturday, 18th July 1846.

Left Inverarnan by steamboat at 5.15 a.m. Breakfasted at Inversnaid. Some went to Loch Katrine and Trossachs, others with Dr. Balfour went to Ben Lomond, and after reaching top walked to Rowardennan. Besides numerous alpine plants picked some peculiar Hieracia on banks of stream at Inversnaid, also :—

Cerastium alpinum	Veronica humifusa
Hypericum Androsæum	

Met boat about 3.30 p.m., and found all the rest of the party on board. Proceeded to Dumbarton, thence by steamboat to Glasgow, and returned to Edinburgh by 10 o'clock train.

Merchiston, Colinton, Bonaly, Habbie's Howe, Currie.

Saturday, 25th July 1846.

Party of 20 met at Bruntsfield Links at 9 a.m. Walked by Merchiston and Colinton to Bonaly, thence by Pentlands to Habbie's Howe, and returned by Black Springs and Currie to Edinburgh about 7.30 p.m.

Picked :—

Sedum villosum
Epilobium angustifolium
Galium pusillum
Solidago Virgaurea
Carduus heterophyllus
Hieracium prenanthoides
 „ *inuloides* ?
Campanula latifolia
Gentiana campestris

Mimulus luteus (in abundance at Bonaly ponds)
Veronica scutellata
Littorella lacustris
Habenaria viridis
Juniperus communis
Lastræa Oreopteris
Botrychium Lunaria
Lycopodium clavatum
Pilularia globulifera

EXCURSIONS IN 1847.

Granton and Cramond.

Saturday, 15th May 1847.

Proceeded to Granton and Cramond, returned about 5.30 p.m.
 75 pupils went.

Picked :—

Acer platanoides
Saxifraga granulata
Myrrhis odorata
Symphytum officinale
Neottia Nidus-avis (not in flower)

Orchis mascula
Convallaria multiflora
Carex arenaria
Morchella esculenta
Polyporus squamosus

Dalkeith, Musselburgh.*Saturday, 22nd May 1847.*

Met at St. Leonards at 8.30 a.m. A party of upwards of 90 went to Dalkeith. Walked through the grounds and by the banks of Esk to Musselburgh. Returned about 5.30 p.m. by train.

Picked :—

<i>Fumaria officinalis</i>	<i>Lithospermum arvense</i>
<i>Stellaria nemorum</i>	<i>Lathræa Squamaria</i>
<i>Trifolium ornithopodioides</i>	<i>Salix Russelliana</i>
<i>Saxifraga granulata</i>	„ <i>purpurea</i>
<i>Myrrhis odorata</i>	„ <i>Smithiana</i>
<i>Petasites vulgaris</i>	<i>Populus alba</i>
<i>Doronicum Pardalianches</i>	<i>Arum maculatum</i>

Corstorphine, Cramond Bridge, Dalmeny, Queensferry.*Thursday, 27th May 1847. Queen's Birthday.*

Started at 8 a.m. with party of upwards of 50. Walked to Corstorphine, thence to Cramond Bridge. Through woods of Dalmeny to South Queensferry, crossed to North Ferry. Some returned by Stirling steamer at 5 p.m. Others crossed again and walked to Winchburgh and returned by train at 6.40 p.m.

Picked :—

<i>Viola hirta</i>	<i>Lonicera Caprifolium</i> (not in flower)
„ <i>canina</i> , var. <i>flavicornis</i>	<i>Symphytum officinale</i>
<i>Oxytropis uralensis</i>	<i>Neottia Nidus-avis</i>
<i>Spiræa salicifolia</i>	<i>Ophioglossum vulgatum</i>
<i>Myrrhis odorata</i>	
<i>Viburnum Opulus</i>	
„ <i>Lantana</i>	

Drem, Dirleton, Luffness, Gullan, Aberlady, Longniddry.*Saturday, 29th May 1847.*

Party assembled at North British Railway Station at 7.15 a.m. The morning was very wet, and rain was falling copiously without much prospect of clearing. The number who met was about 12. They resolved to put off the trip till 11.30 in the forenoon. By that time the weather was more promising, and a party of 16 started by the train for Drem, thence they walked to Dirleton, visited the castle and grounds, Archerfield, Gullan, Luffness, Aberlady, and returned by train which passed Longniddry about 7 p.m.

Picked :—

At Dirleton :—

Smyrnum Olusatrum	Lamium maculatum, var.
Linaria Cymbalaria	album

At Archerfield :—

Rumex sanguineus (leaves)	Listera ovata (not in flower)
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At Gullan :—

Viola hirta	Cerastium arvense
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At Luffness :—

Hippuris vulgaris	Carex riparia
Blysmus rufus	

Near Gosford :—

Geranium sanguineum	Botrychium Lunaria
Hippophae rhamnoides	

Near Longniddry :—

Pyrus pinnatifida	
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Kirkcaldy, Dysart House, Ravenscraig Castle, Raith,
Pettycur, Burntisland.

Saturday, 5th June 1847.

Met at stone pier, Newhaven, at 9.30 a.m. Party above 60. Went by steamboat to Kirkcaldy, thence to Earl of Rosslyn's Dysart house. Saw fine rhododendrons, chiefly hybrids between *R. arboreum* and *R. ponticum*, also *R. catawbiense* and some Coniferæ, *Cedrus Deodara* particularly, *Pinus ponderosa*, *Pinus Cembra*, *Picea Webbiana*. Proceeded by shore to Ravenscraig Castle, thence to Raith, visited Raith grounds and loch, saw very fine specimens of *Abies Douglasii*—one in particular past west end of loch—also a form of *Pinus Strobus* called by the gardener *P. monticola*. From Raith walked to Kinghorn and thence to Pettycur and by shore to Burntisland. Returned by boat at 7 p.m.

Picked :—

In Dysart Wood :—

Ranunculus aquatilis	Lonicera Caprifolium
Aquilegia vulgaris	Polemonium cæruleum
Fumaria micrantha	Veronica polita
Montia fontana	Lamium amplexicaule

At Ravenscraig :—

Cheiranthus Cheiri	Smyrnium Olusatrum
Silene maritima	Salvia Verbenaca

At Raith :—

Cardamine amara	Blechnum Spicant
Helianthemum vulgare	Asplenium Adiantum-nigrum
Viola hirta	Lastrea Filix-fœmina
Geums (monstrous)	„ Filix-mas
Valeriana pyrenaica	„ spinulosum
Doronicum Pardalianches	Polypodium vulgare
Pteris aquilina	

At Kinghorn :—

Thlaspi arvense	Convolvulus arvensis (not
Torilis nodosa	in flower)

Between Pettycur and Burntisland :—

<i>Reseda lutea</i>	<i>Linaria Cymbalaria</i>
<i>Trifolium striatum</i>	<i>Littorella lacustris</i>
<i>Hyoscyamus niger</i>	<i>Phleum arenarium</i>

**Burntisland, Starly Burn, Aberdour, St. David's,
Inverkeithing, North Queensferry.**

Saturday, 12th June 1847.

Party of 60 met at Granton at 9 a.m. and went to Burntisland. Thence went to Starly Burn, Aberdour. Entered Donibristle gate, walked by the shore to the house. Thence went to St. David's, Inverkeithing, Ferry Hills, and met Stirling boat at North Queensferry at 5.30 p.m.

At Burntisland :—

<i>Cheiranthus Cheiri</i>	<i>Ballota nigra</i>
<i>Malva sylvestris</i>	<i>Parietaria officinalis</i>
<i>Trifolium scabrum</i>	<i>Sclerochloa maritima</i>
<i>Torilis nodosa</i>	„ <i>loliacea</i>
<i>Salvia Verbenaca</i>	

At Starly Burn :—

<i>Solanum Dulcamara</i>	<i>Listera ovata</i>
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At Donibristle :—

<i>Medicago maculata</i>	<i>Atropa Belladonna</i> (in bud)
<i>Centranthus ruber</i>	<i>Allium Scorodoprasum</i> (in bud)
<i>Dipsacus</i> (in leaf)	

At St. David's :—

<i>Diplotaxis tenuifolia</i>	<i>Reseda lutea</i>
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At Inverkeithing :—

<i>Thlaspi arvense</i>	<i>Sambucus Ebulus</i> (in bud)
<i>Sedum villosum</i>	<i>Sclerochloa distans</i>

At Queensferry :—

<i>Vicia lutea</i>	
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Alloa, Alva, Tillicoultry.*Saturday, 19th June 1847.*

Party between 50 and 60 met at Granton Railway Terminus at 4.40 a.m. Went on board Stirling steamer at 5. Slight shower at starting. Day cleared. Reached Alloa at 7.30. Breakfasted at Thomas' Royal Oak Hotel. Thence walked towards Alva.

On the way picked :—

Ranunculus aquatilis		Phalaris canariensis (Mr.
Habenaria chlorantha (in bud)		Nelson)

In the pond near Alva :—

Sparganium ramosum		Sparganium natans
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Roadsides :—

Serrafalcus commutatus

Entered glen to east of Alva House. Four deep ravines, wooded, beautiful ferns, mosses, and *Jungermannia*.

Among the ferns were :—

Pteris aquilina		Polystichum lobatum
Blechnum boreale		Lastrea Filix-mas
Asplenium Adiantum-nigrum		Lastrea spinulosa, var.
„ Trichomanes		dilatata
Athyrium Filix-fœmina		Polypodium vulgare (fronds
Scolopendrium vulgare		2 feet long)
Cystopteris fragilis		

Rocks near the glen :—

Spargula subulata		Sedum anglicum
Astragalus glycyphyllos		

After leaving the glen proceeded towards Ben Cleuch—easy but long ascent.

On sides of rivulets 1000 ft. up :—

Saxifraga stellaris		Saxifraga hypnoides
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On face of hill near summit :—

<i>Viola palustris</i>		<i>Antennaria dioica</i>
" <i>canina</i>		<i>Carex præcox</i>

On a high spot :—

Gnaphalium supinum (in plenty)

On summit of hill 2,200 feet :—

<i>Salix herbacea</i>		<i>Lycopodium alpinum</i>
<i>Carex rigida</i>		

On a summit to the north-west marked by a cairn, Mr. James Balfour picked :—

Rubus Chamæmorus

afterwards got by the party (Murchison, Dobie, and Tetley).

Mr. Murchison picked near the summit at upper part of Tillicoultry Glen :—

Trientalis europæa

Descending from the summit by Glen of Tillicoultry abundance of :—

<i>Pyrus Aucuparia</i>		<i>Saxifraga hypnoides</i>
<i>Saxifraga stellaris</i>		<i>Lastrea Oreopteris</i>

Visited woollen works at Tillicoultry and returned to Alloa about 5 p.m. Left by steamboat at 7. Reached Granton about 9.15.

**Slateford, Colinton, Woodhall, Currie, Dalmahoy Hills,
Ravelrig, and Gogar.**

Saturday, 26th June 1847.

Party between 40 and 50 met at 8.30 a.m. at Port Hopetoun (Canal basin). Walked along banks of Canal to Aqueduct, thence to Slateford, Colinton, Woodhall, Currie, Dalmahoy Hill, Ravelrig, Gogar.

In fields near Canal :—

<i>Fumaria micrantha</i> (abundant)	<i>Fumaria capreolata</i>
„ <i>officinalis</i>	

At Slateford :—

<i>Corydalis claviculata</i> (old garden wall)	<i>Staphylea pinnata</i>
<i>Geranium phæum</i>	<i>Fragaria elatior</i>
„ <i>sylvaticum</i>	<i>Carpinus Betulus</i>
<i>Euonymus europæus</i>	<i>Bromus asper</i>

In Colinton Woods :—

<i>Epilobium angustifolium</i> (not in flower)	<i>Valeriana pyrenaica</i>
<i>Adoxa Moschatellina</i>	<i>Scrophularia nodosa</i>
<i>Lonicera Caprifolium</i>	<i>Eleocharis multicaulis</i>
<i>Valeriana officinalis</i> (not in flower)	<i>Festuca arundinacea</i>

Woods near Woodhall and banks of river :—

<i>Meconopsis cambrica</i>	<i>Geranium dissectum</i>
<i>Tilia grandifolia</i>	<i>Rosa spinosissima</i>
„ <i>parvifolia</i>	„ <i>tomentosa</i>
<i>Geranium sylvaticum</i>	<i>Avena pratensis</i>
„ <i>pratense</i>	<i>Festuca arundinacea</i>

New mill beyond Currie :—

Trollius europæus

Dalmahoy Hills nearest to Currie :—

<i>Viola lutea</i>	<i>Geranium columbinum</i> (in plenty)
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Wood at Ravelrig :—

Linnaea borealis (in full flower).

Ravelrig Bog :—

<i>Comarum palustre</i>	<i>Corallorhiza innata</i> (plenty)
<i>Drosera rotundifolia</i> (not in flower)	<i>Listera cordata</i>
<i>Pyrola minor</i>	<i>Orchis latifolia</i>
<i>Pinguicula vulgaris</i>	„ <i>maculata</i>
	<i>Habenaria bifolia</i>

Carex dioica	Carex panicea
" pulicaris	" fulva
" teretiuscula	" flava
" acuta	" filiformis
" cæspitosa	" hirta
" glauca	" ampullacea
" pilulifera	

On western Dalmahoy Hill :—

Trientalis europæa (plenty—5 to 6 only in flower, rest beginning to show fruit)

Easter Dalmahoy Hill :—

Ranunculus aquatilis	Digitalis purpurea
Saxifraga hypnoides	

Roadside, Dalmahoy :—

Galium erectum

Salisbury Craggs, Arthur's Seat, Duddingston.

Thursday, 1st July 1847.

Met between 30 and 40 pupils at 5 p.m. at Holyrood. Walked by Craggs to Arthur's Seat and Duddingston. Home about 9 p.m.

Picked :—

Helianthemum vulgare	Salvia Verbenaca
Lychnis Viscaria	Stratiotes aloides
Malva sylvestris	Iris Pseudacorus
Geranium pyrenaicum	Butomus umbellatus
Vicia sylvatica	Carex acuta ?
Conium maculatum	" riparia
Valeriana officinalis	Asplenium septentrionale
Veronica Anagallis	

Reston, Coldingham, Fast Castle, Dene, St. Abb's Head.*Saturday, 3rd July 1847.*

Party of 35 met at North British Railway Station at 5 a.m. and proceeded to Reston Station. Walked to Coldingham and breakfasted in W. Craig's house. Thence proceeded under direction and guidance of Mr. Alex. Robertson, son of the minister, to Fast Castle, thence by shore to Dene, Lumsdaine, and St. Abb's Head, and returned by train leaving Reston about 6 p.m.

Picked :—

At Fast Castle and in the Dene near it :—

<i>Thalictrum minus</i>	<i>Sedum Rhodiola</i>
" <i>majus</i>	<i>Epilobium angustifolium</i>
<i>Vicia sylvatica</i>	<i>Orchis mascula</i>

On a knoll in Lumsdaine estate south from Fast Castle :—

Trientalis europæa (picked by Mr. Fraser)

On shore between Fast Castle and St. Abb's :—

<i>Glaucium luteum</i>	<i>Antennaria dioica</i>
<i>Stenhammera maritima</i>	<i>Carlina vulgaris</i>
<i>Ligusticum scoticum</i>	

On top of cliffs :—

Dianthus deltoides

In field near a loch not far from St. Abb's Head :—

Poterium Sanguisorba (in profusion)

In the loch :—

<i>Nuphar lutea</i> (in flower)	<i>Lobelia Dortmanna</i> (not in flower)
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Rocks near St. Abb's :—

Asplenium marinum

In marshy ground near Coldingham :—

<i>Listera ovata</i>	<i>Gymnadenia Conopsea</i>
<i>Orchis latifolia</i>	<i>Habenaria bifolia</i>
„ <i>maculata</i>	„ <i>chlorantha</i>

On moorish ground not far from Coldingham :—

<i>Pyrola media</i>	<i>Habenaria viridis</i>
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Also, both in Reston and Coldingham :—

<i>Geranium sylvaticum</i>	<i>Linaria Cymbalaria</i>
<i>Sempervivum tectorum</i>	<i>Veronica agrestis</i>
<i>Anchusa sempervirens</i>	<i>Festuca bromoides</i>

**Dalhousie, Fushie Bridge, Borthwick Castle,
Crichton Castle.**

Saturday, 10th July 1847.

Party of about 40 met at St. Leonards at 9 a.m. Proceeded by train to Dalhousie Bridge, thence walked to Fushie Bridge, Borthwick Castle, Crichton Castle, Roman Camp, and returned by train at 6.30 p.m. Day favourable.

Picked :—

Woods near Dalhousie :—

<i>Milium effusum</i>	<i>Festuca gigantea</i> ?
<i>Holcus mollis</i>	<i>Bromus asper</i>
<i>Melica uniflora</i>	

Near Borthwick :—

<i>Epilobium palustre</i>	<i>Blysmus compressus</i>
<i>Veronica scutellata</i>	<i>Carex intermedia</i>
„ <i>Anagallis</i>	„ <i>paludosa</i>
<i>Galeopsis versicolor</i>	

At the Castle :—

<i>Agrostemma Githago</i>	<i>Anchusa sempervirens</i>
<i>Myrrhis odorata</i>	<i>Verbascum Thapsus</i>
<i>Æthusa Cynapium</i>	<i>Rumex aquaticus</i>
<i>Carduus Marianus</i>	<i>Parietaria officinalis</i>

Between Borthwick Castle and Crichton :—

In wood :—

Hieracium aurantiacum (by Mr. F. Ivory)

In fields :—

Verbascum nigrum (by Mr. Nelson)

In marshy places :—

Carex paniculata

Carex lævigata

„ *Boenninghausenia*?

Near Crichton :—

Echium vulgare

Rumex aquaticus

At Roman Camp :—

Silene pratensis

Epipactis palustris

Valeriana dioica

Orchis latifolia

Lithospermum officinale

„ *maculata*

Plantago media

Gymnadenia Conopsea

Listera ovata

In fields near railway :—

Polygonum Fagopyrum (Mr. Gilby)

Arran.

Thursday, 15th July 1847.

Party of 24 left by 11 a.m. train for Glasgow, having received second-class tickets for Saturday. On reaching Glasgow at 1.15 visited Model of Arran at Andersonian, then went to the Broomielaw and joined boat for Arran at 2 p.m.

At Greenock party were reinforced by 6 more, including 3 Glasgow pupils (Keddie, Allen, and Connal). The party then consisted of J. H. Balfour, Absolom, John Alexander, Jas. Balfour, Barnes, Theod. Bone, Carrick, Clarke, M. Connal, Donkin, W. B. Duncan, Edgar, Gilby, Gilchrist, C. A. Grant, Dr. Greville,

Hewitson, Ivory, Wm. Johnston, Keddie, Morse, C. Murchison, Nelson, Ogilvy, Rainsford, Stalker, Struthers, Jas. Thomson, Wheatley, John Wilson. Dined on board, and reached Brodick about 8 p.m. After arranging about accommodation visited the beach and picked :—

Sinapis monensis

Aster Tripolium

and a few other plants.

Friday, 16th July 1847.

Party started about 7.30 a.m. after breakfast for Goatfell. This day party were joined by Dr. Blackie, Rev. Dr. Landsborough, and his son. On Goatfell met Grand Duke Constantine of Russia and his suite; the Duke chiselled his name with Mr. Keddie's hammer on granite at summit of Goatfell—"Constantine 1847." The day was propitious, no rain, occasional clouds lighting on summits of hills produced a fine effect. Saw Ireland well and mountains of north Hebrides.

