

*Physa fontinalis*, 44 *Limnaea peregra*, 47 *L. palustris*, 48 *L. truncatula*, 50 *Ancylus fluviatilis*.

*Länd.*—52 *Arion ater*, 53 *A. hortensis*, 54 *A. subfuscus*, 55 *A. Bourguignati*, 60 *Limax flavus*, 61 *L. agrestis*, 62 *L. lævis*, 64 *L. arborum*, 65 *L. maximus*, 66 *L. cinereo-niger*, 70 *Succinea elegans*, 75 *Vitrina pellucida*, 77 *Zonites cellarius*, 78 *Z. alliaris*, 80 *Z. nitidulus*, 81 *Z. purus*, 82 *Z. radiatulus*, 83 *Z. nitidus*, 84 *Z. excavatus*, 85 *Z. crystallinus*, 86 *Z. fulvus*, 87 *Helix lamellata*, 88 *H. aculeata*, 90 *H. aspersa*, 91 *H. nemoralis*, 92 *H. hortensis*, 93 *H. arbustorum*, 97 *H. concinna*, 98 *H. hispida*, 104 *H. caperata*, 106 *H. rotundata*, 107 *H. rupestris*, 108 *H. pygmaea*, 109 *H. pulchella*, 114 *Balimus obscurus*, 118 *Papa umbilicata*, 129 *Vertigo edentula*, 131 *Balia perversa*, 132 *Clausilia rugosa*, 137 *Zaa labrica*, 139 *Carychium minimum*, 96 *Helix rufescens*.

#### NOTES ON THE FLORA OF STIRLINGSHIRE.

(Third Paper.)

By Col. STIRLING of Gargunnoch, and ROBERT KIDSTON, F.R.S.E., F.G.S.

In laying before the Society our third report on the Flora of Stirlingshire, we are able to record 39 species and 5 varieties which were not included in the previous papers, but it is desirable before giving the list of these additions to make a few notes on some of the new records as well as on some of those previously recorded. In our second report we recorded *Typha latifolia* for district I. The specimens varied somewhat from the typical form, though they were thought to be referable to that species. To settle the point, the locality was again visited last year, and additional specimens were collected, which were submitted to Mr Bennett, Croydon, who says, "Your plant is rather a puzzle, but I believe must go to *Typha angustifolia*. When in flower and fresh the stigmas easily distinguish them, but dried it is not so easy." The record of *Typha latifolia* must therefore await further confirmation. In last year's paper, though mentioned in the notes, *Potamogeton undulatus* was omitted from the general list, so it has been included in the list given this year.

Of the plants of which we saw specimens from the county for the first time last season, the following are introductions, and do not form any part of the indigenous flora:—*Camelina sativa*, Krantz,

*var. foetida*, Fr.; *Euonymus europæus*, L.; *Melilotus officinalis*, Desv.; *Fragaria elatior*, Ehrh.; *Saxifraga umbrosa*, L.; *Saxifraga umbrosa*, L., *var. punctata* Don.; *Dipsacus sylvestris*, L.; *Matricaria Chamomilla*, L.; *Centaurea Scabiosa*, L.; *Polimonium cœruleum*, L. *Anchusa officinalis*, L.; *Cuscuta Epilinum*, Weihe.; *Mentha viridis*, L.; *Mentha Piperita*, Huds.; *Acorus Calamus*, L.; *Bromus madritensis*, L.

Of these, *Euonymus europæus* is evidently planted; *Fragaria elatior* (Hautboy Strawberry), is probably an escape from cultivation; *Saxifraga umbrosa*, and *var. punctata*, *Mentha viridis*, *Mentha Piperita* are garden escapes. *Centaurea Scabiosa*, though a Scotch plant, was evidently introduced in the locality at which we collected our specimens. *Dipsacus sylvestris* was collected by Mr Stirling of Garden, on the side of the Forth and Clyde Railway, near Port of Monteith Station, which here was an introduction; the plant is doubtfully a native in Scotland. *Cuscuta Epilinum* is now probably extinct in the county. Formerly, when flax was grown, the plant was common in those districts, but since flax has ceased to be cultivated in Stirlingshire, the *Cuscuta Epilinum*, which is a parasite on it, appears to have quite disappeared. Strictly speaking, it should not be retained in the list of county plants, and our record is from an old specimen in the late Professor Hennessy's Herbarium, now in the Andersonian College, Glasgow. Occasionally *Linum usitatissimum* is found, and, of course, *Cuscuta Epilinum* may be found on it; but at the best, both are introductions. *Sagittaria sagittifolia* and *Apera Spica-venti* may be natives, but at present we are not in a position to settle the question. In regard to *Apera Spica-venti* it was recorded from Fife by Parnell, in his "Grasses of Scotland," in 1842. There seems no reason why these two plants should not be natives, but their claim as such in Stirlingshire requires to be more fully investigated.

