Several of the names thus mentioned will be unknown to most botanists. They have been obtained from the labels of Guthnic's collection, or are the appellations conferred on the same species in Madeira, by the Rev. Mr. Lowe, and kindly communicated to me, with numerous specimens from Madeira, by Dr. Lemann, from whose extensive knowledge of plants, and more particularly of the productions of the Atlantic islands and the Mediterranean coasts, I have derived great assistance in determining many of those collected in the Azores. While alluding to Mr. Guthnic's collection, I may correct a misprint of his name, which runs through the whole of my former communication; the name having been printed Guthrie, probably in consequence of my spelling it Guthnic, though Guthnick may be the proper orthography.

The genera of Fayal plants, which yield species that I have not yet been able to refer to described species, are *Convolvulus*, *Carex*, *Euphorbia*, *Luzula*, *Veronica*, and *Rubus*. There are also species of *Carex*, *Cardamine*, *Bellis*, *Festuca*, *Sanicula* and *Lysimachia*, which have been named, if not described, by Lowe, Guthnic, or other botanists.

Notes on the Distribution of the PLANTS OF ABERDEENSHIRE *in relation to altitude, by* G. DICKIE, M.D., *Lecturer on Botany in the University and King's College of Aberdeen.*

IN studying the Distribution of Plants, in relation to Altitude, it is important to bear in mind the different agencies by which they may be removed, even to a considerable distance, from their natural places of growth; in short, it is necessary to distinguish between what may be called *natural* and *accidental* stations.

When one meets with patches of *Urtica dioica*, *Cerastium viscosum*, &c. in the Highlands, at a distance from any habitation, it will generally be found that the ruins of some former smuggling hut are not far off. For the most part, however, plants of the low country are not so liable to make

their appearance *accidentally* at high altitudes, as are alpine plants to intrude upon the lower haunts of the former. It will be observed, that these remarks are only strictly true, of a district, which includes a range extending from the sea-level to several thousand feet above it. Rivers are the chief agents by which plants of the higher are conveyed to the lower districts.

If now and then, a *solitary* tuft of *Epilobium alpinum, Saxifraga aizoides, Oxyria reniformis, Festuca vivipara,* and *Alchemilla alpina* appears not far from the sea and near its level; this, (on the supposition that they have not been wilfully introduced by man), can only happen in the vicinity of some stream, which traverses, or some of whose tributaries pass through, a mountainous district. Such is the case with the plants alluded to, in the vicinity of Aberdeen; and they present us with examples of what I have ventured to call *accidental* stations.

It is quite likely that, after a time, some species, thus conveyed far from their natural places of growth, may increase rapidly, and become established in such localities; so that it would be ultimately impossible to ascertain whether they had, or had not, been introduced in the way alluded to.

Mr. H. C. Watson, in his second paper, (Lond. Journ. Bot. May, 1842), makes the remark, that "All alpine species have not an equal tendency to descend into dark valleys, or along the courses of streams; or to grow upon shaded rocks, or near the sea-shore. The consequence is, that in such situations several species are occasionally found, far below others, with which they are naturally associated by climate, when they grow in similar situations; and their absolute altitude thus becomes an imperfect guide to their true relative positions as determined by climate." A question arises, therefore, by what means we are to ascertain the lowest natural limits of such stragglers; and it is one which cannot be answered with certainty, except as by attending to the associations of such plants and their comparative abundance, we

may make an approximation to the truth. On passing inland, and consequently (in Aberdeenshire at least), ascending, we find that the five plants already mentioned all become more and more abundant; and that, not in the immediate vicinity of any large stream which might be supposed to have conveyed them, they are also associated with others which are more permanent in their stations. The following may be considered as the order in which they naturally appear at their lower limits, *Epilobium alpinum*, *Alchemilla alpina*, *Festuca vivipara*, *Oxyria reniformis*, and *Saxifraga aizoides*, the last descending naturally lower than the others. Many plants of the lower parts of the country, when reaching, as they often do, considerable altitudes, become less fastidious in regard to the situation in which they grow, chiefly in reference to its comparative moisture.

It is by springs, at high altitudes, where we principally meet with such associations as *Montia fontana*, *Saxifraga stellaris*, *Caltha palustris*, *Epilobium alsinifolium*, *Apargia autumnalis*, *Bellis perennis*, *Ranunculus Flammula*, *R. acris*, *Stellaria uliginosa*, *Empetrum nigrum*, *Juncus squarrosus*, *Galium saxatile*, *Blechnum boreale*, *Prunella vulgaris*, *Leontodon Taraxacum*, *Trifolium repens*, *Nardus stricta* and *Veronica officinalis*; the water of the springs retaining a temperature more equable than that of the air, thus favours the development of these plants, many of which are naturally common in the lower districts, but in situations of a very opposite character.