After reaching the summit we proceeded by the rugged crest to the head of Glen Sannox, thence to foot of glen, to Corrie, and returned to Brodick about 7 p.m.

On the ascent picked :—

Alchemilla alpina

Habenaria bifolia

Drosera anglica

Narthecium ossifragum

Many Cryptogamia, some rarer ones seen by Greville.

Summit bare. Crumbling moist rocks on north side gave:—

Thalictrum alpinum

Oxyria reniformis

Saxifraga stellaris

Salix herbacea

Sedum Rhodiola

Juncus trifidus

On summit :—

Andreaea Rothii

Andreaea alpina

„ *rupestris*

Searched in Glen Sannox for *Avena planiculmis* in vain.

On the shore :—

Lythrum Salicaria	Scutellaria galericulata
Ceanothe Lachenalii	Habenaria bifolia
Anagallis tenella	„ chlorantha
Samolus Valerandi	Blysmus rufus
Erythræa compressa (of Link)	Schoenus nigricans
Pinguicula lusitanica	Hymenophyllum Wilsoni
Lycopus europæus	Osmunda regalis

The ferns were found on the cliffs of sandstone a little way from the shore.

Saturday, 17th July 1847.

Started at 8 a.m., visited shore at Brodick and woods near the bridge.

Picked :—

In the woods :—

Jungermannia minutissima	Jungermannia cupuliformis
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On the shore :—

Sinapis monensis	Ammophila arundinacea
Carex arenaria	

At Invercloy :—

Saxifraga Geum	
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Proceeded by shore to Clachland Point and thence to Lamlash.

Picked :—

Hypericum dubium (near Lamlash)	Juncus maritimus
Cotyledon Umbilicus	Carex lævigata
Helosciadium repens	Asplenium marinum
Anagallis tenella	Osmunda regalis
Erythræa Centaurium	Lichina pygmæa
Pinguicula lusitanica	Asperococcus Turneri
	Conferva centralis

Left Lamlash about 4 p.m., sailed to Brodick (where baggage was put on boat), thence to Ardrossan and by rail to Glasgow, where we arrived about 9.30 p.m. (Train late, about 20 carriages,

Glasgow Fair.) Proceeded to Edinburgh by train at 10.15, and reached Edinburgh about 12.45 a.m. in place of midnight.

**Linton, Prestonkirk, Tynningham, Tantallon Castle,
Bass, Canty Bay, North Berwick.**

Saturday, 24th July 1847.

Party of 48 started by North British Railway at 8.45 a.m. for Linton. Thence walked by Prestonkirk to Tynningham, visited banks of the river where it joins the sea, walked by shore to Tantallon Castle and Canty Bay. Reached this bay about 2 p.m., went by two boats to the Bass. Returned to Canty Bay about 5. Some walked, others took omnibus, from North Berwick to Drem Station, and met train at 7.25 p.m.

Picked :—

Near Prestonkirk :—

Potentilla reptans	Linaria vulgaris
Conium maculatum	Parietaria officinalis
Knautia arvensis	
Solanum Dulcamara (in hedges all the way to Tynningham)	

Visited gardens at Tynningham. Saw field of mummy wheat, holly hedges, fine *Fraxinus Ornus*.

On shore at Tynningham :—

Artemisia maritima var.	Salicornia herbacea
gallica	Schoberia maritima
Erythraea Centaurium	Salsola Kali
Cynoglossum officinale	Scirpus maritimus

At Tantallon :—

Lepidium latifolium	Verbascum Thapsus
Carduus Marianus	

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On the Bass :—

Cochlearia officinalis	Beta maritima
Silene maritima	Narcissus poeticus (leaves)
Lychnis diurna	Agrostis vulgaris
Cerastium atrovirens	Holcus lanatus
Lavatera arborea	Dactylis glomerata
Vicia lathyroides	Poa annua
Callitriche verna	Parmelia saxatilis
Carduus tenuiflorus	„ parietina
„ lanceolatus	

Near Drem :—

Helosciadium angustifolium	Barkhausia taraxacifolia
Anthemis arvensis	Lithospermum arvense
Centaurea Cyanus	Euphorbia exigua

Braemar, Clova, Glen Tilt, Dunkeld, Killin, Loch Lomond.

Saturday, 7th August 1847.

Party consisting of J. H. Balfour, Hugh M. Balfour, William Douglas, W. Gilby, B. Hewitson, F. J. Ivory, Henry P. Morse, and C. Murchison, left Aberdeen by Ballater Mail at 11 a.m. Reached Ballater about 4.30 p.m.

After dinner visited the hills near Ballater, and picked :—

Saxifraga stellaris	Lycopodium Selago
„ aizoides	„ clavatum
Epilobium alpinum	„ alpinum
Vaccinium Vitis-Idæa	„ selaginoides
Arbutus Uva-Ursi	Equisetum umbrosum (in quantity)
Polygonum viviparum	

Mr. Morse had picked in the morning *Galium boreale*, *Melica nutans*.

On the hills and in woods were also gathered *Pyrola media*, *Melampyrum sylvaticum*.

On the banks of the Dee a *Hieracium* was picked which appeared to be *H. prenanthoides*, and along with it *Melica nutans*.

The inn at Ballater (Monaltrie Arms, Ross) is a good one, and we were very comfortably accommodated. The charges also are upon the whole moderate. A wooden bridge crosses the river close to the inn. The mountains around are clothed with wood, and in the woods we found very large specimens of *Trientalis europæa* and of *Pyrola media*—a plant which is abundant in the Braemar district, both in woods and on moors.

Monday, 9th August 1847.

The party started early this morning after breakfast and proceeded across the wooden bridge, following the banks of the Muick till the loch came in sight.

In the wood near Ballater abundance of *Melampyrum sylvaticum* was gathered, and on the roadside *Genista anglica* in flower and fruit, besides sundry species of *Hieracium*, *Habenaria viridis*, and other plants.

After passing through a wooded district near Ballater we came to a moorish district yielding few plants of interest. Among the plants picked were — *Drosera anglica*, *Carex pauciflora*, *Marchantia* in a fine state of fruit, and some of the common sub-alpine plants. Near the Falls of the Muick *Carduus heterophyllus* was seen in profusion. *Alchemilla alpina* also made its appearance. On coming to the point where Loch Muick is seen we diverged to the right, crossed the river, and went towards the Hut, whence we ascended the hills, keeping Loch Muick on our left. On the way up *Rubus Chamæmorus*, *Cornus suecica*, and *Vaccinium uliginosum* were gathered in fine fruit. *Epilobium alpinum* and another species were seen. The mist covered the upper part of the hills, and it was impossible to see the summit of Lochnagar. We walked round the mountain towards the Dubh Loch, whence we ascended towards the western side of the hill, reaching a part where snow was lying in quantity, and where *Sibbaldia procumbens*, *Gnaphalium supinum*, and *Azalea procumbens* in flower were picked. When we reached the flat table-land on the western side of the hill we found profusion of *Carex rariflora*, *Sibbaldia procumbens* in flower, as well as *Juncus trifidus* and *Luzula spicata*. The mist continued so thick that we found it impossible to ascend Lochnagar, accordingly we

contented ourselves with examining the marshy ground below the summit, more particularly where the Glassalt Burn rises. We failed in getting *Carex leporina*, which Dr. Dickie found formerly in that situation. We picked *Carex Persoonii*, *C. rigida*, *C. rariflora*, and a few common alpine plants, and then descended towards the woods through which the Braemar road winds, picking on the way *Betula nana*, *Lycopodium annotinum*, *L. clavatum*, *L. Selago*, *L. selaginoides*, *Vaccinium uliginosum* in fruit, *V. Vitis-Idaea*, and other plants. Some of the party feasted on blaberries. After a long and fatiguing day's work we reached Braemar about 8 p.m., where we found everything comfortably arranged by Mrs. Clark, who had been warned of our approach by the arrival of our baggage by cart. After our usual tea-dinner, and putting our plants in paper, we retired for the evening. We occupied the upper flat, consisting of three rooms, and containing eight beds.

Tuesday, 10th August 1847.

The morning was rather gloomy, and did not promise well. After an early breakfast, however, we walked by the banks of the Cluny and Callater as far as Loch Callater, paying a visit as usual to the gamekeeper, whose house is at the end of the loch. He has resided there for many years, and several botanists have received shelter from his hospitable roof. Dr. Barry and myself can bear witness to this. Proceeding by the right side of Loch Callater we picked *Lobelia Dortmanna* and *Subularia aquatica*, and then ascended the hills, on which we gathered *Thalictrum alpinum*, *Saxifraga oppositifolia* in flower, and various species of *Salix*. We examined the rocks to the west side of Loch Callater. On them we found *Salix lanata*, *S. arenaria*, *S. rupestris*, *S. arbutifolia*, *Saussurea alpina*, *Luzula spicata*, *Poa alpina*, various forms of *Hieracium alpinum* and *H. Halleri*, some with rounded broad leaves, others with narrow spatulate leaves, some with leaves on stem, others without them, and we also saw various varieties of *Hieracium murorum* and *H. Lawsoni*. The mist in the course of the day became very thick, and ultimately the rain descended in torrents, so that by the time we reached Loch Candlich all the party had left for Braemar

except Morse, Douglas, Ivory, and myself. The unfavourable nature of the weather prevented us from examining the rocks for *Carex VahlII*.

After reaching the eastern side of Loch Candlich Mr. Ivory returned to Braemar, and three of us continued our researches along the rocks on the eastern and south-eastern part of the glen, picking *Carex rupestris*, *C. atrata*, *Silene acaulis*, numerous *Hieracia*, and *Thalictrum alpinum*. After getting milk and cakes at the gamekeeper's, we reached Braemar in the evening between 7 and 8, thoroughly soaked with rain.

Wednesday, 11th August 1847.

This day we crossed the Dee near the Castle and proceeded through the woods to the road leading to Ben na Bourd. On the way we gathered *Pyrola media*, fine specimens of *Lycopodium clavatum*, *Genista anglica*, *Rubus saxatilis*. On the banks of the stream from Ben na Bourd we found *Epilobium angustifolium* and *Pyrola secunda*. On reaching the gamekeeper's house which has been recently built by the Duke of Leeds, and where his Grace has furnished apartments for himself and party, we found the gamekeeper who had met my party in 1842, when *Astragalus alpinus* was first gathered on Little Craigendal. He is an obliging person, but he informed us that the Duke was very strict, and that he would have to inform him that we had been botanising there. He directed us to Craigendal, but we failed in detecting the astragalus in consequence of keeping too high. Accordingly, leaving Craigendal, we descended into the valley and then ascended Ben Avon, going up the banks of a stream at the head of which snow lay in great quantity. In one place the stream had excavated the snow and formed a fine arch for about 20 yards, under which some of the party passed. Few plants were picked in the immediate vicinity of the snow. On the turf ground above and near the summit of the mountain *Carex vaginata* grows in profusion. This carex grows abundantly on all the Braemar hills, associated with *C. rigida*.

After visiting the natural cairn on the summit we descended into a corrie near Ben na Bourd, picking *Poa alpina* var. *vivipara*, *Veronica alpina*, and on the grassy part of the hill Mr. Balfour detected *Azalea procumbens* in fine flower.

Numerous deer were seen to-day, as well as ptarmigan and grouse. We returned by the road leading to the gamekeeper's house, and thence along the banks of the river to Braemar, Messrs. Morse and Gilby swimming across the Dee.

Thursday, 12th August 1847.

We this day crossed the Dee again, and after walking for about two miles we ascended a stream which leads directly to Craigendal. Here we met the gamekeeper, who conducted us to the place where he had last seen *Astragalus alpinus*. On the way numerous deer were seen. We gathered *Pyrola secunda* in quantity. We found that the astragalus grew in great profusion on the northern side of Little Craigendal, rather lower than we had anticipated. From my recollection of the original spot at which my party picked the plant I was disposed to think that it was close to the summit, and thus we had failed in our previous day's examination. This day we picked the plant in profusion both in flower and fruit in various places. It is generally distributed over one side of the mountain, and there seems to be no chance of the plant being eradicated.

The following is a list of the plants which we picked on Little Craigendal :—

Thalictrum alpinum	Pyrola media
Silene acaulis	„ secunda
Geranium sylvaticum	Statice Armeria
Astragalus alpinus	Gentiana campestris
Rubus Chamæmorus	Polygonum viviparum
Dryas octopetala	Habenaria viridis
Potentilla alpestris	Tofieldia palustris
Alchemilla alpina	Juncus trifidus
Saxifraga oppositifolia	„ triglumis
„ stellaris	Luzula spicata
„ aizoides	Carex rupestris
„ hypnoides	„ rigida
Epilobium alpinum	„ præcox
Cornus suecica	„ vaginata
Galium boreale	„ capillaris
Saussurea alpina	Poa alpina
Arctostaphylos Uva-Ursi	Botrychium Lunaria
Azalea procumbens	Lycopodium annotinum

The hill is at first sight by no means promising and would be easily passed over by botanists as unworthy of examination. It shows us the necessity of not being guided entirely by external appearances and by what seem to be promising rocks. This is also seen in the case of such plants as *Lychnis alpina*.

After examining the side of Craigendal carefully we proceeded towards its summit, and then by its southern side towards Braemar. In the evening we met Professor Allen Thomson and his lady with two Messrs. M'Tear, who had walked from Lochnagar, and reached Braemar in the evening.

Friday, 13th August 1847.

The weather being favourable we this day started between 6 and 7 (after breakfast) with the view of visiting the far-famed Ben na Mac Dhu. We proceeded in conveyances, accompanied by Dr. and Mrs. Thomson and party, to the Linn of Dee, whence we walked up Glen Lui, picking on the way *Arabis petræa*, a plant which occurs both in the dry stony bed of the river and also on the rocks of Ben na Mac Dhu, Cairn Toul, and other hills. After walking several miles the cliffs on the north-eastern side were first examined. On them snow lies in considerable quantity, and thus alpine plants thrive well. Here were gathered—*Veronica alpina* in flower and fruit, *Arabis petræa*, *Stellaria cerastoides*, *Hieracium alpinum* in various states, and *Carex vaginata*. The cliffs are, however, by no means so productive as might have been expected. After visiting the cliffs we proceeded to the summit, observing on the way *Luzula spicata* and *L. arcuata* in profusion, and *Silene acaulis* in beautiful flower. A fine spring exists near the summit. It happened, fortunately, that a party connected with the Government Survey were located on the summit, and as we had previously been made aware of this fact we resolved, if possible, to take up our quarters with them for the night. They received us kindly, and promised to do what they could for us, although it afterwards appeared that they were short of provisions. The day was clear and propitious, and we had an excellent view from the summit; the Survey-party said it was the clearest day that had occurred for six weeks. Ben Nevis, Ben Lawers, the Braemar, Clova, Glen Isla

Mountains, Ben y Gloe, the Moray Firth, the sands of Culbin, the sea at Aberdeen, and the Spey, were seen distinctly. The Survey party had ascertained that Ben Nevis is higher than Ben na Mac Dhu by 70 or 80 feet.

Dr. Thomson and his lady and the Messrs. M'Tear left us at the summit and returned to Braemar, a conveyance meeting them at the Linn of Dee. Mrs. Thomson accomplished the walk easily, notwithstanding her fatigue in ascending Lochnagar the day before, and she was able next day to visit Little Craigendal.

Our party now proceeded from Ben na Mac Dhu to Cairngorm, picking some interesting crystals among the granite. On the summit of Cairngorm we gathered *Luzula arcuata*, a plant met with on all the Braemar hills (as Ben na Mac Dhu, Cairn Toul, Lochnagar), and :—

<i>Silene acaulis</i>	<i>Carex rigida</i>
<i>Empetrum nigrum</i>	<i>Aira alpina vivipara</i>
<i>Salix herbacea</i>	<i>Festuca vivipara</i>
<i>Juncus trifidus</i>	<i>Lycopodium Selago</i>
<i>Luzula spicata</i>	<i>Trichostomum lanuginosum</i>

The same plants were picked on the summit of Ben na Mac Dhu, and they may be looked upon as characterising the vegetation of the summits of the highest hills. With them may be associated also *Azalea procumbens*. We had a fine view from the summit of Cairngorm, and we descended by the rocky and precipitous banks of a mountain torrent to the dark Loch Avon. In its cold waters we bathed, but the temperature was such as to forbid our remaining longer than a few minutes in the water. The shelter-stone was visited—a large mass of rock which has fallen at some distant epoch, and lies slightly supported upon rocks so as to leave a large cave capable of containing a considerable party. Our party were easily accommodated under its shelter, and on several occasions parties have remained under it all night. *Sparganium natans* was picked in a pool, also various *Hieracia* of the alpine form.

The party ascended the cliffs on the west of Loch Avon, and wended their course by Loch Etchachan to the shoulder of Ben na Mac Dhu, reaching it just as the sun set. We were

placed on short allowance after our hard day's work, half a loaf of bread, some coffee, and a little whisky being all that could be procured to satisfy the hunger of eight active botanists. Our accommodation for the night was of a novel kind ; six of the party occupied hammocks swung across a wooden building which had been erected near the summit, while two lay on the floor.

Saturday, 14th August 1847.

Most of the party rose at four, and proceeded to the summit of the Ben, where the surveying instruments were placed. From this point we contemplated a glorious sunrise, one of the most magnificent I ever saw. Our breakfast consisted of the second half of the loaf and of some coffee. Some of the party were so knocked up with their previous day's work and with the want of food that they resolved to descend the mountain at once and make the best of their way to Braemar. Accordingly Messrs. Ivory, Hewitson, Gilby, and Balfour left, while Messrs. Morse, Murchison, Douglas, and myself continued our botanical researches. The want of refreshment during the day and the scanty allowance at breakfast had a very weakening effect upon all of us. The morning was cold and bracing, and the first part of our journey was accomplished with considerable vigour. After leaving the summit of the mountain we proceeded towards the pass which unites Strathspey and Glen Dee. On the way we descended by a steep declivity which rewarded us with many good plants, such as :—

Cerastium alpinum	Sibbaldia procumbens
Stellaria cerastoides (in a beautiful state)	Veronica alpina
	Phleum alpinum

We visited one of the Wells of Dee in the pass, and then proceeded up the Braeriach ridge, gathering on the way—*Cornus suecica* in flower, *Hieracia*, *Luzula arcuata*, and other plants. On reaching the summit of the ridge we skirted along the upper part of the cliffs, which are very precipitous, and seem to be worthy of careful examination. Our time only permitted a hasty glance. On the summit of the ridge there is a great extent of table-land in which there are several sources of the Dee, which we visited. The day was oppressively warm, and these cool springs were most refreshing.

The summits of most of the mountains here are very rocky and stony, and walking on them is very painful and fatiguing, especially on a hot and sultry day. After visiting the Springs of the Dee we proceeded to the rocks near Loch Evnach, which we examined superficially, and deem worthy of careful examination. *Luzula arcuata*, *Aira alpina vivipara*, and many alpine plants were seen on them. Leaving these rocks we bent our steps towards Cairn Toul, and on the ascent we gathered a *Carex* supposed to be *Carex leporina*, associated with *C. curta* var. *alpicola*. After a very fatiguing walk we reached the summit of Cairn Toul, picking *Luzula arcuata* on the way. We then descended by a rocky ravine towards the Dee. The descent was difficult and tedious. Some of the party were nearly knocked up by it. In a corrie of Cairn Toul I found *Veronica alpina*, *Poa alpina*, *Phleum alpinum*, and several other alpine plants. The hill deserves to be examined more thoroughly, and it is easy to reach it by taking a car from Braemar to the bridge on the Glen Tilt road, and then striking off to Glen Dee on the right hand. This is also a way of reaching one side of Ben na Mac Dhu, and it leads directly to the pass which conducts to the Spey. After reaching the Dee we proceeded by Glen Dee along the banks of the river. After walking a few miles we reached a sort of horse-track which conducted us to the Glen Tilt road, and ultimately to the Linn of Dee, where we arrived about 7 in the evening after a most laborious journey. A vehicle was here in waiting for us, and after partaking of a draught of porter and some biscuits, our only meal since 5 a.m., we reached Braemar in safety.

Monday, 16th August 1847.

The party walked by Invercauld to Lochnagar, picking on the way—*Vaccinium Vitis-Idæa*, *Betula nana*, and *Parnassia palustris*. We first made for the cliffs on the north-eastern side and examined them carefully. These cliffs surround a little loch, and some of them are very lofty and precipitous. Of late great falls of rocks have taken place. Various species of *Hieracium*, especially *H. alpinum*, *H. villosum*?, *H. Halleri*, were seen in profusion, *Allosorus crispus* in a fine state, *Veronica alpina*. On

the rocks near the snow, which is by no means abundant this season, *Saxifraga rivularis* was found as usual in large quantity. On the sloping green bank among the cliffs to the north of the summit Mr. Douglas saw *Sonchus alpinus*, and the plant was gathered also by myself and Messrs. Ivory and Balfour. A great number of the specimens were only in bud. This discovery confirms another of Don's stations for the plant. The more we examine the Highland hills the more we are satisfied of the correctness of Don's observations, and I have no doubt that the *Potentilla tridentata*, *Ranunculus alpestris*, and other plants not found since his day will ultimately come to light by the researches of botanists. On the cliffs also *Saussurea alpina*, *Poa alpina*, *P. laxa*, *P. flexuosa*, and *P. Balfourii*, with *Cerastium alpinum* and the usual alpine plants, were gathered. The party ascended to the summit by one of the steep ravines, encountering now and then some difficulties from the projecting rocks. On the summit *Carex rigida* was found as usual. From this point we proceeded to examine the ground at the source of the Glassalt Burn and the rocks where Dr. Dickie had found *Carex leporina*, but our time was limited and we did not find the plant. We descended by the rocks to the west, and some of the party attempted to cross the hills directly for Braemar, but they encountered many difficulties—they found the darkness coming on, and therefore were forced to return to the usual route after encountering a large herd of deer.

It was late this evening before we reached our quarters.

Tuesday, 17th August 1847.

We started in a conveyance this day for the Spital Bridge, about eight miles from Castleton. This bridge is situated near the foot of Glasmaol. We ascended towards the rocks at the head of Canlochan, where we spent the day. This is undoubtedly the best way of reaching the upper part of the glen. In moist places near the summit, gathered :—

Juncus castaneus
Carex Persoonii

Alopecurus alpinus
Phleum alpinum

Descending into the glen :—

Potentilla alpestris	Veronica alpina
Epilobium alsinifolium	„ saxatilis
Erigeron alpinus	Salix reticulata
Saussurea alpina	Carex atrata
Veronica serpyllifolia	„ vaginata
„ humifusa	Poa Balfourii

and numerous other alpine species were seen.

On the precipitous rocks at the head of the glen *Gentiana nivalis* was gathered in small quantity. Leaving these rocks and proceeding towards the western side we found *Sonchus alpinus* in two places ; unfortunately, however, most of the specimens had their flowers nipped off. The same thing was noticed last year. It is not easy to account for this. Can it be the high winds or the attacks of insects? No withered heads were seen in the place. In one of the stations along with *Sonchus*, *Saussurea* was found in quantity. We ascended Glasmaol by a ravine near the head of Canlochan. In this ravine grows profusion of *Saxifraga nivalis*, *Cystopteris dentata*, *Veronica humifusa*, *V. alpina*. Mist covered the summit of the hill so that our view was intercepted. We descended by compass, and on our way down saw abundance of *Juncus castaneus* and *Alopecurus alpinus*.

Our conveyance met us about five or six miles from Castleton.

Wednesday, 18th August 1847.

Got a conveyance as far as Loch Callater and then ascended the hills to the head of Glen Candlich [Ceann-mor?]. At this place there are caverns and a small hut in which travellers may rest for the night. At the head of Glen Candlich there are fine steep cliffs on which we saw *Epilobium alsinifolium* in great profusion along with *Veronica humifusa* and *V. alpina*. Leaving the head of the glen we bent our steps towards Little Gilrannoch, on the way picking *Alopecurus alpinus*, and *Carex aquatilis* in great quantity. On reaching Gilrannoch we were disappointed to find that there were scarcely any specimens of *Lychnis alpina*. Each of us got a specimen in flower, and that was nearly all we gathered. We also found *Cherleria sedoides*. The rock on which these plants grow is peculiar, and specimens of it were taken by the

party. The day was very fine and the rocks of Glen Fee seemed to be very tempting, and after some consultation it was resolved that Mr. Gilby (at his own desire) should return to Glen Callater and meet the conveyance, while the rest of the party, consisting of Messrs. Morse, Murchison, Ivory, Balfour, and myself (Hewitson and Douglas had remained at home), should go to Clova and remain all night. Accordingly we proceeded towards the head of Glen Fee, picking *Carex rariflora* and some alpine plants on the way. On reaching the rocks at the upper part of the glen, we saw *Carex VahlII* in great profusion, and with it *Salix lanata*, *S. arenaria*. We looked in vain for *Carex Grahami*; I fear the plant has disappeared from its original station. After examining the cliffs on the western side of the corrie we went to the northern side of Glen Fee and visited the cliffs on which *Oxytropis campestris* grows. There had been recently a great fall of rocks and part of the *Oxytropis* had been carried away—there still, however, remains a considerable quantity, although most of it is inaccessible. After much exertion and some risk we secured a specimen in fruit and Mr. Ivory got one specimen in flower. On the rocks we also got *Woodsia hyperborea*. Descending from the cliffs we made towards Acharne, a farmhouse where Mr. Watts resides, whom I had known on previous trips, and in whose house I had formerly attended a patient for smallpox. I asked for hay and a barn and a dish of porridge. After ascertaining who we were the party was kindly received—porridge and tea was supplied and everything was done by the farmer and his sister that could contribute to our comfort.

Thursday, 19th August 1847.

Rose early and proceeded to gather some *Hieracia*, *Malaxis paludosa*. After ablutions in the river and breakfast we proceeded to the rocks in Glen Dole. On these we picked a number of alpine species—especially *Sonchus alpinus* (eight specimens in flower), *Poa alpina*, *Salix reticulata*, *Hieracia*, *Pyrola secunda*, *Arabis hirsuta*, and many other good plants.

We then reached the summit of the ridge near the astragalus cliff, and proceeded by the banks of the White Water towards the upper part of Glen Callater, in which we saw large specimens

of *Salix lanata*. We proceeded by the eastern side of Loch Callater, which is the easiest for walking, and after refreshment at the gamekeeper's house went on to Castleton.

Friday, 20th August 1847.

This day was occupied chiefly in arranging and drying specimens. We took a short walk by the banks of the Cluny water and the Dee, picking:—

Meum athamanticum
Peucedanum Ostruthium (in
Free Churchyard)
Hieracium prenanthoides

Humulus Lupulus (at the
Bridge)
Triticum caninum

and some other common species.

Saturday, 21st August 1847.

We this day sent all our baggage by cart to Dunkeld, the man to be at Dunkeld on Monday forenoon. We carried with us our oilskin coats and a change of stockings. The day was misty and unpromising. After settling our bill and taking leave of Mrs. Clark we proceeded by two conveyances to Croachlach, a shooting lodge of General Duff about 12 miles from Castleton. Thence we walked through Glen Tilt, keeping the road nearly the whole time and diverging very little for the purpose of botanising.* We picked at the upper part of the glen *Epilobium angustifolium*, *Poa nemoralis*, *Saxifraga oppositifolia*. After entering the woods we picked specimens of *Campanula latifolia alba*, *Equisetum Drummondii*, *Melampyrum sylvaticum*.

Monday, 23rd August 1847.

Started early from Bridge of Tilt and walked to Killiecrankie, meaning to join the coach as it passed. The *Orobis niger*,

* The existence of a right-of-way through Glen Tilt was at this time in dispute, and the Botanists when they neared the foot of the Glen found their way barred. Of this incident the Diary contains a full description which need not be reproduced here. The experiences of the Botanists made the question of right-of-way an acute one, and the claim to a public road through Glen Tilt was ultimately declared by the Law Courts to be just.

however, detained us, and we missed the coach. The plant is in great profusion on the banks opposite Mrs. Hay's cottage. Passing through the glen, which we saw to great advantage, the morning being fine, we reached Moulinearn (after making a divergence of four miles by mistake). There we breakfasted. The party got a return car to take them to Dunkeld, while Mr. Murchison and I crossed the Tummel and the Tay and walked to Aberfeldy and Kenmore, picking on the way :—

Radiola Millegrana
Genista anglica
Lysimachia vulgaris

Pyrola media
Quercus sessiliflora

and a number of common species. The rest of the party (except Mr. Morse and Mr. Douglas) came by coach to Kenmore at night. There we met Mr. John H. Bunten, advocate, who had heard of our adventures in Glen Tilt and to whom we gave the full particulars.

Tuesday, 24th August 1847.

Our baggage having not all arrived, and the day being misty, we visited the gardens at Kenmore superintended by Mr. Murray and saw some curious specimens of grafting, ringing the bark—and afterwards we visited Taymouth Castle, and then walked to the Falls of Acharn. At the latter place we gathered *Festuca calamaria*, *Poa nemoralis*, *Campanula latifolia*.

Wednesday, 25th August 1847.

Left Kenmore early and walked by road for four miles towards Killin, then ascended the hills and reached the cliffs at the end of Lochnagat—the cliffs are called Crag na Lochan. There we saw :—

Draba incana
Cerastium alpinum
Erigeron alpinus
Saussurea alpina

Poa alpina
„ Balfourii
Woodsia hyperborea

In moist places in the corrie—*Juncus triglumis*, *Carex saxatilis*.

Examined the cliffs of Cragnagat, where we saw *Myosotis alpestris* in profusion, *Veronica alpina* and *V. saxatilis*, *Sesleria cærulea*. Ascended Ben Lawers in the midst of mist and reached its summit, found *Saxifraga cernua* not in flower, *Draba rupestris*, and on the steep sides of the hill *Alsine rubella*. Mr. Murchison and I alone ascended to the summit, and we met the rest of the party at Lawers Inn for lunch. Walked to Killin, whither our baggage had been sent.

Thursday, 26th August 1847.

Went by coach to Inverarnan—baggage by cart. Picked *Malaxis paludosa* and *Lycopodium inundatum*, also walked along shores of Loch Lomond and saw :—

Hypericum humifusum
Lythrum Salicaria
Lysimachia vulgaris

Carex vesicaria
Hymenophyllum Wilsoni

The day was unpropitious, and Ben Vorlich could not be examined. Visited a curious large mass of rock which was used as a preaching station.

Friday, 27th August 1847.

Visited Glen Falloch, and picked various forms of *Quercus pedunculata* and *Q. sessiliflora*.

Left Inverarnan by steamboat at 2 p.m., reached Balloch about 6, Dumbarton about 7, and Glasgow about 8.30 p.m. Left Glasgow by 10.30 train, and reached Edinburgh about 12 midnight.

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, Glen Isla, and Ben Lawers. The granite 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 I have remarked the same thing in Sutherlandshire, where it is found on the granite of Foineven.

Carex Vahlit 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, and mica-slate.

The range of species in the district will be illustrated by grouping species within divisions representing 1000 feet. Thus commencing at the sea at Aberdeen we have numerous seaweeds, then *Carex arenaria* and *incurva* and the ordinary plants of the district, common trees, *Goodyera repens*, and *Linnaea borealis* in the woods up the Dee.

Reaching Castleton, Braemar, which is 1000 feet above the level of the sea, we come into a region where *Genista anglica*, *Saxifraga aizoides*, *Alchemilla alpina* begin.

From 1000 to 3000 feet :—

Thalictrum alpinum	Erica cinerea
Viola lutea	Pyrola media
Genista anglica	„ secunda
Rubus saxatilis	Melampyrum sylvaticum
„ Chamæmorus	Polygonum viviparum
Alchemilla alpina	Oxyria reniformis
Saxifraga stellaris	Listera cordata
„ aizoides	Tofieldia palustris
Sedum villosum	Juncus triglumis
Vaccinium Vitis-Idæa	Lycopodium Selago
Arbutus Uva-Ursi	„ clavatum
Calluna vulgaris	„ selaginoides
Erica Tetralix	Pteris aquilina

From 2000 to 3000 feet :—

<i>Sibbaldia procumbens</i>	<i>Juncus trifidus</i>
<i>Saxifraga oppositifolia</i>	„ <i>castaneus</i>
„ <i>hypnoides</i> var.	<i>Carex atrata</i>
<i>Epilobium alsinifolium</i>	„ <i>capillaris</i>
„ <i>alpinum</i>	„ <i>saxatilis</i>
<i>Gnaphalium supinum</i>	<i>Alopecurus alpinus</i>
<i>Sonchus alpinus</i>	<i>Phleum alpinum</i>
<i>Vaccinium uliginosum</i>	<i>Poa alpina</i>
<i>Veronica humifusa</i>	„ <i>flexuosa</i>
<i>Betula nana</i>	„ <i>Balfourii</i>
<i>Salix rupestris</i>	<i>Festuca vivipara</i>
„ <i>lanata</i>	<i>Asplenium viridis</i>
„ <i>arenaria</i>	<i>Polystichum Lonchitis</i>
<i>Empetrum nigrum</i>	<i>Lycopodium annotinum</i>

From 3000 to 4000 feet and upwards :—

<i>Arabis petraea</i>	<i>Azalea procumbens</i>
<i>Draba incana</i>	<i>Gentiana nivalis</i>
<i>Cochlearia groenlandica</i>	<i>Veronica alpina</i>
<i>Silene acaulis</i>	„ <i>saxatilis</i>
<i>Lychnis alpina</i>	<i>Salix herbacea</i>
<i>Cerastium alpinum</i>	„ <i>reticulata</i>
<i>Cherleria sedoides</i>	<i>Luzula arcuata</i>
<i>Astragalus alpinus</i>	„ <i>spicata</i>
<i>Potentilla alpestris</i>	<i>Carex rupestris</i>
<i>Saxifraga nivalis</i>	„ <i>Persoonii</i>
„ <i>rivularis</i>	„ <i>leporina</i>
<i>Erigeron alpinum</i>	„ <i>rigida</i>
<i>Saussurea alpina</i>	„ <i>vaginata</i>
<i>Hieracium alpinum</i>	<i>Aira alpina</i>

At and above 4000 feet. Truly alpine :—

<i>Draba rupestris</i>	<i>Empetrum nigrum</i>
<i>Silene acaulis</i>	<i>Juncus trifidus</i>
<i>Stellaria cerastoides</i>	<i>Luzula spicata</i>
<i>Arenaria rubella</i>	„ <i>arcuata</i>
<i>Sagina nivalis</i>	<i>Carex leporina</i>
<i>Cherleria sedoides</i>	„ <i>rigida</i>
<i>Saxifraga cernua</i>	<i>Aira alpina</i>
<i>Saussurea alpina</i>	<i>Festuca ovina</i>
<i>Salix herbacea</i>	

Thus ended a botanical trip of no ordinary kind, whether we regard its extent, the rarity of the plants picked, or the adventures connected with it. Three weeks were spent in visiting the richest alpine districts in Britain, Braemar, Clova, Glen Isla, and Ben Lawers, and there was scarcely an alpine species which was not collected by the party.

The discovery of *Carex leporina* on Cairn Toul and of *Hieracium villosum* on Lochnagar, the gathering of *Sonchus alpinus* on the latter mountain and of *Woodsia hyperborea* in Glen Isla, the finding of *Luzula arcuata* on Ben na Mac Dhu, Cairngorm, Lochnagar, Braeriach, and Cairn Toul, and of *Carex vaginata* on all the Highland hills, thus extending the localities of these rare species—all these are facts which are interesting to botanists.

EXCURSIONS IN 1848.

Gorebridge, Arniston, Kirkhill, Dalhousie.

Saturday, 13th May 1848.

About 80 met at 9 a.m. at North British Railway Station and proceeded by train to Gorebridge. Thence walked to Arniston and along the banks of the river to Kirkhill and Dalhousie Station. Returned about 6 p.m.

Picked :—

Aconitum Napellus (not in flower)	Doronicum plantagineum
Stellaria nemorum	Pulmonaria officinalis
Prunus Padus (Arniston)	Lathræa Squamaria
Saxifraga umbrosa (not in flower)	Arum maculatum
Chrysosplenium alternifolium	Taxus baccata
Adoxa Moschatellina	Scolopendrium vulgare
	Equisetum Telmateia

Castlecary, Denning, Larbert, Dunipace, Falkirk.*Saturday, 20th May 1848.*

Party of about 40 met at 7 a.m. at Edinburgh and Glasgow Railway Station. Proceeded by train to Castlecary to breakfast. Twenty-seven breakfasted. About 15 or 16 more came by 8 o'clock train, making in all between 50 and 60. Visited Castlecary Glen. Thence walked by Denning to Larbert and Dunipace. Bathed in the river near the bridge at Larbert. Visited Carron Iron Works, having an order from Mr. Dawson. Walked to Falkirk Station and returned by the train which reached Edinburgh about 6 p.m.

Picked :—

In Castlecary Glen :—

Anemone nemorosa	Paris quadrifolia
Stellaria nemorum	Cystopteris fragilis
Mercurialis perennis	Polystichum lobatum
Neottia Nidus-avis (sparingly and not in full flower)	Polypodium Dryopteris

Between Denning and Larbert :—

Trollius europæus	Symphytum officinale
Arenaria rubra	Allium ursinum
Myrrhis odorata	

Cockburnspath, Dunglass Dene, Pease Dene.*Saturday, 27th May 1848.*

About 40 met at North British Railway Station at 9 a.m. Proceeded by train to Cockburnspath. Arrangements had been made by which each student received a third class return ticket for 2s. Met Mr. Hepburn of Whittingham at Linton. On reaching Cockburnspath visited Dunglass Dene, where there was a great profusion of ferns, the vegetation very luxuriant. After leaving the Dene the party proceeded to the sea shore.

Walked along the shore to the foot of the Pease Dene and up the glen. Returned by the train which passed Cockburnspath at 7.52 p.m., and reached Edinburgh about 9.30 p.m.

Picked :—

In Dunglass Dene :—

Cardamine amara	Allium ursinum (28 inches long)
„ hirsuta	Athyrium Filix-foemina (frond measured 3½-feet long)
„ sylvatica	Scolopendrium vulgare (30 inches long and 3 broad)
Geranium Robertianum (28 inches long by 25 across)	Lastrea dilatata (3½-feet long)
Chrysosplenium oppositifolium (18 inches long)	
Veronica montana	

On the shore :—

Glaucium luteum (not in flower)	Ligusticum scoticum (not in flower)
Cochlearia officinalis	Armeria maritima
Epilobium hirsutum (not in flower)	

In Pease Dene :—

Polystichum aculeatum, var. angulare (in profusion)

and numerous other fine ferns.