Mr. Watson, whose investigations must be familiar to all who have paid any attention to this interesting subject, has left so little undone, that the present communication and a subsequent one, can only be considered supplementary to that gentleman's published works, and his papers in previous numbers of this Journal.

The following list exhibits the highest observed altitudes in Aberdeenshire, of the plants mentioned, all of which also occur at, or near the sea-level. In a subsequent communication, the lowest stations will be given, of plants na-

turally occuring chiefly at high altitudes, and in it, care will be taken to distinguish, as far as possible, between their *natural* and *accidental* lower limits. The different altitudes have been measured by Adie's Mountain Sympiesometer. The names of the plants are those adopted in the Fourth Edition of Sir W. J. Hooker's *British Flora*.

	Feet.		Feet.
Achillæa Millefolium	1715	Fragaria vesca	1900
Aira præcox	1715	Geum rivale	1200
Alchemilla arvensis	1715	Gentiana campestris	1742
—— vulgaris	1863	Gnaphalium dioicum	2163
Artemisia vulgaris	1386	Galium verum	1800
Aira cristata	2155	—— palustre	1500
Avena pratensis	2000	—— boreale	2500
Angelica sylvestris	2400	Geranium pratense	1747
Agrostis vulgaris	2400	—— Robertianum	1200
Aira flexuosa	3887	Habenaria viridis	2500
Asperula odorata	1200	Hieracium murorum	1747
Bellis perennis	2000	Hieracium paludosum	1200
Brachypodium sylvaticum	801	Juncus squarrosus	2500
Cardamine pratensis	1500	—— uliginosus	2500
—— hirsuta	1800	—— lampocarpus	2400
Callitriche verna	2245	—— conglomeratus	2100
Carex flava	1863	—— acutiflorus	1175
Cnicus arvensis	1386	Luzula sylvatica	2500
Centaurea Cyanus	1386	Lotus corniculatus	1800
Campanula rotundifolia	3048	Lycopsis arvensis	1386
Carex pulicaris	2163	Leontodon Taraxacum	2200
Campanula latifolia	820	Lysimachia nemorum	1863
Chrysanthemum segetum	820	Lonicera Periclymenum	1500
Carex stellulata	2000	Lapsana communis	1200
Cnicus palustris	1800	Mercurialis perennis	1300
Cerastium viscosum	2397	Melica nutans	1200
Cnicus lanceolatus	1700	Montia fontana	1900
Caltha palustris	3559	Myosotis palustris	2100
Cochlearia officinalis	3560	Menyanthes trifoliata	1600
Dactylis glomerata	1386	Oxalis Acetosella	2500
Eleocharis pauciflora(?)	1863	Polygonum Persicaria	1386
Epilobium palustre	1500	Poa annua	1386
—— montanum	1800	Pyrethrum inodorum	1386
—— angustifolium	1900	Pinguicula vulgaris	2500
Festuca duriuscula	2500	Petasites vulgaris	1500

	Feet.		Feet.
Prunella vulgaris	1900	Spergula arvensis	1386
Polygala vulgaris	2500	Stellaria media	1386
Poa pratensis	2900	Silene maritima	2163
Plantago lanceolata	1900	Stellaria uliginosa	2800
Pedicularis palustris	1667	Solidago Virgaurea	1200
Polygonum viviparum	2500	Stachys sylvatica	1200
Parnassia palustris	2500	Spergula nodosa	1175
Poa fluitans	2199	Trientalis Europæa	1300
Potamogeton natans	1658	Thymus Serpyllum	1800
—— heterophyllus	1658	Triodia decumbens	1742
Primula veris	1516	Trifolia repens	2000
Quercus Robur	1500	Triticum repens	1200
Rubus saxatilis	1747	Tussilago Farfara	1200
Rumex Acetosella	3559	Tanacetum vulgare	1200
—— Acetosa	1386	Vicia Cracca	1386
Ranunculus Flammula	2000	Veronica Chamædrys	1900
Rosa canina (?)	1863	—— officinalis	1900
—— spinosissima	2000	—— Beccabunga	1200
Ranunculus acris	2800	Valeriana officinalis	1200
Sagina procumbens	1742	Utricularia vulgaris	1500
Spiræa Ulmaria	1386	Urtica dioica	1300

Some Data towards the Botanical Geography of New Holland, by Dr. John Lhotsky, *late of the Civil Service in Van Dieman's Land.*

It is an interesting and, I believe, hitherto unnoticed fact, that it has fallen to the lot of one single individual to become connected in a conspicuous, I might almost say, exclusive manner, with the Botany of New Holland, and that from its very outset. Whatever increase the Flora of this country may in future receive, and accessions doubtlessly will take place to a considerable extent, still, the foundation laid by that eminent naturalist, Dr. Rt. Brown, has been of such a broad and comprehensive kind, that his name must ever remain identified with the Botany of New Holland, far more permanently than those of Humboldt and Bonpland with the Flora of South America. Already the fame of these latter