Dysart, Ravenscraig Castle, Kirkcaldy, Seafield, Burntisland.

Saturday, 3rd June 1848.

Party of upwards of 60 went to Dysart, partly by railway and partly by steamboat. Visited woods at Dysart, where there are many introduced and naturalized plants. Walked by the shore to Kirkcaldy, and then to Seafield tower and Burntisland. Returned by boat at 5.30 p.m.

Picked :—

In Dysart woods :—

Aquilegia vulgaris	Polemonium cæruleum
Saxifraga Geum	Linaria Cymbalaria
„ umbrosa	Convallaria majalis
Doronicum plantagineum	

At Ravenscraig Castle :—

Cheiranthus Cheiri

Smyrnum Olusatrum

On shore :—

Reseda lutea

Slateford, Colinton, Woodhall, Ravelrig, Currie.

Saturday, 10th June 1848.

Party of about 60 met at Canal Basin, Port Hopetoun, at 8.30 a.m. Walked to Slateford, Colinton, Woodhall, Ravelrig, and returned by train from Currie about 4.30 p.m.

Picked :—

Meconopsis cambrica

Corydalis lutea

Fumaria micrantha

Geranium phæum

„ columbinum

Epilobium angustifolium (not
in flower)

Lonicera Caprifolium

Valeriana pyrenaica

Campanula latifolia (not in
flower)

Pyrola minor

Trientalis europæa

Scrophularia vernalis

Corallorhiza innata

Listera cordata

„ ovata

Longniddry, Aberlady, Gullan, Drem.

Saturday, 17th June 1848.

Party of 40 or 50 met at North British Railway Station at 9.15 a.m., and went to Longniddry, thence to Aberlady, Gullan, and returned by Drem about 5.30 p.m. North British refused third-class return tickets. Lunched at Gullan.

Picked :—

Cerastium arvense

Geranium pusillum

Melilotus officinalis

Saxifraga tridactylites (fine
specimens at Gullan)

Hippuris vulgaris

Campanula hybrida

Carex vulpina

Lanark, Cartland Craggs, Falls of Clyde.*Saturday, 24th June 1848.*

Party of 104 went by Caledonian Railway to Lanark. Third-class return tickets 3s. 6d. Visited Cartland Craggs. About 60 breakfasted in the Assembly Rooms at Carrick's Inn. Then proceeded towards the falls. Visited Cora Linn. River not very full, so much so that one of our party was able to climb up by the side of the falls. Proceeded to Bonnington Falls.

Picked :—

At Cartland Craggs :—

Geranium sylvaticum	Neottia Nidus-avis
Vicia Orobus	Gymnadenia Conopsea
„ sylvatica	Habenaria bifolia
Viburnum Opulus	„ chlorantha
Galium boreale	Carex pendula
Jasione montana	Melica nutans
Daphne Laureola	„ uniflora

On the way to the falls and Cora Linn :—

Trollius europæus	Carex intermedia
Aquilegia vulgaris	„ paniculata

In the neighbourhood of the falls some subalpine species :—

Geranium lucidum	Asplenium viride
Saxifraga oppositifolia (covering the rocks)	„ Trichomanes
Galium pusillum	Cystopteris fragilis

In the woods on the way to Bonnington Falls :—

Vicia Orobus (in profusion and fine flower)	Lastrea dilatata
Rubus saxatilis	Polypodium vulgare
Humulus Lupulus	„ Dryopteris
Pteris aquilina	„ Phegopteris
Blechnum boreale	Equisetum arvense
Athyrium Filix-fœmina	„ sylvaticum
Lastrea Filix-mas	„ umbrosum

North Queensferry, Inverkeithing, Donibristle, Burntisland.*Saturday, 1st July 1848.*

About 30 proceeded by steamboat and landed at Queensferry. Thence walked by Ferry Hills to Inverkeithing, Donibristle, and Burntisland.

Gathered :—

<i>Spiræa Filipendula</i>	<i>Glyceria distans</i>
<i>Sedum villosum</i>	<i>Asplenium marinum</i>
<i>Allium Scorodoprasum</i>	

Dunfermline, Knock Hill, Saline Hills, Limekilns, Charleston.*Saturday, 8th July 1848.*

Twenty-five pupils proceeded by steamboat at 6 a.m. to Charleston. Some proceeded by rail, others walked, to Dunfermline. Met Dr. James Dewar. Breakfasted at the Spire Inn. Visited the abbey, and then walked towards Knock Hill. Thence to the Saline Hills, the banks of the Black Devon. Returned to Dunfermline to dinner. From Dunfermline walked to Limekilns and then to Charleston.

Picked :—

On the way from Dunfermline to Knock Hill :—

<i>Trifolium medium</i>	<i>Habenaria viridis</i>
<i>Anthyllis Vulneraria</i>	„ <i>chlorantha</i>
<i>Comarum palustre</i>	<i>Sparganium ramosum</i>
<i>Pyrola media</i>	<i>Eleocharis multicaulis</i>
<i>Gymnadenia Conopsea</i>	<i>Milium effusum</i>

On the south side of the Knock Hill :—

<i>Botrychium Lunaria</i> (fine specimens)

On the side of Saline Hills :—

<i>Lycopodium Selago</i>

On the banks of Black Devon :—

Geranium sylvaticum	Pyrola minor
Hieracium sylvaticum	Polygonum viviparum
„ rigidum	Gymnadenia Conopsea
„ boreale	„ albida
„ inuloides	Habenaria chlorantha
Pyrola rotundifolia	

On the north side of Knock Hill profusion of :—

Trientalis europæa	Allosorus crispus
Gymnadenia albida	

On way back from Knock Hill to Dunfermline :—

Trollius europæus (on moist pastures)	Sparganium natans (in ditches)
Rumex aquaticus (by the roadside)	

In Broomhall Woods :—

Epipactis latifolia	Luzula nivea
Lilium Martagon	

Near Charleston :—

Papaver Argemone	Anagallis arvensis
Glaucium luteum	Atriplex littoralis
Reseda lutea	

Montrose, Arbroath, Sands of Barry.

Friday, 14th July 1848.

Party consisting of Dr. Balfour, G. Bayley, W. H. Bone, Michael Connal, James M. Cunningham, George Dodd, D. F. Jones, W. Keddie, Gabriel Kerr, W. King, Anthony Mactier, John B. Mactier, Charles Murchison, G. Putnam, Dalhousie Tait, Ll. Thom, started by the earliest train for Montrose, left baggage at Arbroath in passing. On reaching Montrose met Mr. Kerr and visited links. Then proceeded to Rossie Castle. Met Mr. McDonald, Rev. Mr. Cameron. Lunched at the castle. Then went to rocks on the shore. After reaching sands at Lunan

joined the Arbroath road. On road to Arbroath met Mr. Rait of Annister and Lord Ogilvy, and were invited to Annister ; forced to decline kind invitation. Reached Arbroath to tea.

Picked :—

<i>Thalictrum minus</i>	<i>Matricaria Chamomilla</i>
<i>Iberis amara</i>	<i>Artemisia maritima</i>
<i>Teesdalia nudicaulis</i>	<i>Carlina vulgaris</i>
<i>Silene conica</i>	<i>Campanula glomerata</i>
„ <i>nutans</i>	<i>Erica Tetralix</i>
<i>Sterihammera maritima</i>	„ <i>var. alba</i>
<i>Lychnis Githago</i>	<i>Euphrasia officinalis</i>
<i>Trifolium striatum</i>	<i>Salix repens</i>
<i>Astragalus Hypoglottis</i>	„ <i>fusca</i>
„ <i>glycyphyllos</i>	<i>Blysmus rufus</i>
<i>Vicia sylvatica</i>	<i>Carex extensa</i>
„ <i>sativa</i>	<i>Ammophila arundinacea</i>
<i>Potentilla reptans</i>	<i>Phleum arenarium</i>
<i>Epilobium roseum</i> (Abbey, Arbroath)	<i>Poa maritima</i>
<i>Eupatorium cannabinum</i>	<i>Triticum junceum</i>
<i>Pyrethrum Parthenium</i>	<i>Elymus arenarius</i>
	<i>Lycopodium selaginoides</i>

Saturday, 15th July 1848.

Before breakfast visited cathedral, then went by train to Carnoustie. Met Gardiner, and botanized Sands of Bay. Dined at Dundee and returned by train at night.

Picked :—

<i>Ranunculus Flammula</i> , var. <i>reptans</i>	<i>Carex incurva</i>
<i>Fumaria micrantha</i>	<i>Botrychium Lunaria</i>
<i>Spergula nodosa</i>	<i>Equisetum variegatum</i>
<i>Vicia lathyroides</i>	<i>Weissia nigrita</i>
<i>Parnassia palustris</i>	<i>Didymodon inclinatus</i>
<i>Erigeron acris</i>	<i>Tortula unguiculata</i>
<i>Gentiana Amarella</i>	„ <i>rigida</i>
<i>Lamium amplexicaule</i>	<i>Bryum inclinatum</i>
<i>Habenaria viridis</i>	„ <i>trichodes</i>
<i>Juncus balticus</i>	<i>Hypnum albicans</i>
	„ <i>lutescens</i> (in fruit)

Hypnum dendroides		Stereocaulon tomentosum
Jungermannia pusilla (in fruit)		Parmelia physodes
Sticta scrobiculata		Peltidea polydactyla

Ben Lawers.

Monday, 24th July 1848.

Party consisting of J. H. Balfour, Charles Ashenheim, George Bayley, Spencer Cobbold, James M. Cunningham, John Duncanson, Gabriel Kerr, A. Mactier, John B. Mactier, T. R. Marshall, J. S. Sanderson, A. H. Thomson, G. Townley, Rich. H. Wake, started on an excursion to Ben Lawers. Left Edinburgh by the train at 7 a.m. and reached Stirling about 9. Proceeded immediately by coach to Callander, passing through the beautiful village of Doune. Coach well loaded, road very bad, and on one or two occasions there was some danger of being upset. Reached Callander about 12. Ten of the party breakfasted there, while the remaining four botanized in the neighbourhood. After breakfast the party proceeded in two carriages to Lochearnhead, passing through the Pass of Leny and examining the shore of the Teith and of Loch Lubnaig. In Loch Lubnaig numerous good plants were seen, but few could be procured on account of the swollen state of the waters. A boat aided the party in procuring some plants. On reaching Lochearnhead some of the party proceeded in one of the carriages with all the baggage to Killin, while the rest walked. Reached Killin about 7 p.m.

Picked :—

Near the Falls of the Teith :—

Galium boreale		Hieracium inuloides
Solidago Virgaurea		Poa nemoralis
Hieracium sylvaticum		

By the roadside :—

Galium Mollugo	
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In Loch Lubnaig :—

Nuphar pumilum (leaves)		Nymphaea alba
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On the shores of the loch :—

<i>Trollius europæus</i>		<i>Circæa alpina</i>
<i>Epilobium angustifolium</i>		<i>Lysimachia vulgaris</i>

On the way to Killin from Lochearnhead :—

<i>Hypericum humifusum</i>		<i>Lobelia Dortmanna</i>
<i>Saxifraga aizoides</i>		<i>Gentiana campestris</i> (lilac
<i>Gnaphalium dioicum</i>		and white)

Tuesday, 25th July 1848.

Twelve of the party proceeded to Craig Chailleach. The day was very misty and wet, and although there were occasional glimpses of sunshine, yet it appeared dubious. On that account a trip to Ben Lawers was postponed. The first ascent was accomplished amidst sunshine, but on reaching the steep rocks the rain began to descend, and after submitting to wet for an hour or two, six of the party turned tail and proceeded to the inn at Killin; the six deserters afterwards had a sail five miles down Loch Tay. Two of the party, Messrs. Wake and Cobbold, engaged in fishing and were tolerably successful. Craig Chailleach is a productive hill. Mass of nettles occurred high on the hill under a projecting rock, which probably had been a spot which had afforded shelter, and might indicate thus the habitation of man.

Among the plants gathered were the following :—

<i>Thalictrum alpinum</i>		<i>Rubus Chamaemorus</i>
<i>Ranunculus acris</i> (alpine form)		<i>Dryas octopetala</i> (one or two in flower)
<i>Trollius europæus</i>		<i>Geum rivale</i>
<i>Draba incana</i>		<i>Potentilla alpestris</i> (in flower)
<i>Cochlearia officinalis</i> vars.		<i>Sibbaldia procumbens</i>
<i>Hesperis matronalis</i> (near Killin Inn)		<i>Alchemilla vulgaris</i> , var. <i>minor</i>
<i>Silene acaulis</i> (some in flower)		„ <i>alpina</i>
<i>Cerastium alpinum</i>		<i>Saxifraga oppositifolia</i>
<i>Alsine rubella</i> (in profusion)		„ <i>nivalis</i>
<i>Cherleria sedoides</i>		„ <i>stellaris</i>
<i>Spergula subulata</i>		„ <i>aizoides</i>
<i>Geranium sylvaticum</i>		„ <i>hypnoides</i>
<i>Anthyllis Vulneraria</i>		<i>Chrysosplenium oppositifolium</i>

Parnassia palustris	Luzula spicata
Sedum Rhodiola	Carex dioica
„ anglicum	„ atrata
Epilobium alpinum	„ rigida
Gnaphalium supinum	„ vaginata
Solidago Virgaurea	„ capillaris
Leontodon alpinum	„ saxatilis
Hieracium Lawsoni	Avena pratensis (alpine form)
Vaccinium Vitis-Idæa	Sesleria cærulea (in profusion)
Pyrola rotundifolia	Poa alpina vivipara
Armeria maritima	„ Balfourii (2 vars.)
Gentiana campestris	Festuca vivipara
Rhinanthus Crista-galli	Asplenium viride
Mentha rotundifolia, var. velutina (near Inn, Killin)	„ Trichomanes
Oxyria reniformis	Cystopteris fragilis
Salix venulosa	Polystichum Lonchitis
„ arenaria ?	Lastræa Oreopteris
„ herbacea	Polypodium Dryopteris
„ reticulata	„ Phegopteris
Empetrum nigrum	Botrychium Lunaria
Habenaria albida	Equisetum palustre, var. alpinum
„ chlorantha	Lycopodium Selago
Tofieldia palustris	„ alpinum
Juncus castaneus	„ selaginoides
„ biglumis (generally diffused)	
„ triglumis	

Wednesday, 26th July 1848.

Whole party of 14 left Killin in two conveyances for Lawers Inn, which was reached about 9 a.m. Then ascended Ben Lawers, walking in the first instance towards the corrie on the east side and examining rocks near the little loch.

On these rocks were found :—

Cherleria sedoides	Myosotis suaveolens
Sibbaldia procumbens	Woodsia hyperborea
Erigeron alpinum	Polystichum Lonchitis

and many good alpine plants.

Proceeding round the cliffs, gathered :—

Veronica humifusa	Juncus biglumis
Juncus castaneus	

thence going to the rocks where *Myosotis suaveolens* occurs in profusion towards the north-east of the summit.

Picked :—

Draba incana	Poa Balfourii
Saxifraga nivalis	

Numerous alpine species occur, along with :—

Carex atrata	Cetraria islandica
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Reaching the corrie immediately below the summit on the east, the party ascended to the ridge leading to the top. In the corrie they found a profusion of good alpine plants in fine flower, as :—

Cerastium alpinum	Saxifraga oppositifolia
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The temperature here was very low. Many good mosses. On reaching the summit mist came on; it occasionally cleared so as to open up a grand view.

On the summit picked *Draba rupestris*. No *Saxifraga cernua*.

East of summit, below :—

Alsine rubella

Descended to west, came to cliffs, where picked :—

Alsine rubella	Gentiana nivalis
Erigeron acris	Myosotis suaveolens

These cliffs are well worthy of examination. Returned to inn by Glen Lyon Road and reached Killin about 8 p.m.

List of plants gathered on Ben Lawers :—

Thalictrum alpinum (fine flower)	Cochlearia grœnlandica (near summit)
Anemone nemorosa	Silene acaulis (in fine flower)
Trollius europæus	Cerastium alpinum (very fine, on cold cliffs east of summit)
Draba incana	Alsine rubella (east side)
„ rupestris (one specimen)	„ „ (west side)

<i>Cherleria sedoides</i> (profusion)	<i>Gentiana nivalis</i> (rocks on west side)
<i>Geranium sylvaticum</i>	<i>Myosotis suaveolens</i> (on various rocks both east and west side)
<i>Rubus Chamæmorus</i> (fruit, 2 specimens in flower)	<i>Veronica humifusa</i>
<i>Geum rivale</i>	„ <i>saxatilis</i>
<i>Potentilla alpestris</i> (in flower)	<i>Oxyria reniformis</i>
<i>Sibbaldia procumbens</i> (large)	<i>Salix herbacea</i>
<i>Saxifraga oppositifolia</i> (in fine flower, in cold corrie to east of summit)	„ <i>reticulata</i>
<i>Saxifraga nivalis</i> (in quantity near summit)	<i>Tofieldia palustris</i>
„ „ (rocks on west side)	<i>Juncus castaneus</i> (sparingly)
„ <i>stellaris</i>	„ <i>biglumis</i> (profusion everywhere on the hill)
<i>Sedum Rhodiola</i> (in fine flower, near top)	„ <i>triglumis</i>
<i>Epilobium alsinifolium</i> (corrie near top)	<i>Luzula spicata</i>
„ <i>alpinum</i>	<i>Carex atrata</i> (plenty)
<i>Angelica sylvestris</i>	„ <i>rigida</i>
<i>Heracleum Sphondylium</i>	„ <i>capillaris</i> (large)
<i>Cornus suecica</i> (young fruit)	„ <i>saxatilis</i> (profusion)
<i>Erigeron alpinus</i> (rocks near the loch, also on west side)	<i>Sesleria cærulea</i> (in flower)
<i>Gnaphalium supinum</i>	<i>Poa alpina</i> , also <i>vivipara</i>
<i>Saussurea alpina</i>	„ <i>Balfourii</i>
<i>Hieracium Lawsoni</i>	„ <i>nemoralis</i> (alpine form)
<i>Leontodon</i> (large)	<i>Asplenium viride</i>
<i>Pyrola rotundifolia</i>	<i>Woodsia hyperborea</i> (rocks near the loch)
	<i>Polystichum Lonchitis</i> (large, nearly 2 feet long)
	<i>Cetraria islandica</i>

Thursday, 27th July 1848.

Morning showery, and the party unable to visit the head of the loch for *Carex vesicaria*.

After breakfast, day cleared, and finding that the hire of two carriages including tolls and driver was cheaper than taking outside seats by the coach, the party adopted that mode of procedure. Half an hour after leaving Killin the rain began to fall, and descended heavily till the time Crianlarich Inn was reached. During the after part of the day there were frequent heavy

showers. The party reached Inverarnan about 1 o'clock. Two of the party, Cobbold and Ashenheim, left, the former for the Trossachs and the latter for Glasgow. The party was thus reduced to 12. Of them 6 went fishing and boating on Loch Lomond and the other 6 botanised in Glen Falloch.

The boating party visited one of the islands in the loch and picked :—

<i>Cordalis claviculata</i>	<i>Scutellaria galericulata</i>
<i>Hypericum Androsæmum</i>	<i>Taxus baccata</i>
<i>Lythrum Salicaria</i>	

The other party picked, near the inn :—

<i>Pinguicula lusitanica</i>	<i>Rhynchospora alba</i>
<i>Malaxis paludosa</i>	<i>Lycopodium inundatum</i>

In Glen Falloch were picked :—

<i>Quercus pedunculata</i> , with various forms of leaves and various lengths of peduncles	<i>Quercus intermedia</i> of Martyn Flora rustica <i>Q. sessiliflora</i>
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On moist rocks in Glen Falloch :—

<i>Hymenophyllum Wilsoni</i> (in profusion in fine fruit)

Friday, 28th July 1848.

A beautiful morning. Party divided into two sets. One set, consisting of Wake, Cunningham, Thomson, Bayley, and John Mactier, went boating and fishing. The other 7 proceeded to Ben Vorlich, ascended by east side.

Picked :—

<i>Thalictrum alpinum</i>	<i>Saxifraga stellaris</i>
<i>Silene acaulis</i>	„ <i>aizoides</i>
<i>Cerastium alpinum</i>	<i>Cornus suecica</i>
<i>Sibbaldia procumbens</i>	<i>Gnaphalium supinum</i>
<i>Saxifraga oppositifolia</i> (in flower)	<i>Saussurea alpina</i>
	<i>Hieracium alpinum</i>

Hieracium Lawsoni	Carex Oederi
Vaccinium uliginosum (in fruit)	„ saxatilis
Plantago maritima (on the first ascent)	Aira cæspitosa, var. alpina
Malaxis paludosa	Molinia depauperata
Listera cordata	Poa Balfourii
Orchis mascula (high on west side)	Festuca vivipara
Juncus trifidus	Asplenium viride
„ castaneus	Lycopodium Selago
„ triglumis	„ annotinum
Luzula spicata	„ alpinum
Carex rigida	„ selaginoides
„ pilulifera	Isoetes lacustris (in small loch near the top)
	Splachnum mnioides
	Cetraria islandica

Reached the summit about 2 p.m. and had a fine view from the top, Ailsa Craig in the distance. Descended to Loch Sloy and walked to Inveruglas and thence by shores of Loch Lomond to Inverarnan.

Near the Inn picked :—

Corydalis claviculata	Lysimachia vulgaris
Lythrum Salicaria	Pinguicula lusitanica

Saturday, 29th July 1848.

Left Inverarnan at 5 a.m. by steamboat. Morning beautiful, not a cloud. After reaching Balloch proceeded by steamboat to Glasgow, and reached Edinburgh at 12.30 p.m.

EXCURSIONS IN 1849.

Kirknewton, Dalmahoy, Ravelrig, Currie.

Saturday, 12th May 1849.

About 50 pupils met at Caledonian Railway Station and proceeded to Kirknewton at 7 a.m. Walked to Western Dalmahoy Hill and ascended it. Visited Ravelrig Bog, thence

went to the banks of the Water of Leith, reached Balerno and Currie. Afterwards walked to Woodhall and thence to Edinburgh, which was reached about 4 p.m.

Picked :—

At Dalmahoy :—

Draba verna	Viola flavicornis
Sisymbrium Thalianum	„ lutea
Viola canina	

At Ravelrig :—

Viola palustris	Salix (several)
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At Balerno :—

Saxifraga granulata	Mercurialis perennis
Myrrhis odorata	Orchis mascula
Anthriscus sylvestris	Scilla nutans
Asperula odorata	Arum maculatum

Near Woodhall. Good fossils, especially *Lepidodendra*.

Gorebridge, Arniston, Dalhousie.

Saturday, 19th May 1849.

Sixty met at the North British Railway Station at 8.15 a.m. and proceeded by the train to Gorebridge, thence walked to Arniston. Met Mr. Veitch, the gardener.

On the way picked several common plants :—

Fragaria vesca	Equisetum sylvaticum
Veronica Chamædrys	„ limosum
Equisetum arvense	

Visited gardens at Arniston, where the gardener cultivates many good alpine plants, and a fine collection of mosses in pots.

Proceeded to woods and found :—

Ranunculus auricomus	Chrysosplenium alternifolium
Lychnis dioica	Myrrhis odorata
Stellaria nemorum	Doronicum plantagineum
„ Holostea	Pulmonaria officinalis
Ulex europæus	Lathræa Squamaria, para-
Sarothamnus scoparius	sitic on roots of Prunus
Prunus spinosa	Lauro-cerasus
„ Avium	Scilla nutans
„ Cerasus	Paris quadrifolia
„ Padus	Arum maculatum (not quite
Fragaria vesca	out)
Potentilla Fragariastrum	Equisetum Telmateia
Chrysosplenium oppositifolium	

After leaving the woods at Arniston passed Kirkhill and entered Dalhousie Woods, where we found profusion of *Viola odorata* in fruit near Prestonholme, also *Arum maculatum* in fine flower.

Ribes alpinum	Vinca minor (blue and white)
Adoxa Moschatellina	Anchusa sempervirens
Viburnum Lantana	Orchis mascula
Valeriana pyrenaica	Convallaria majalis (in bud)

Examined the woods near Dalhousie Station and picked a single specimen of *Neottia Nidus-avis* in bud.

Returned by train which left Dalhousie at 5.15 p.m.

Kirkcaldy, Ravenscraig Castle, Dysart Woods, Pettycur, Burntisland.

Saturday, 26th May 1849.

Party of 50 met at Chain Pier, Newhaven, at 9.45 a.m., and went by steamboat to Kirkcaldy, visited Ravenscraig Castle under the direction of Mr. Laing, gardener to the Earl of Rosslyn.

Picked :—

Cheiranthus Cheiri	Smyrniolum Olusatrum
Viola odorata (in fruit)	Anthriscus sylvestris
„ tricolor	Armeria maritima
Lychnis diurna	Scilla nutans
Conium maculatum (not in flower)	

Entered Dysart Woods by the west gate and botanised there for some hours.

Picked :—

Aconitum Napellus	Polemonium cæruleum
Silene maritima	Polygonum Bistorta
Saxifraga Geum	Daphne Laureola
„ umbrosa	Ruscus aculeatus
„ granulata (double)	Convallaria majalis
Doronicum Pardalianches	

Met the Earl of Rosslyn, who kindly conducted us to see the fine hybrid rhododendrons, pines, deodars, an araucarias. Visited afterwards the greenhouses and kitchen garden. Thence walked through Pathhead and part of Kirkcaldy, reached the sands, and walked to Seafeld tower, and then by shore to Kinghorn, Pettycur, and Burntisland.

Picked :—

Barbarea vulgaris	Medicago lupulina
Arabis hirsuta	Astragalus Hypoglottis
Cochlearia officinalis	Valerianella olitoria
Cochlearia danica (Burnt-island)	„ dentata
Sinapis alba	Primula vulgaris
Lepidium Smithii	„ veris
Thlaspi arvense (fields near Pettycur)	Linaria Cymbalaria (near Seafeld tower)
Reseda lutea (side of railway near Burntisland)	Salvia Verbenaca (near Pettycur)
Helianthemum vulgare	Parietaria officinalis (Burnt-island)
Silene maritima	Sclerochloa loliacea (Burnt-island)
Alsine peploides	Botrychium Lunaria
Geranium sanguineum	

**Tranent, Ormiston, Prestonhall Woods, Ford,
Crichton, Tynehead.**

Saturday, 9th June 1849.

Party of 35 met at the North British Railway Station at 8 a.m. and proceeded by the train to Tranent. Thence walked through the village of Tranent, and immediately after passing it turned to the right to go to Ormiston.

In the wood at the back of the village we picked a considerable quantity of *Convallaria multiflora*, apparently wild, also *Berberis vulgaris* and *Geum intermedium*, along with *G. rivale*. *G. intermedium* occurred on the roadside. Near Ormiston there is abundance of *Acer campestre* and the hirsute form of it, which was in flower and fruit, also *Stellaria graminea*.

After leaving Ormiston, which is a neat village with an old Cross in the centre, we proceeded across a small burn and turned to the left until we reached a toll-house, took the road to the left, and entered Fountainhall Woods, which are very pretty. In them saw a multiplicity of fine ferns growing luxuriantly, the chief species being :—

Pteris aquilina	Lastrea Filix-mas
Blechnum boreale	„ spinulosa
Athyrium Filix-fœmina	

In the woods also :—

Fumaria officinalis	Rhinanthus Crista-galli
Oxalis Acetosella	Nepeta Glechoma
Asperula odorata	Ajuga reptans
Primula vulgaris (still in flower)	

From Fountainhall proceeded to Ormiston Hall Woods.

In them there was profusion of :—

Alliaria officinalis	Rumex viridis
Prunus Padus	Agraphis nutans
Lysimachia nemorum	Arum maculatum
Symphytum tuberosum	Milium effusum
Melampyrum pratense	Equisetum arvense
Polygonum Bistorta	„ sylvaticum
Rumex sanguineus	„ limosum

Met Mr. Gorrie at the end of the woods and were conducted by him to Prestonhall Woods. Visited the gardens and house, where we were kindly received by Mr. Burn Callender.

Saw a number of interesting specimens of roots which had entered into drains and caused their closure ; many plants seem to do so. One shown was the root of a walnut tree, which had been traced by Mr. Gorrie 24 yards from the bole. Mr. Gorrie states that he has known it occur in the case of the elm, willow, poplar, and ash. A case of the latter kind I saw at Southampton ; it had occurred in drains in Hampshire, and was given to me by Mr. Balloch. Mr. Gorrie states that many herbaceous plants have roots which enter drains ; among them may be noticed *Polygonum Bistorta*, *Equisetum*, *Tussilago Farfara*, which he has seen entering drains three feet deep. The bistort is particularly troublesome, and has caused much injury in the Carse of Gowrie.

In Mr. Callender's hothouse we saw a plant of *Cereus grandiflorus* with 9 or 10 flower buds expanding. We also tasted ripe coffee-berries and figs. Saw a mountain ash, one of the branches of which had been split off so as to leave the centre of the trunk bare ; the tree lived with the main shoot growing and numerous branches ; from some of these roots were sent down which filled the split and broken portions of the bole. These roots were distinctly seen proceeding from the upper branches and forming a distinct covering to the exposed wood. The roots proceeded from the new wood near the bark of the branches. It is proof of the existence of a descending system, and is in favour of Gaudichaud's theory. Saw an elm the main trunk of which had been broken ; a knot existed on the remaining part of the trunk, which gave off a branch. This branch now grows erect and has a peculiar bushy aspect, quite distinct from that of the elm, some of the branches of which in their natural state are seen. On all the branches of the new leader there is a tendency to develop knots, in fact the whole of them are covered with knotty excrescences ; this peculiar tendency, as well as the habit of growth, continues in slips which Mr. Gorrie has taken from the plant.

In the woods of Prestonhall the chief plants found were :—

Berberis vulgaris	Lonicera Xylosteum
Ilex Aquifolium	Vinca minor
Staphylea pinnata	Ajuga reptans (white flowered, near the pond)
Pyrus Aucuparia	Polygonum Bistorta
Bunium flexuosum	Ornithogalum umbellatum
Lonicera Caprifolium	

In Prestonhall avenue :—

Anthemis arvensis	
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Remains of old garden :—

Helleborus foetidus	
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Took lunch at the Stair Arms Inn, and then walked to Ford.

In the marsh got :—

Menyanthes trifoliata	Blysmus compressus
Pedicularis palustris	Carex ovalis
Orchis latifolia	„ caespitosa
„ maculata	„ riparia

In going towards Crichton Castle gathered in the woods :—

Barbarea vulgaris	Neottia Nidus-avis
Chenopodium Bonus-Henri- cus	

Visited Crichton Castle. In the thicket near it saw :—

Geranium sylvaticum	Carex sylvatica
Juniperus communis	

On banks of the Tyne :—

Cardamine amara	Neottia Nidus-avis
Pyrola minor (scarcely in flower)	Polypodium Dryopteris
	„ Phegopteris

On a moor near Tynehead :—

Genista anglica (in profusion)	Pinguicula vulgaris
Antennaria dioica	Lycopodium clavatum
Pedicularis palustris	

Reached Tynehead Station about 7, and returned to Edinburgh about 8 p.m.

Galashiels, Abbotsford, Melrose, Newtown.*Saturday, 16th June 1849.*

Party of 100 met at the North British Railway Station at 8 and proceeded by the 8.15 a.m. train to Galashiels. Train very long one and very slow, and the party did not reach Galashiels till 10.30. Walked towards Faldonside and then crossed the Tweed, some in the ferryboat, others by wading.

In consequence of the boat only containing 10 or 12 there was much delay in crossing. Met John Swanston, who had been 32 years forester at Abbotsford, and were conducted by him through the woods. In them there are a number of naturalised plants, such as :—

<i>Aquilegia vulgaris</i>		<i>Convallaria multiflora</i>
<i>Saxifraga umbrosa</i>		

Besides these we picked :—

<i>Geranium sylvaticum</i>		<i>Ribes rubrum</i>
<i>Acer campestre</i>		<i>Lonicera Caprifolium</i>
<i>Orobis tuberosus</i>		<i>Valeriana officinalis</i> (not in
<i>Geum</i> (many forms)		flower)
<i>Ribes Grossularia</i>		<i>Polygonum Bistorta</i>

Some of the party visited Abbotsford House. Visited the Little Loch, where *Nuphar luteum* was seen—an introduced plant; then proceeded to Huntly Burn, gathering in the woods :—

<i>Geranium sylvaticum</i>		<i>Cornus sanguinea</i>
<i>Staphylea pinnata</i>		

Visited Chief's Wood, and called on Professor James D. Forbes. Saw *Meconopsis cambrica* in the woods.

Our walk then lay by the side of the Eildon Hills, which were ascended by some of the party.

On these hills were gathered :—

<i>Gnaphalium dioicum</i>		<i>Pinguicula vulgaris</i>
<i>Vaccinium Vitis-Idæa</i>		<i>Lycopodium alpinum</i>

Melrose was next reached and the Abbey visited.

From Melrose the party went by road to Newtown, then descended to the banks of the river, gathering the following plants :—

<i>Fumaria capreolata</i>	<i>Hieracium Pilosella</i>
„ <i>officinalis</i>	„ <i>sylvaticum</i>
<i>Barbarea vulgaris</i>	<i>Apargia hispida</i>
<i>Cardamine sylvatica</i>	<i>Echium</i> (partly in flower)
<i>Sinapis arvensis</i>	<i>Thymus Serpyllum</i>
<i>Reseda Luteola</i>	<i>Plantago media</i> (abundant)
<i>Trifolium procumbens</i>	<i>Orchia mascula</i>
<i>Anthyllis Vulneraria</i>	„ <i>latifolia</i>
<i>Vicia Cracca</i>	„ <i>maculata</i>
<i>Rosa tomentosa</i>	<i>Briza media</i>
<i>Sedum Telephium</i> (not in flower)	

Crossed the ferry to Dryburgh and visited the Abbey, Sir W. Scott's tomb.

Picked :—

<i>Cheiranthus Cheiri</i>	<i>Taxus baccata</i>
<i>Geranium lucidum</i>	

Returned by train leaving Newtown at 6 and reaching Edinburgh at 8 p.m.

Longniddry, Gosford, Aberlady, Luffness, Gullan, Dirleton, Drem.

Saturday, 23rd June 1849.

Party of about 30 met at the North British Railway Terminus at 8 a.m. and proceeded to Longniddry (having received third-class return tickets from Drem, 2s.), visited woods at Gosford, and were allowed by Mr. Addison to walk through the grounds and to see the ponds.

Picked :—

In the ponds :—

<i>Nymphæa alba</i>	<i>Chara flexilis</i>
<i>Myriophyllum spicatum</i>	

In the woods :—

<i>Geranium pratense</i>	<i>Viburnum Opulus</i>
<i>Euonymus europæus</i>	<i>Scrophularia vernalis</i>
<i>Potentilla fruticosa</i>	<i>Salix pentandra</i>
<i>Sambucus nigra</i>	<i>Iris Pseudacorus</i>

Leaving Gosford we walked to Aberlady, picking on the way :—

<i>Papaver Rhœas</i>	<i>Solanum Dulcamara</i>
„ <i>dubium</i>	<i>Hippophaë rhamnoides</i>
„ <i>Argemone</i>	<i>Listera ovata</i>

On the shore near Aberlady saw :—

<i>Cochlearia officinalis</i>	<i>Triglochin maritimum</i>
<i>Aster Tripolium</i> (not in flower)	<i>Blysmus rufus</i>
<i>Armeria maritima</i>	<i>Carex distans</i>
<i>Glaux maritima</i>	„ <i>extensa</i>
	<i>Rottboellia filiformis</i>

At Luffness picked :—

<i>Ranunculus sceleratus</i>	<i>Carex vulpina</i>
<i>Hippuris vulgaris</i>	„ (<i>paludosa</i> ?)
<i>Alisma Plantago</i>	„ <i>riparia</i>
<i>Scirpus maritimus</i>	

In fields near Luffness :—

<i>Silene noctiflora</i> (in leaf)	<i>Lycopsis arvensis</i>
<i>Cerastium arvense</i>	<i>Lithospermum arvense</i>
<i>Pastinaca sativa</i>	<i>Lamium amplexicaule</i>
<i>Anagallis arvensis</i>	

Gullan Links and Loch supplied the following :—

<i>Sium angustifolium</i> (in leaf)	<i>Utricularia vulgaris</i> (not quite in flower)
<i>Gentiana campestris</i>	<i>Orchis latifolia</i>
<i>Menyanthes trifoliata</i>	<i>Scirpus lacustris</i>
<i>Cynoglossum officinale</i>	<i>Chara hispida</i>
<i>Euphrasia officinalis</i>	
<i>Pedicularis palustris</i>	

Near the village of Gullan :—

Malva sylvestris	Centaurea Scabiosa
„ rotundifolia	„ Cyanus
Geranium pusillum	Convolvulus arvensis
Callitriche platycarpa	Limosella aquatica (in fine flower)

From Gullan (after refreshment) the route lay towards Dirlerton. Visited the castle, gathering :—

Smyrnum Olusatrum	Linaria Cymbalaria
Centranthus ruber	Parietaria officinalis

And on the roadside :—

Galium Mollugo

Reached Drem Station in time for the train at 6.20 p.m. Did not reach Edinburgh until 8 p.m.

North Queensferry, St. Davids, Donibristle, Aberdour, Burntisland.

Saturday, 30th June 1849.

Party of about 30 met at Granton pier at 8.30 a.m. and proceeded by steamboat to North Queensferry. Thence walked towards the *Oxytropis* and *Astragalus* stations, crossed to Inverkeithing Bay, walked to St. Davids, Donibristle, and Aberdour, where we dined. Thence by woods to Burntisland, which was reached in time for the boat at 6.34 in the evening. Had an order from Mr. Philipps, the factor, to see Donibristle; met Mr. Gavin, the gardener, who conducted us through the houses.

The following were some of the plants seen :—

At Queensferry :—

Papaver Argemone	Carduus tenuiflorus
Helianthemum vulgare	„ acanthoides
Malva sylvestris	Erica cinerea
„ rotundifolia	Glaux maritima
Anthyllis Vulneraria	Echium vulgare
Spiraea Filipendula	Plantago maritima
Potentilla verna	„ Coronopus
Rosa spinosissima	Koeleria cristata
Petroselinum vulgare	

Near the toll on the Queensferry road :—

<i>Thalictrum minus</i>	<i>Astragalus glycyphyllos</i>
„ <i>majus</i>	<i>Gnaphalium germanicum</i>
<i>Thlaspi arvense</i>	<i>Habenaria viridis</i>

On shore near Inverkeithing :—

<i>Sagina maritima</i>	<i>Convolvulus arvensis</i>
<i>Alsine marina</i>	<i>Parietaria officinalis</i>
<i>Sedum acre</i>	<i>Allium Schoenoprasum</i>
„ <i>villosum</i>	<i>Sclerochloa maritima</i>
<i>Sambucus Ebulus</i>	„ <i>distans</i>

In a quarry at Inverkeithing :—

<i>Saponaria officinalis</i> (very abundant)	<i>Malva sylvestris</i>
	<i>Conium maculatum</i>

Near St. David's :—

<i>Diploaxis tenuifolia</i>	<i>Echium vulgare</i> (pink)
<i>Reseda lutea</i>	<i>Artemisia Absinthium</i>
<i>Melilotus officinalis</i>	<i>Senecio sylvaticus</i>
<i>Ligusticum scoticum</i>	

On rocks near St. David's :—

<i>Hypericum perforatum</i>	<i>Lonicera Periclymenum</i>
„ <i>hirsutum</i>	<i>Anagallis arvensis</i>
<i>Trifolium arvense</i>	<i>Beta maritima</i>
„ <i>striatum</i>	<i>Allium vineale</i>
<i>Agrimonia Eupatoria</i>	<i>Asplenium marinum</i>

On the shore near Donibristle :—

<i>Thalictrum flavum</i>	<i>Cynoglossum officinale</i>
<i>Geranium pratense</i>	<i>Atropa Belladonna</i>
<i>Oenanthe crocata</i>	<i>Hyoscyamus niger</i>
<i>Dipsacus sylvestris</i>	<i>Beta maritima</i>
<i>Pyrethrum Parthenium</i>	<i>Listera ovata</i>
<i>Hieracium sylvaticum</i>	<i>Allium Scorodoprasum</i>

Marsh at Donibristle :—

<i>Iris Pseudacorus</i>	<i>Typha latifolia</i>
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Woods between Aberdour and Burntisland :—

Iris Pseudacorus
Bromus asper

Triticum caninum

Drem, North Berwick, Canty Bay, Bass, Tantallon Castle.

Saturday, 7th July 1849.

Party of 31 met at the North British Station at 7.45 a.m. The day was rather unpromising as regards wind and rain, nevertheless the party proceeded by rail to Drem. Rain had by this time diminished. Two omnibuses and a dogcart conveyed them to North Berwick, and there the day cleared. Walked by the sandy shore to Canty Bay, gathering :—

Silene inflata
" *maritima*
Anthyllis Vulneraria
Astragalus Hypoglottis
Vicia Cracca
" *sylvatica*

Eryngium maritimum
Scabiosa Columbaria
Apargia hispida
Chenopodium album
Carex arenaria
Psamma arenaria

On reaching Canty Bay, George Adams, the boatman, was ready with two boats to convey the party to the Bass; difficult landing. On the Bass got :—

Cerastium atrovirens
Lavatera arborea

Beta maritima

Had some tacking in coming back, and some of the party sick.

After landing at Canty Bay proceeded to Tantallon, on the way gathering :—

Habenaria viridis

At the old Castle of Tantallon :—

Papaver somniferum
Lepidium latifolium
Malva sylvestris

Conium maculatum
Torilis Anthriscus

Walked back to the toll near North Berwick and then ascended Berwick Law. Picked a few common plants, as :—

Helianthemum vulgare	Veronica Anagallis (ditches
Senecio sylvaticus	below)

Reached North Berwick about 4.30 p.m., and after dinner came by our omnibuses to Drem, meeting the train at 6.20, and reaching Edinburgh at 7.15.

Colinton, Bonaly, Habbie's Howe, Currie.

Saturday, 14th July 1849.

Party of 30 met at Bruntsfield Links Toll at 8.30 a.m. and walked to Colinton, picking on the way a number of common plants, especially grasses. Thence went to Bonaly and ascended the Pentlands, crossed to the compensation pond, where we bathed.

Picked :—

Ranunculus aquatilis	Cystopteris fragilis
Sedum villosum	Lastrea Oreopteris

Walked to Habbie's Howe and there lunched, and got :—

Epilobium angustifolium	Hieracium prenanthoides
Galium pusillum	

Proceeded by the marshy ground to the new reservoir of the Water Company, thence across the river to Currie, gathering on the way :—

Botrychium Lunaria	Pilularia globulifera
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Examined banks near Currie and picked :—

Geranium pratense	Anchusa sempervirens
Trifolium medium	Lilium Martagon
Valeriana officinalis	

Returned by railway train which passed Currie about 7.30 p.m.

Gallowshall, Dalkeith, Musselburgh, Portobello.

Saturday, 21st July 1849.

Party of about 30 met at the North British Railway Station at 8 a.m. and proceeded to Gallowshall and thence to Dalkeith, where we met Mr. M'Intosh, who kindly conducted us through the Duke of Buccleuch's garden and grounds. We proceeded by the banks of the Esk as far as Musselburgh, and thence walked to Portobello to meet the train, arriving in Edinburgh about 5 p.m.

The following is a list of the plants gathered in Dalkeith Woods and on the banks of the Esk :—

Papaver somniferum	Chærophyllum temulentum
„ Rhœas	Anthriscus vulgaris
Barbarea vulgaris	„ sylvestris
Alliaria officinalis	Ligusticum vulgare
Iberis amara	Heracleum Sphondylium
Silene inflata	Torilis Anthriscus
Hypericum perforatum	Sambucus nigra
„ hirsutum	Lonicera Periclymenum
Malva sylvestris	Valeriana officinalis
„ rotundifolia	Doronicum Pardalianches
Geranium sylvaticum	Senecio sylvaticus
„ pratense	„ Jacobæa
„ Robertianum	Carduus tenuiflorus
Medicago lupulina	„ acanthoides
Spiræa Ulmaria	Centaurea nigra
Geum urbanum	Lapsana communis
Rosa tomentosa	Crepis paludosa
„ canina	Hieracium sabaudum
Ribes Grossularia	Sonchus arvensis
„ rubrum	Tragopogon minor
Epilobium hirsutum	Campanula latifolia
„ parviflorum	Campanula rapunculoides
Circeæ lutetiana	(naturalised)
Conium maculatum	„ rotundifolia
Petroselinum sativum	„ persicifolia (on
Pimpinella Saxifraga	banks of Esk)
Myrrhis odorata	„ media (naturalised)

Solanum Dulcamara	Salix aurita
Linaria vulgaris	„ purpurea
Scrophularia nodosa	„ Helix
Mimulus luteus	Populus alba
Digitalis purpurea	Juncus bufonius
Prunella vulgaris	„ glaucus
Stachys sylvatica	„ lamprocarpus
„ palustris	Luzula sylvatica
Teucrium Scorodonia	Agrostis vulgaris
Chenopodium album	Aira cæspitosa
Polygonum Convolvulus	Melica uniflora
„ Persicaria	Festuca bromoides
Rumex sanguineus	„ arundinacea
„ obtusifolius	Bromus asper
„ crispus	Brachypodium sylvaticum
„ Acetosa	Triticum caninum
„ Acetosella	Polystichum lobatum
Alnus glutinosa	„ aculeatum
Quercus pedunculata	Lastrea Filix-mas
Salix Smithiana	Polypodium vulgare
„ alba	

On Musselburgh Links :—

Cakile maritima	Carduus tenuiflorus
Sagina maritima	„ nutans (in abun-
Erodium cicutarium	dance)
Ononis arvensis	Armeria maritima
Trifolium ornithopodioides	Scleranthus annuus
„ filiforme	Salsola Kali
Astragalus Hypoglottis	Carex arenaria
Scabiosa arvensis	Triticum junceum
Senecio viscosus	

Salisbury Crags. Arthur's Seat, Duddingston, Craigmillar.*Tuesday, 24th July 1849.*

Met after Examination at the College at 5 p.m., and party of about 30 proceeded to Holyrood and Salisbury Crags; thence to Arthur's Seat and Duddingston Loch, then to Craigmillar Castle.

Visited Edmonston and saw a large oak which had been struck by lightning. Returned to Edinburgh about 10 p.m.

Among the plants picked were:—

Ranunculus Lingua	Iris Bendacorus (in fruit)
Lychnis Viscaria	Allium vineale
Alsine verna	Sparganium ramosum
Trifolium arvense	Carex riparia
Senecio viscosus	Phalaris arundinacea
Veronica scutellata	Asplenium septentrionale
„ Anagallis	

At Craigmillar:—

Knautia arvensis	Anchusa sempervirens
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Braemar.

Friday, 3rd August 1849.

Party, consisting of J. H. Balfour, William Brown, Samuel Burd, Robert Christie, D. C. M'Allum, Thomas M'Micking, Alexander S. Melville, Eleazer Sherwood, James Stewart, met at Aberdeen this evening. I went by rail to Montrose, which I reached about 12 noon, and thence by coach to Aberdeen, where I arrived at 4.30. Mr. M'Micking came by Stirling, Perth, and Dundee, and did not arrive till late in the evening. The rest of the party came by the "Queen" steamboat, and owing to a head wind and swell did not land in the harbour till about 8.30 p.m. Many of them had been very sick. Prof. James Forbes came by the same steamer to meet Mr. Airy, Astronomer Royal, and proceed with him to Shetland. The party having left my baggage on board the steamer I had to go on board about 10.30 p.m. when the "Queen" came into harbour in order to get it.

Accommodation of the party at Robertson's Royal Hotel was very comfortable. Seats taken in Braemar coach.

Saturday, 4th August 1849.

Left Aberdeen about 7 a.m., after breakfast, by the Ballater mail, in which we had booked nine outside places.

Reached Ballater about 1 p.m.; met Dr. Dickie and got specimen of *Diphyscium foliosum* collected by Mr. Cruikshank. I lunched with Dickie. Party dined at Monaltrie Arms. I called on Dr. Martin, who with his wife and children was residing at Ballater for his health. From Ballater proceeded by coach to Braemar and reached it about 4.30. After arranging matters and having tea-dinner took a walk along banks of Dee; remarked especially the following plants:—

Genista anglica (in flower and fruit)	Hieracium Lawsoni
Potentilla alpestris (very low down near the Dee)	Pyrola media (in flower)
Saxifraga aizoides	Trientalis europæa (in flower)
Solidago Virgaurea	Polygonum viviparum
Carduus heterophyllus	Rumex aquaticus
Hieracium murorum	Humulus Lupulus (Callater Bridge)
„ prenanthoides	Betula pubescens
„ denticulatum	Salix venulosa

Monday, 6th August 1849.

This day the whole party except Mr. Stewart, who was laid up with a dysenteric attack, went to Little Craigendal. They crossed the ferry and walked through the fir woods on the banks of the Dee, following the stream which comes from Ben-a-bourd. In the woods are abundance of ant-hills, which when stirred up with a stick give out pungent vapours of formic acid. *Pyrola media*, *Lycopodium clavatum*, and *Genista anglica* were picked on the way.

At the point where the third large stream joins the Ben-a-bourd water the party turned to the right and proceeded towards Craigendal under the guidance of Cattnach, one of the Duke of Leeds' gamekeepers, who is an intelligent person and has acquired some knowledge of the general aspect of the rare plants in the vicinity. William Macintosh, another of the Duke's servants, accompanied the party to carry plants for the Botanic Garden of Edinburgh. Before reaching Craigendal the following specimens were gathered:—

Rubus Chamæmorus	Vaccinium uliginosum
Cornus suecica	Tofieldia palustris

On Craigendal :—

Cerastium alpinum (on rocks
facing Ben Avon)
Astragalus alpinus (very
sparingly in flower, al-
though the plant is
abundant)
Dryas octopetala (in flower)
Potentilla alpestris
Saussurea alpina (not in
flower)

Hieracium alpinum (on rocks
facing Ben Avon)
Azalea procumbens
Juncus trifidus
„ *triglumis*
Carex rupestris
„ *capillaris*

Leaving Craigendal the party proceeded to Ben Avon, where a number of alpine species were seen, such as :—

Silene acaulis
Sibbaldia procumbens

Gnaphalium supinum
Carex vaginata

On the very summit, in a sheltered spot, were picked numerous specimens of *Rubus Chamæmorus* in flower.

Wending our way on between Little and Big Craigendal we saw abundance of deer on the hills. We reached Braemar about 7 p.m. in time for our tea-dinner.

Tuesday, 7th August 1849.

This day the party, with the exception of Mr. Stewart, who was still confined by a dysenteric attack, proceeded by a drag as far as the gamekeeper's house at the foot of Loch Callater. Thence we sailed up the loch and proceeded to the rocks close to the precipitous falls. We were accompanied by William Macintosh.

The plants gathered were :—

Gnaphalium supinum
Saussurea alpina
Hieracium alpinum, and
various forms of it
Pyrola rotundifolia
„ *secunda*
Veronica serpyllifolia
„ *humifusa*

Veronica alpina
Carex rupestris
„ *atrata*
„ *capillaris*
Allosorus crispus
Cystopteris fragilis
Polystichum Lonchitis

We ascended to the top of the cliffs and then descended close to the small loch called Loch Kander. We saw plenty of *Salix reticulata*, *lanata*, *arenaria*, *Myrsinites arbutifolia*, *herbacea*. After taking lunch on the banks of the loch we examined the rocks surrounding it. On those at the upper part Mr. Brown and Dr. B. picked:—

Epilobium alsinifolium	.	Alopecurus alpinus
" alpinum		Phleum alpinum
Carex VahlII	.	

On reaching the summit of the hill we were enveloped in mist.

We walked by the small hut on the summit by the slope of the hills towards the north end of Loch Callater, and after partaking of milk and cake in William Stewart's house we met our conveyance and returned to Braemar between 7 and 8 p.m. At Stewart's house one of Dr. Dickie's pupils was residing, but he was too modest to make himself known to us.

Wednesday, 8th August 1849.

Started early this morning for Lochnagar. Walked along the road to the bridge over the Dee near the entrance of Invercauld and then proceeded up the woods. Viewed the waterfall and rustic bridge and then crossed the water so as to reach the rocks below the summit. Examined the steep rocks above the loch, gathering *Cerastium alpinum* and numerous common alpine species, *Hieracium alpinum* and varieties, *Allosorus crispus*.

We then ascended a deep ravine with the view of getting *Mulgedium alpinum*, but the steepness of the cliffs and their slippery nature prevented us from reaching the spot we wished. We then visited the patches of snow near which *Saxifraga rivularis* was seen in profusion. Afterwards we ascended by the *Sonchus* ravine, picking various forms of *Poa* and *Aira alpina*, *Saxifraga rivularis*, and *Cerastium alpinum*.

Ascended to the summit, and after picking *Carex Persoonii* and a few more alpine species the party descended again to the valley, and reached Braemar between 8 and 9 p.m. There was much mist on the summit, so that the view was interrupted.

Thursday, 9th August 1849.

The weather was very unpropitious to-day, and we were unable to move out in the morning. I put up two baskets of plants for the Botanic Garden before breakfast, and despatched them by the mail at 9 a.m. After breakfast, and arranging our plants, some of the party started for Corriemulzie Linn, a deep dell about three or four miles from Braemar, well planted with wood and traversed by a stream which runs into the Dee.

On the road we picked :—

Betula alba
 „ *pubescens*
Salix pentandra

Salix aquatica
Populus tremula

In the Linn gathered :—

Epilobium angustifolium
Hieracium (various species)
Melampyrum sylvaticum

Melica nutans
Triticum caninum

The day had been very sultry, and now the thick dark clouds began to collect, thunder rolled, and rain began to descend. After leaving the Linn we passed General Duff's cottage and took refuge in some cottages by the roadside. The storm became terrific, the hills were enveloped in dark clouds, the thunder rolled, and flash after flash came in quick succession. The rain descended like a water-spout, and the hills, whose surface had been previously dry, became covered with a sheet of foam. After two hours' delay we took advantage of a slight cessation of the storm and reached Braemar. During the whole evening the storm raged.

Friday, 10th August 1849.

The weather was still rather unpromising, but in spite of this the party left early and proceeded by means of a conveyance to a bridge about $6\frac{1}{2}$ miles from Braemar on the road to Spital of Glenshee. Thence they walked up the slope of Glasmaol and visited Canlochan.

On the ascent of the hill gathered *Carex Oederi* and *Phleum alpinum*, but could not see *Juncus castaneus* in the place where it abounded in 1847.

At the upper part of Canlochan gathered :—

Carex Persoonii
„ *aquatilis*

Carex rariflora

On the cliffs looking towards Canlochan Glen :—

Sibbaldia procumbens
Saxifraga oppositifolia
„ *nivalis*
Erigeron alpinus (in great
profusion)
Saussurea alpina
Gentiana nivalis

Carex atrata
„ *capillaris* (abundant)
Poa alpina
„ *vivipara*
„ *Balfourii*
„ *nemoralis* (alpine form)

On cliffs to the west saw plenty of *Mulgedium alpinum*, but none of it in flower. A purple specimen was picked by Dr. B. approaching to flower, but all the others showed no symptoms of flowering this season. *Draba incana* was also seen. Ascended to top of the hill, and then walked towards the bridge, where the conveyance met the party and conveyed them to Braemar.

Saturday, 11th August 1849.

Weather still bad. Six of the party went by a conveyance about three miles beyond the Linn of Dee, on the road to Croachlach. Left the conveyance at the bridge and proceeded on the west side of the Dee as far as the Braeriach ridge. A long walk amidst rain and mist. On the way saw *Arabis petræa*, and in pools *Ranunculus Flammula*, var. *reptans*, and *Littorella lacustris*.

Ascended Braeriach ridge with the view of reaching summit of Cairntoul and picking *Carex leporina*; but the weather was so bad that the party found it impossible to do so.

On the cliffs at Braeriach ridge we gathered :—

Cerastium alpinum (a fine specimen)		Hieracium alpinum Poa alpina vivipara
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Returned by the west side of the Dee near the bridge where the conveyance awaited us.

Monday, 13th August 1849.

The day was very bad and the party remained at home drying paper and changing their plants. As the rain abated a little towards the afternoon some of the party walked towards the Dee, picking :—

Meum athamanticum		Hieracium boreale
Carduus heterophyllus		

Walked up the banks of the Clunie to its junction with the Callater, then crossed both the rivers and walked on the opposite bank to Braemar. On the way various species of *Hieracia*, *Crepis*, were seen.

Met the three Messrs. Chancellor and Mr. Young, also saw Mr. Finlay at the inn. Dr. Melville left this day for Edinburgh.

Tuesday, 14th August 1849.

The party along with Messrs. Chancellor and Mr. Young proceeded in two conveyances to Wm. Stewart's house at the foot of Loch Callater, thence ascended the hills and walked towards Lochnagar. Examined the moist rocks on west side for *Carex leporina* but found none. Picked a few alpine plants, such as *Carex Persoonii*, *Alopecurus alpina*, and reached the summit of the hill about 12 noon. Had a good view from the top. After lunch our party proceeded to the cliffs, while the Messrs. Chancellor and Young returned to Braemar. Our party descended by a ravine near the summit, in which the following plants grew in profusion :—

Cerastium alpinum
Saxifraga rivularis
Veronica alpina

Aira alpina vivipara
Poa alpina vivipara

Then descended to the foot of the cliffs, and Dr. B. ascended to the *Mulgedium* station, which he reached with some difficulty and to his disappointment found that none of the plant was in flower. Mr. M'Micking had stationed himself at the upper part of the ravine in order to direct Dr. B. to the spot. Mr. M. afterwards, in attempting to descend the cliff, was precipitated from the top to the bottom and sustained some bruises. Had he rolled a little further than he did, he would have gone over steep cliffs and would in all likelihood have been killed. The fall rendered Mr. M. very nervous, and Dr. B. had some difficulty in conducting him to the bottom of the cliffs where the rest of the party were waiting. Proceeded to the shore of the loch and then ascended by one of the steep ravines to the top of the mountain, whence the party walked across the hills by a tedious route towards Glen Esk. Left Loch Muick on the left hand and Dubh Loch on the right. Descended into Glen Esk not far from the shooting lodge, between it and Capel Mount. Failing to get accommodation at Acharne and at Bradouny there was no alternative but to proceed down Glen Clova.

Reached the Kirkton Clova about 8 p.m. Found the inn full, seven men from Kirriemuir in one of the rooms, and Mr. David Ogilvie, jnr., of Balnaboth, in the other; the latter with great kindness gave up his room to our party, while he himself took up his quarters in the Manse. The party thanked him cordially for his kindness and attention. A tea-dinner and a good peat fire refreshed the party after their long and wet walk. Numerous grouse and ptarmigan were seen to-day. The party slept soundly, some in beds and some in shakedown on the floor.

It is remarkable to notice that no cloudberry was seen in fruit and on hills few fruits of *Vaccinium Vitis-Idæa* and *V. Myrtillus*.

Wednesday, 15th August 1849.

After breakfast walked up Clova Glen, gathering on the way:—

Malaxis paludosa
Habenaria albida

Avena strigosa

On reaching the White Water the party separated, Mr. Sherwood and Dr. B. proceeded to Glen Fee, while the rest of the party—viz., Mr. M'Micking, Brown, Stewart, Burd—went up Glen Dole. On the rocks at Glen Fee was picked abundance of *Oxytropis campestris*, but no *Woodsia ilvensis*. Saw a fine eagle to-day.

Ascended the cliffs in Glen Fee to the top of Craig Rennett and walked by Craig Maud along the ridge on the side of Glen Dole. Descended some of the ravines; saw *Mulgedium alpinum*, but not in flower, also many good alpine plants.

Reascended to the top of the cliffs, and amidst hail, rain, mist, and wind proceeded to the shepherd's hut at the top of Jock's Road, where we met the rest of the party snugly drying themselves over a peat fire.

After lunch walked by the banks of the White Water, picking *Alopecurus alpinus*, *Phleum alpinum*, and many alpine species, till we reached the upper part of Glen Callater, close to Loch-nagar. No *Juncus castaneus* could be seen.

Descended into Glen Callater and walked by the side of the loch and by the banks of the Water to Castleton of Braemar, which we reached about 7 p.m., nearly three hours after Her Majesty had passed on her way to Balmoral.

Thursday, 16th August 1849.

Party (with the exception of Messrs. Christie, M'Allum, and Stewart) started this morning in a conveyance for the Linn of Dee, thence they walked up the glen to the gamekeeper's house (M'Hardy's) at the foot of Glen Lui. In place of going up this glen, they turned to the right and ascended the hills near Loch Etchachan. Reached the summit of Ben na Mac Dhu about 2 p.m., and had lunch there. The day fine and splendid prospect, Ben Nevis seen in the distance, the valley of the Spey, the sea on the coast of Morayshire, &c.

Descended along a large wreath of snow about 100 feet in length towards the Shelter Stone and Loch Avon. The party lay under the stone for a time, then ascended towards Loch

Etchachan, from which streams go both to Loch Avon and to the valley of the Derry.

On Ben na Mac Dhu picked :—

Silene acaulis (in fine	Hieracium alpinum
flower)	Luzula arcuata (in a poor
Stellaria cerastoides	state)

From Loch Etchachan descended to the valley amidst a severe rain, which lasted for two hours. Crossed the Derry and reached the Linn of Dee about 8 p.m., where the conveyance awaited us. Although we were thoroughly soaked, yet no rain had fallen at Ballater or Braemar.

Friday, 17th August 1849.

The party sent all their packages and plants and baggage by a cart to Coupar-Angus, for which they agreed to pay the sum of 45s.

Mr. M'Allum, being ill, was left at the inn at Braemar, and Mr. Christie kindly agreed to stay with him until Monday. The remaining six of the party left the inn at 11 a.m. and walked by the banks of the Clunie to the Spital of Glenshee, which they reached about 4 p.m. to dinner. After dinner walked to Bridge of Cally. Arrived there about 10 p.m. Got beds on the floor.

Saturday 18th August 1849.

This morning left the Bridge of Cally Inn at 6 a.m. and walked to Blairgowrie to breakfast, thence proceeded by omnibus to Coupar-Angus, joined the train at 9.45 a.m. Four of the party proceeded to Edinburgh, which they reached about 1 p.m. The other two went to Bridge of Allan and Stirling.

EXCURSIONS IN 1850.

Kirkcaldy, Seafeld Tower, Kinghorn, Pettycur, Burntisland.*Saturday, 18th May 1850.*

Party of nearly 80 met at Railway Station at 9.45 and proceeded to Granton and Kirkcaldy. Visited Ravenscraig Castle and gathered :—

Ranunculus Ficaria	Ribes rubrum
Berberis vulgaris	Smyrnum Olusatrum
Cheiranthus Cheiri	Armeria maritima
Cochlearia officinalis	Primula vulgaris
Silene maritima	Verbascum Thapsus
Pyrus Malus	Nepeta Glechoma
Ribes Grossularia	Asplenium marinum

Walked through Kirkcaldy to Seafeld tower, gathering :—

Viola pusilla		Taraxacum lævigatum
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On the tower :—

Linaria Cymbalaria	
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On the shore numerous sea weeds.

Proceeded to Kinghorn, Pettycur, and Burntisland, gathering:—

Caltha palustris	Fragaria vesca
Cardamine pratensis	Primula veris
„ hirsuta	Borago officinalis (near Kinghorn)
Capsella Bursa-pastoris	Salvia Verbenaca
Lepidium campestre	Orchis mascula
Geranium molle	Botrychium Lunaria
Erodium cicutarium	

Returned by boat at 5.50 p.m.

Gorebridge, Arniston.*Saturday, 25th May 1850.*

Very wet day, rain and mist all day. Party of 20 met at North British Railway Station and went by train to Gorebridge

(receiving third-class return tickets, 1s. 6d.). Walked to Arniston and botanised in the woods under direction of Mr. Veitch, the gardener.

Plants gathered were :—

Anemone nemorosa
Aconitum Napellus
Lychnis dioica
Stellaria nemorum
 „ *Holostea*
Moehringia trinervis
Oxalis Acetosella
Potentilla Fragariastrum
Pyrus Malus
Saxifraga Geum
Chrysosplenium oppositifolium
 „ *alternifolium*
Ribes alpinum
Sanicula europæa
Adoxa Moschatellina
Asperula odorata
Pyrethrum Parthenium

Petasites vulgaris
Doronicum Pardalianches
Symphytum tuberosum
Pulmonaria officinale
Veronica Chamædrys
 „ *montana*
Lathræa Squamaria
Mercurialis perennis
Salix cinerea
Pinus sylvestris
Scilla nutans
Lilium Martagon
Paris quadrifolia
Luzula sylvatica
Arum maculatum
Carex glauca
Milium effusum

The day being so bad the party returned to Fushie Bridge road, half of the party going home by the train at 12 noon, the other half walked to Edinburgh, and on the way picked :—

Ranunculus auricomus
Fumaria officinalis
Sinapis arvensis
Viola tricolor, var. arvensis
Orobis tuberosus
Pyrus Aucuparia
Cratægus Oxyacantha
Circæa lutetiana
Myrrhis odorata
Anthriscus sylvestris
Viburnum Lantana
Veronica hederæfolia

Veronica arvensis
Lamium amplexicaule
Ulmus montana
Quercus Robur
Allium ursinum
Athyrium Filix-fœmina
Polystichum lobatum
Lastrea Filix-mas
 „ *dilatata*
Equisetum arvense
Marchantia polymorpha

**Linlithgow, Blackness Castle, Hopetoun, Niddry Castle,
Winchburgh.**

Saturday, 1st June 1850.

Party of 111 went by train at 8 a.m. to Linlithgow. Visited palace and church under direction of Mr. G. Baird, proceeded by the loch of Linlithgow on the Queensferry road; went to Binns, proceeded through the grounds to Blackness Castle, thence by shore to Hopetoun, were conducted through the grounds and garden by Mr. Gavin. Thence walked to Niddry Castle, and returned from Winchburgh by train at 7.5 p.m.

The whole trip cost 1s.

Near Linlithgow gathered:—

Ranunculus aquatilis	Veronica hederæfolia
„ Flammula	„ arvensis
„ acris	„ serpyllifolia
„ repens	„ officinalis
„ bulbosus	„ Chamædrys
Fumaria micrantha	„ Beccabunga
Sisymbrium officinale	Lamium purpureum
Anthriscus vulgaris	„ album
Menyanthes trifoliata	

Near Niddry Castle:—

Viola canina	Chærophyllum Anthriscus
„ arvensis	Petasites vulgaris
Myrrhis odorata	Iris Pseudacorus(not in flower)

At Binns:—

Barbarea vulgaris	Typha (not in flower)
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At Blackness some sea plants, also:—

Aquilegia vulgaris	Armeria maritima
Cochlearia officinalis	Glaux maritima
Thlaspi arvense	Anchusa sempervirens
Arenaria serpyllifolia	Triglochin maritimum
Alsine peplodes	Scirpus multicaulis
„ marina	Blysmus rufus
Sagina maritima	

At Hopetoun :—

Berberis vulgaris	Quercus Robur
Chelidonium majus	Castanea sativa
Cardamine sylvatica	Listera ovata
Acer campestre	Athyrium Filix-fœmina
Lonicera Periclymenum	Lastrea Filix-mas
" Caprifolium	" dilatata
Linaria Cymbalaria	Polypodium Phegopteris
Marrubium vulgare	

In Hopetoun grounds, saw fine specimens of pines, Abies Douglasii, Cedrus Libani said to have been planted 101 years ago.

**Gorebridge, Borthwick Castle, Crichton Castle,
Prestonhall, Dalkeith.**

Saturday, 8th June 1850.

Party of 70 met at the North British Railway Station at 8 a.m. and proceeded by train at 8.15 to Gorebridge, thence walked to Fushie Bridge, Borthwick Castle, Crichton Castle, Ford, Prestonhall, and Dalkeith, and returned by train passing Gallowshall at 7.30 p.m. Fare going and coming, 1s.

The following were some of the plants gathered :—

In marshy, moorish ground near Borthwick and Crichton :—

Trollius europæus	Carex glauca
Cardamine amara	" pilulifera
Myrrhis odorata	" præcox
Valeriana dioica (in great quantity)	" panicea
Pinguicula vulgaris	" sylvatica
Carex dioica	" binervis
" intermedia	" flava
" paniculata	" hirta
" remota	" paludosa
" ovalis	" riparia
" Goodenovii	" ampullacea

Near Borthwick Castle:—

Alliaria officinale	Verbascum Thapsus
Geum urbanum	Rhinanthus Crista-galli
„ rivale	Parietaria officinalis
„ intermedium	Blechnum boreale

Near Crichton Castle :—

Geranium sylvaticum	Neottia Nidus-avis
Menyanthes trifoliata	

Near Ford :—

Orchis latifolia	Bromus commutatus
Blysmus compressus	

At Prestonhall :—

Barbarea vulgaris	Ajuga reptans (blue and white)
Staphylea pinnata	Listera ovata
Vinca minor	Ornithogalum umbellatum

Near Cousland :—

Silene pratensis	Plantago media (in profusion)
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Near Dalkeith :—

Acer campestre	Chenopodium Bonus-Henricus
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 Reston, St. Abb's Head, Coldingham.

Saturday, 15th June 1850.

Party of about 50 met at North British Railway Station at 8 and proceeded by train to Reston, having received return tickets, 3s. 6d. At Grants House met Mr. Hepburn of Whittingham; Mr. Hardy, Penmanshiel. Reached Reston about 10.15 a.m. Proceeded direct to St. Abb's Head, which was reached about 12 noon.

On the way gathered :—

Ranunculus aquatilis	Æthusa Cynapium
„ hederaceus	Filago germanica
„ hirsutus	Crepis virens
Sinapis arvensis	Anchusa sempervirens
Raphanus Raphanistrum	Chenopodium Bonus-
Malva sylvestris	Henricus

Near the Head, picked :—

Helianthemum vulgare	Armeria maritima
Alsine verna	Plantago maritima
Anthyllis Vulneraria	„ Coronopus
Astragalus Hypoglottis	

At the Head :—

Cochlearia officinalis	Plantago Coronopus
Silene inflata	Avena pratensis
Plantago maritima	Agaricus Oreades

Proceeded along the rocks near the Head in the direction of Fast Castle, and reached nearly to Lumsden Bay.

Plants gathered :—

Viola lutea	Antennaria dioica
Cerastium atrovirens	Carlina vulgaris
Genista anglica	Hieracium murorum
Poterium Sanguisorba	Digitalis purpurea
Rhodiola rosea	Alisma ranunculoides (in a
Myriophyllum spicatum (in	ditch)
a small lake)	Briza media
Helosciadium inundatum	

In Coldingham Loch :—

Nuphar luteum	Menyanthes trifoliata
Comarum palustre	Carex intermedia

Returned by moors to Reston, which was reached about 5.15.

On the way gathered :—

Valeriana dioica
Pyrola media
Orchis mascula
„ latifolia
„ maculata

Gymnadenia Conopsea
Habenaria bifolia
Ophioglossum vulgatum
Botrychium Lunaria

Returned by train passing Reston at 5.34 p.m. and reached Edinburgh before 8 p.m.

Kincardine, Culross, Torry, Torryburn, Charleston.

Saturday, 22nd June 1850.

Party of 40 met at Granton at 8.30 a.m. and proceeded by the Stirling steamer to Kincardine, which was reached about 10.30. Mr. Nichol accompanied the party. Mr. Gow, gardener at Tulliallan, met the party and conducted them through Tulliallan grounds. In them ordinary plants picked.

In a loch :—

Nasturtium terrestre
Hydrocotyle vulgaris
Littorella lacustris

Polygonum amphibium
Alisma Plantago

On moors several species of *Carex* and *Iris Pseudacorus*.

Leaving Tulliallan the party proceeded to road near the shore and walked along the coast by Culross, Torry, and Torryburn to Charleston.

The plants gathered were :—

Corydalis claviculata (Blair)
Fumaria capreolata
„ officinalis
Geranium columbinum (field
near Tulliallan)
Viburnum Opulus
Solanum Dulcamara (woods
near shore at Tulliallan)

Melampyrum pratense
Hippophaë rhamnoides
Corallorhiza innata
Paris bifolia (Blair and also
inland a little)
Milium effusum
Osmunda regalis (near sands)
Ophioglossum vulgatum

Near Culross :—

Sinapis alba
 Scandix Pecten-Veneris
 Stachys sylvatica
 Atriplex littoralis
 " rosea
 Triglochin palustre

Triglochin maritimum
 Scirpus maritimus
 Glyceria aquatica
 Sclerochloa maritima
 " distans

Near Charleston :—

Papaver Rhœas
 " dubium
 " Argemone
 Saponaria officinalis
 Sagina maritima
 Sedum Telephium
 Pimpinella Saxifraga
 Myrrhis odorata
 Dipsacus sylvestris
 Anagallis arvensis
 Symphytum officinale

Echium vulgare
 Atropa Belladonna
 Scrophularia nodosa
 Lamium amplexicaule
 " incisum
 " purpureum
 " album
 Euphorbia exigua
 Carex vulpina
 Bromus asper

Reached Charleston about 5 and returned to Granton about 7.

Aberdeen.

Saturday, 29th June 1850.

Party of upwards of 100 started by train at 5 a.m. from the Northern Railway Station, in open seated carriages. Proceeded by Perth and Forfar to Aberdeen, which was reached about 11 (an hour after the time agreed). Omnibuses took the party to Royal Hotel (Robertson's) to breakfast. Fares by train, going and coming, 6s. 6d. Breakfast per agreement, 1s. each. Nearly 90 sat down to breakfast. Dr. Dickie met the party and accompanied them. Some of the party went to see different places near Aberdeen. About 50 went in three omnibuses to Denmore, visiting King's College on the way.

At Denmore gathered :—

Hieracium sylvaticum
 Trientalis europæa (in fine
 flower)
 Goodyera repens (scarcely
 in flower)

Polypodium Dryopteris
 Tubercinia Trientalis
 Cylindrosporia deformans

In boggy ground and moors :—

Sedum villosum	Narthecium Ossifragum
Drosera rotundifolia	Potamogeton oblongus
„ anglica	Schœnus nigricans
Heliosciadium inundatum	Carex pulicaris
Pedicularis palustris	„ teretiuscula
Utricularia minor	„ curta
Orchis latifolia	„ fulva
„ macuiata	Nardus stricta
Gymnadenia Conopsea	Lycopodium selaginoides
Habenaria bifolia (no chlorantha)	Dicranum glaucum

Listera cordata not found.

In woods (over a wall near Denmore Bog) :—

Linnæa borealis (not in flower)	Pyrola minor
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Returned by omnibuses to Aberdeen Links.

On Links gathered :—

Thalictrum minus	Scirpus uniglumis
Viola tricolor	Carex incurva
Myriophyllum spicatum	Koeleria cristata
Tragopogon minor	Poa pratensis
Potamogeton pectinatus	

Visited Granite Works of Mr. Macdonald by permission. Saw Marischal College, Medical Society's Rooms, Markets, &c. After dining at Royal Hotel, returned by train leaving Aberdeen at 6, and reached Granton 11.55 p.m.

North Berwick, Bass, Dirleton, Gullan, Drem.

Saturday, 6th July 1850.

Party of 30 met at North British Railway Station at 8 a.m. and proceeded by train to North Berwick. Return tickets 2s. Divided into two parties. One party visited Bass Rock, picking :—

Lavatera arborea (in small quantity, injured by frost last winter)	Beta maritima
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Near North Berwick, gathered :—

<i>Ononis arvensis</i>	<i>Borago officinalis</i>
<i>Astragalus Hypoglottis</i>	<i>Hippophaë rhamnoides</i> (in a hedge)
<i>Eryngium maritimum</i>	

North Berwick Links :—

<i>Thalictrum minus</i>	<i>Cynoglossum officinale</i>
<i>Ligusticum scoticum</i>	<i>Habenaria viridis</i>
<i>Thrinicia hirta</i>	<i>Equisetum variegatum</i>
<i>Erythræa Centaurium</i>	

Dirleton Common :—

<i>Anthriscus sylvestris</i>	<i>Veronica Anagallis</i> (in ditch)
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On the Common :—

<i>Alyssum calycinum</i>	<i>Acinos vulgaris</i>
<i>Silene conica</i>	

Fields near Common :—

<i>Reseda lutea</i>	<i>Galium Mollugo</i>
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Dirleton Castle :—

<i>Sedum album</i>	<i>Centranthus ruber</i>
„ <i>reflexum</i>	<i>Digitalis purpurea</i> , white and purple
<i>Smyrnium Olusatrum</i>	

Near Gullan :—

<i>Nasturtium terrestre</i>	<i>Centaurea Cyanus</i>
<i>Melilotus officinalis</i>	<i>Convolvulus arvensis</i>
<i>Sempervivum tectorum</i> (near Drem)	<i>Solanum Dulcamara</i>
	<i>Hyoscyamus niger</i>
<i>Centaurea Scabiosa</i>	<i>Limosella aquatica</i>

Met train at Drem at 6.50. Reached Edinburgh at 7.40 p.m.

**Slateford, Colinton, Woodhall, Currie, Ravelrig,
Dalmahoy, Ratho.**

Saturday, 13th July 1850.

Excursion with 30. Met at Canal Basin at 9.30 a.m. Walked to Slateford, Colinton, Woodhall, Currie, Ravelrig, Dalmahoy, Ratho. Met train at 7.30 p.m.

Picked the usual plants known to grow in the district.

<i>Viola palustris</i>	<i>Pyrola minor</i>
<i>Geranium columbinum</i>	<i>Corallorhiza innata</i>
<i>Epilobium angustifolium</i>	<i>Listera cordata</i>
<i>Linnæa borealis</i> (in flower)	<i>Carex filiformis</i> (not in fruit)
<i>Valeriana pyrenaica</i>	

Trientalis europæa was not seen.

Clova.

Thursday, 18th July 1850.

Party consisting of:—J. H. Balfour, John H. Aldrige, Samuel Harris Armitage, Edward Brewis, W. H. Broadbent, J. L. Brown, William Brown, Samuel Burd, W. Menzies Calder, Cuthbert Collingwood, James A. Currie, Charles J. Davenport, Andrew Dewar, Alex. G. Duff, David A. Eisdale, Henry Elliot, George Logan, R. F. Logan, Thomas S. McCulloch, Valentine M'Master, John U. Matheson, John Matthews, David Milroy, John B. Nasmyth, David Ross, Eleazer Sherwood, David H. Stirling, P. H. Watson, J. Watt, John Wooley, met at the Northern Railway Station at 12 noon on Thursday, 18th July, and proceeded by train to Forfar, which was reached about 5 p.m. owing to delay of half an hour at Perth. Return tickets for each of the party at 6s. 6d. Dined at Wm. Morrison's Inn, Forfar, at 1s. 6d. each—and afterwards started at 6 p.m. for Clova, which was reached at 11 p.m. There were two conveyances hired to go the whole way and remain till Saturday and return. These consisted of a car with two horses, holding 12 with the baggage, and a carriage with two horses holding 8 and some baggage. These two conveyances, holding together 20, were hired from Thursday till Saturday for £7 10s., including tolls, drivers, and everything. Besides these there was a carriage and pair and a drosky which took some of the party half way to Clova.

On reaching Dykehead, near Cortachy, those who had rode in the two latter carriages walked. In all there were 12 or 14 who walked from Dykehead to Clova.

Had tea at Clova, and were accommodated with straw beds on the floor of the large hall lately built for the games which are held at Clova in August. Twenty-five slept on the floor, the remainder in the old inn, partly on beds and partly on the floor. Sleep much disturbed in the hall by noisy and restless members of the party; some had scarcely two hours' sleep.

Friday, 19th July 1850.

Rose at 5 a.m. Breakfasted at 6, and at 7 started for the hills. Crossed Suspension Bridge, met John Ogilvy, walked to Glen Dole as far as astragalus cliff, then ascended to top of hills and came down into Glen Fee by a precipitous descent. Some dry mist during a few hours, but upon the whole the weather was favourable and the success of the party great.

Picked :—

Viola lutea
Oxytropis campestris
Rubus Chamaemorus
Sibbaldia procumbens
Epilobium angustifolium
 „ *alsinifolium*
 „ *alpinum*
Meum athamanticum
Cornus suecica
Erigeron alpinum
Gnaphalium supinum
Hieracium alpinum
 „ *Lawsoni*
Sonchus alpinus
Arctostaphylos Uva-Ursi
Pyrola rotundifolia
 „ *media*
 „ *secunda*
Trientalis europæa
Veronica alpina
 „ *saxatilis*
Salix reticulata

Malaxis paludosa
Habenaria albida
 „ *viridis*
Tofieldia palustris
Juncus triglumis
Luzula spicata
Carex rupestris
 „ *atrata*
 „ *aquatilis*
 „ *stictocarpa*
 „ *rariflora*
 „ *capillaris*
Allosorus crispus
Asplenium viride
Woodsia hyperborea
Polystichum Lonchitis
Lycopodium Selago
 „ *annotinum*
 „ *clavatum*
 „ *alpinum*
 „ *selaginoides*

And all the ordinary alpine plants, as :—

Thalictrum alpinum	Saxifraga stellaris
Alchemilla alpina	" aizoides
Saxifraga oppositifolia	" hypnoides
" nivalis	

Returned to inn at Clova at 8 p.m. after 13 hours' hard walking.

Saturday, 20th July 1850.

Rose at 5 a.m., and about 5.30 started with a party of six for Loch Brandy. Thick mist, difficulty in finding loch.

Gathered :—

Lobelia Dortmanna	Isoëtes lacustris
Sparganium natans	

On rocks near loch :—

Cerastium alpinum	Hieracium alpinum
Sibbaldia procumbens	Vaccinium Vitis-Idæa
Gnaphalium supinum	

Returned to the inn about 9.30 a.m., and after bathe had breakfast.

Picked by the Esk :—

Carduus heterophyllus	Rumex aquaticus
Hieracium umbellatum	Carex aquatilis

Some of the party breakfasted early and walked on, the rest went by cars to Dykehead, when those who had walked entered the carriages.

On the way picked :—

Ligustrum vulgare	Lysimachia vulgaris
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From Dykehead walked to Forfar, gathering :—

Rubus suberectus	Habenaria chlorantha
Trientalis europæa	

On old house at Forfar were allowed to pick *Sedum album*. Dined at Thomson's Inn at 4 p.m. Dinner, 1s. 6d. each. Joined train at 5.15 and reached Edinburgh at 9.45 p.m.

Salisbury Crag, Duddingston Loch.*Tuesday, 23rd July 1850.*

Party of 24 met at Holyrood at 6 p.m., walked by foot of Crag to basaltic columns, gathering :—

Lychnis Viscaria (in fruit)	Asplenium Adiantum-nigrum
Senecio viscosus	„ Ruta-muraria
Allium vineale	„ septentrionale
Arum maculatum	

Visited Duddingston Loch, got Mr. Logan's boat, which held 15, and examined edges of loch, gathering :—

Butomus umbellatus	Sparganium ramosum
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Landed at the town and walked round loch. Got :—

Stellaria glauca	Iris Pseudacorus
Galium palustre	Carex riparia

Returned about 9.30 p.m.

Arran.*Tuesday, 13th August 1850.*

Left Edinburgh by train at 11 a.m. and joined boat at 2 p.m. at Broomielaw. Reached Lamlash, Arran, about 9 p.m. Took up quarters at Seafield.

Wednesday, 14th August 1850.

Examined beach near Lamlash.

Picked :—

Atriplex Babingtonii (rosea)	Polygonum Raii
„ arenaria (laciniata)	Triticum laxum of Fries
Polygonum aviculare, var. maritimum	„ junceum

Thursday, 15th August 1850.

Walked along shore with Mr. Brown to Clachland Point and Corriegills.

Gathered :—

Hypericum Androsæmum	Convolvulus sepium
„ quadrangulum	Pinguicula lusitanica
„ maculatum	Scutellaria galericulata
Enanthe Lachenalii	Juncus maritimus
Bidens tripartita	Scirpus maritimus
Anagallis arvensis	Osmunda regalis
„ tenella	

Friday, 16th August 1850.

Visited Holy Isle. Picked abundance of *Arctostaphylos Uva-Ursi*, which here descends to within 50 feet of sea level.

Saturday, 17th August 1850.

Boating and fishing; visited glen near Seafield and gathered various ferns and fungi, also *Polypodium Phegopteris*.

Monday, 19th August 1850.

Along with Babington and Brown walked by shore to King's Cross Point and returned by road.

Gathered :—

Hypericum maculatum	Scutellaria galericulata
Rubus Idæus	Athyrium Filix-fœmina
„ nitidus	„ var. molle
„ incurvatus (new)	„ var. convexum
„ cordifolius	Lastrea dilatata
„ leucostachys	Osmunda regalis
„ corylifolius	

Tuesday, 20th August 1850.

Along with Babington and Brown walked to shore at Lag, visited rocks, and returned by Kilmorie across the hills to Lamlash.

Plants gathered :—

Same *Rubi* as on 19th, and in addition :—

Brassica monensis	Armeria pubescens (calyx-hairs in lines)
Cakile maritima	Atriplex Babingtonii
Raphanus maritimus ?	„ laciniata
Alsine (Arenaria) media of Fries	Polygonum aviculare, var. maritimum
Geranium sanguineum	„ Raii
Rubus discolor	Triticum laxum (in fine state on sandy shore near Lag)
„ nemorosus	Asplenium marinum
Cotyledon Umbilicus	
Eryngium maritimum	
Armeria maritima (calyx uniformly hairy)	

Thursday, 22nd August 1850.

Went by car with Babington, Brown, and Hunter to Glen Sannox. Day very unpromising. Returned by Corrie. From Corrie walked by the shore to Brodick and Lamash, gathering :—

Enanthe Lachenalii	Hymenophyllum tun-bridgense
Aster Tripolium	Pteris aquilina
Samolus Valerandi	Athyrium Filix-fœmina
Erythræa linarifolia	„ var. molle
Scutellaria galericulata	„ var. convexum
Lycopus europæus	Polystichum aculeatum
Salicornia herbacea	Lastrea Oreopteris
Atriplex angustifolia	„ Filix-mas
„ erecta	„ Foeniseii (on sand-stone rocks between Brodick and Corrie)
Juncus maritimus	Polypodium Phegopteris
Potamogeton plantagineus (ditch near bridge between Brodick and Invercloy)	Osmunda regalis
Scirpus palustris	Equisetum arvense
„ pauciflorus	„ palustre
„ maritimus	„ limosum
Blasmus rufus	Lycopodium selaginoides
Glyceria pedicellata (near Brodick)	

Friday, 23rd August 1850.

Despatched plants to Mr. McNab in Edinburgh.

On examining the rhizome of *Lastrea Foeniseii* and *L. dilatata*, saw a difference in the vertical section of each worth noting. In *L. Foeniseii* there are numerous dark streaks running from the centre upwards, giving a mottled appearance to the section. In *L. dilatata* the dark lines are more scattered and scarcely extend to the base of the fronds. This character enables one to tell at once the species one from the other.

Examined some of the plants on the shore and near Lamlash. Picked *Rubus corylifolius* var. (like *sublustris*) behind the inn. The stem is nearly rounded; the plant grew in a garden up the lane behind the inn. In the lane leading up to the garden, on the left-hand side going up, *Rubus sylvaticus* occurs, on the stem were seen patent hairs. In the garden beyond *Rubus corylifolius* was seen a glandular *Rubus*, *R. Koehleri*, *pallidus*.

On the shore saw *Triticum repens* with upper ribbed surface of leaf having single rows of hairs along the ribs. *Triticum junceum*, short hairs thickly set on upper ribbed surface, all over. *T. laxum*, spikelets five- to eight-flowered, glumes obtuse, about seven-nerved, outer pale obtuse, apiculate—axis downy, rachis smooth and slightly rough at angles, leaves scabrous above with many acute points, involute when dry.

Saturday, 24th August 1850.

Messrs. Babington, Hunter, Brown, and Bayley accompanied me to Goatfell. Left Lamlash about 10, walked to Brodick. Behind the inn gathered *Mentha sylvestris*, var. *velutina*. Ascended Goatfell, and thence proceeded along ridge to Glen Sannox, descended by a deep ravine, and then ascended to the col separating Glen Sannox and Glen Rosa. Returned by Glen Rosa to Brodick and Lamlash.

The plants gathered were:—

Alchemilla alpina
Saxifraga stellaris
Sedum Rhodiola (ravine in
Glen Sannox)

Oxyria reniformis (ravine in
Glen Sannox)
Juniperus nana
Rhynchospora alba (in Glen
Rosa)

Schœnus nigricans (in Glen Rosa)	Asplenium Ruta - muraria (large specimen on wall at Brodick)
Festuca vivipara (on Goatfell)	

Monday, 26th August 1850.

Walked with Babington to the Manse, old churchyard, and glen near Lamlash ; gathered *Hypericum dubium* ?—broad sepals, but denticulate at apex. The characters of *H. maculatum* and *H. dubium* require revision. No species of *Hypericum* has been seen by me having perfectly entire reflexed sepals.

Also gathered :—

Rubus plicatus	Rubus sylvaticus
„ nitidus	„ macrophyllus
„ carpinifolius	„ corylifolius (typical)
„ cordifolius	and varieties
„ incurvatus	

Found also *Leontodon autumnalis* (*Oporinia*), var. *pratensis*, J. Ball, with leaves pinnatifid-dentate, involucre clothed with long hairs of a dark fuscous colour, scape and leaves hairy (*Apargia pratensis* of Link).

Tuesday, 27th August 1850.

Day bad, walked by the back of Lamlash village and gathered specimens of *Rubus corylifolius-macrophyllus*, *R. cordifolius-incurvatus*.

Wednesday, 28th August 1850.

Met Dr. Landsborough, Messrs. Keddie and Connal, and dredged in Lamlash Bay. Numerous specimens of animals were gathered. Major Martin was dredging at the same time and got many good things.

Babington left to-day for England.

Monday, 2nd September 1850.

David Arnott, G. Bayley, and self left Lamlash about 10 for Lag. Went by shore to Whiting Bay, picked numerous speci-

mens of *Hypericum dubium*? all with reflexed and broad sepals, all slightly *denticulate* at the apex, and hence apparently not to be distinguished from *H. maculatum* of authors. Babington seems to be satisfied that *H. dubium* and *H. maculatum* must be considered the same. Numerous *Rubi* were seen, species already noticed.

From Whiting Bay I went to Dippen Point, where there are fine cliffs. The following species were collected :—

Rubus (several forms)	Solanum Dulcamara
Agrimonia Eupatoria	Verbascum Thapsus
Ligusticum scoticum	Scutellaria galericulata (very
Heracleum Sphondylium	large)
Hedera Helix	Empetrum nigrum
Lonicera Periclymenum	Carex vulpina
Pyrethrum Parthenium	„ muricata

Verbascum Thapsus seems to be confined to the trap in this district. Proceeded by Kildonan Castle to Benan Head; there was gathered profusion of *Triticum laxum*, Fries, also *Atriplex laciniata* (*arenaria*) and *A. Babingtonii* in all its forms.

Cakile maritima	Eleocharis palustris
Salsola Kali	

On Benan rocks :—

Verbascum Thapsus was	Asplenium marinum
again seen	

Reached Lag Inn about 7.30 p.m. The two others fished in the Storsdale and Torraline water and met me at Lag.

Tuesday, 3rd September 1850.

Left Lag after breakfast and proceeded to the shore and walked along it to Blackwater Foot.

On the shore was seen profusion of *Stenhammera*, especially near Black Water. Picked :—

<i>Sinapis monensis</i>	<i>Atriplex</i> in all forms (A.
<i>Vicia sylvatica</i> (on stony ground on seashore)	erecta in fields near Storsdale)
<i>Eryngium maritimum</i>	<i>Polygonum aviculare</i> , var.
<i>Apium graveolens</i> (between Storsdale and Black- water Foot)	maritimum " Raii
<i>Helosciadium nodiflorum</i> (between Storsdale and Blackwater Foot)	

Friday, 6th September 1850.

Left at 10 with D. Arnott and G. Bayley for Goatfell. I proceeded up Glen Rosa to hills to the west of Goatfell and Glen Rosa, went along summits, examined rocks with northern exposure all round until I came to the upper part of Glen Rosa, where I met Arnott and Bayley, who had been at summit of Goatfell. On the hills the plants picked were:—

<i>Alchemilla alpina</i>	<i>Drosera longifolia</i>
<i>Saxifraga stellaris</i>	<i>Carex pauciflora</i>

The mountains, like Goatfell, were very unproductive. Proceeded across the hills to Loch Ranza.

Gathered on the way:—*Pelatonema* in large quantity in declivity of col between Glen Rosa and Tanna river, followed stream to Loch Ranza, gathering *Pyrus pinnatifida*. Reached Loch Ranza at 8 p.m.

Saturday, 7th September 1850.

At 6 a.m. walked to Newton Point, gathering:—

<i>Hypericum Androsæmum</i>	<i>Cotyledon Umbilicus</i>
" elodes	

Saw also fine and numerous specimens of *Osmunda regalis*.

After breakfast walked to Corrie and thence to Brodick. Picked:—

<i>Lastrea Foeniseii</i>	<i>Lastrea dilatata</i>
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The sandstone cliffs along the whole shore yield profusion of them and other ferns.

Met steamboat at Brodick at 2 and returned to Lamlash.

EXCURSIONS IN 1851.

Gorebridge, Arniston, Dalhousie.

Saturday, 17th May 1851.

Went to Arniston with about 90 pupils. Train at 11 a.m., special third-class carriage. Tickets to Gorebridge and return from Dalhousie, 1s. Returned to Edinburgh between 7 and 8 p.m. Usual plants seen.

Picked :—

Pulmonaria officinalis
Lathræa Squamaria
Neottia Nidus-avis (not in
flower)

Arum maculatum
Bryum roseum

Canal, Slateford, Colinton, Dreghorn, Pentlands, Morningside.

Saturday, 24th May 1851.

About 70 met at Canal Basin at 10 a.m. Walked along Canal banks, gathering usual plants. Among the rest :—

Ranunculus arvensis

Fumaria micrantha

Visited Slateford and Colinton.

Picked :—

Cardamine amara	Doronicum Pardalianches
Saxifraga Geum	Cystopteris fragilis
Valeriana pyrenaica (not out)	

Walked through grounds at Dreghorn by permission of Col. Cadell. Thence to Pentland Hills.

Picked :—

Juniperus communis	Lycopodium Selago
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Returned to Edinburgh by Morningside about 6 p.m.

Granton, Cramond, Almond Bridge, Corstorphine.

Saturday, 31st May 1851.

Party of about 60 met at Granton at 11. Walked by coast to Cramond and thence to Almond Bridge, returning by Craigcrook and Corstorphine.

Picked amongst other plants :—

Viola odorata	Polygonum Bistorta
Symphytum officinale	Neottia Nidus-avis

Returned about 6 p.m.

Kirkcaldy, Ravenscroft Castle, Burntisland.

Saturday, 7th June 1851.

A party of 60 went by steamboat at 10 a.m. to Kirkcaldy. Visited Ravenscroft Castle and walked by shore to Burntisland returning by steamboat at 6.5 p.m.

Reseda lutea	Asplenium marinum
Geranium sanguineum	Botrychium Lunaria
Pyrus Malus	Chara vulgaris
Borago officinalis	

and a number of other plants were gathered.