The following new records, to us (though some of them have been previously noted by others) we believe, to be native:—*Ranunculus Lenormandi*, F. Sohnltz; *Subularia aquatica*, L.; *Cerastium semidecandrum*, L.; *Sagina ciliata*, Fr.; *Genista anglica*, L.; *Saxifraga granulata*, L.; *Cicuta virosa*, L.; *Sium latifolium*, L.; *Cnicus arvensis*, Hoffm., *var. vestitus*; *Hieracium pallidum*, Biv., *var. Schmidtii*, Tausch.; *Hieracium rubicundum*, Hanbury; *Hieracium duriceps*, Hanbury; *Hieracium sparsifolium*, Lindb.; *Myosotis collina*, Hoffm.; *Veronica polita*, Fr.;

*Origanum vulgare*, L.: *Neottia Nidus-avis*, Rish.; *Convallaria majalis*, L.; *Juncus Gerardi*, Lois.; *Potamogeton pusillus*, L., var. *Berchtoldii*, Fieber.; *Sesleria cœrulea*, Scop.; *Bromus asper*, Murr., var. *serotinus*, Benek.; *Agropyron caninum*, Beauv.; *Equisetum pratense*, Ehrh.

*Genista anglica* we have not found ourselves, and our record is taken from a specimen in the late Professor Henney's Herbarium. We have not yet had an opportunity of visiting the locality at which his specimen was got. *Neottia Nidus-avis*.—This we also have not met with, and our record is from a specimen collected by the late Dr Arnott, which is now in Professor Henney's Herbarium. We may say, however, that quite recently we are informed, on good authority, it had been found more recently near Denny, though no specimen as yet has been submitted to us from that locality. *Convallaria majalis* (Lily of the Valley).—It may not be generally known that this much appreciated plant for garden cultivation is a native of Scotland, and we believe it is native in the locality where we found it, a view in which both Mr A. Bennett and Dr Buchanan White concur. It also occurs native in Perthshire. Our record for *Sesleria cœrulea* is from a specimen in Professor Henney's Herbarium, from Ben Lomond. We have not yet met with it there, though Henney in his Clydesdale Flora says it is plentiful on Ben Lomond. For the records of *Sagittaria sagittifolia*, *Sium latifolium*, and *Camelina sativa* var. *fœtida*, we are indebted to Mr Johnston Shearer. A Stirlingshire specimen of the last mentioned plant is also in Henney's Herbarium. We have also seen a specimen of *Sagittaria sagittifolia* for Stirlingshire, collected by Messrs J. & R. Wilkie, which was communicated to us by Mr Johnston Shearer. To Professor King, Andersonian College, Glasgow, we are much indebted for the privilege of going over the Herbarium of the late Professor Henney, in whose collection, in addition to those records already mentioned from this source, we saw the Stirlingshire specimen of *Acorus Calamus*. In addition to the specimen of *Dipsacus sylvestris* communicated to us by Mr Stirling of Garden, we are further indebted to him for a new locality for *Ophioglossum vulgatum*. Mr L. Watt, Clydebank, in addition to other assistance, has given us Stirlingshire specimens of *Cicuta virosa* and *Subularia aquatica*, *Hieracium rubicundum* and *Hieracium sparsifolium*. The example from which we record *Polemonium cœruleum*, is from near the Distillery,

Garguonock, and was collected by the late Mr Robt. Geddes, Bridge of Allan. Mr D. B. Morris has added new district records for *Trifolium arvense* and *Lychnis Githago*. In addition to the British plants or those usually included in works on British Botany, the following foreign introductions have been found growing on the waste ground beside the Docks, Grangemouth, and have evidently been introduced from ballast discharged on this spot:—*Sisymbrium pannonicum*, *Saponaria Vaccaria*, *Potentilla Norvegica*, *Achillea nobilis*, *Beta vulgaris*. For assistance in naming or confirming our identifications, we are much indebted to Messrs J. & A. Groves, London; to Mr F. J. Hanbury, for going over the *Hieracia*; to Mr A. Fryer, Chatteris, for revising our *Potamogetons*, and especially to Mr A. Bennett, for assistance in many cases of doubt, and also for assistance with the *Potamogetons*. Our second report contained a list of 712 species and 43 varieties, to these there must now be added 39 species and 5 varieties, making in all 751 species and 48 varieties, of all of which we have seen Stirlingshire specimens.

ADDITIONAL COUNTY AND DISTRICT RECORDS FOR STIRLING-SHIRE.—1892.

(Those marked \* are not included in our previous lists.)

No.	NAME	Districts.			
		1	2	3	4
* 21	<i>Ranunculus Lenormandi</i> , F. Shultz.	x	-	-	-
118	<i>Sisymbrium Alliaria</i> Scop.	-	x	-	-
* 121	<i>Camelinasativa</i> , Krantz, var. <i>foetida</i> , Fr.	x	-	-	-
* 122	<i>Suhularia aquatica</i> , L.	-	-	x	-
209	<i>Lychnis Githago</i> , Lam.	-	x	-	-
* 214	<i>Cerastium semidecandrum</i> , L.	x	-	-	-
* 241	<i>Sagina ciliata</i> , Fr.	x	-	-	-
* 315	<i>Euonymus Europæus</i> , L.	x	-	-	-
* 320	<i>Genista anglica</i> , L.	x	-	-	-
* 340	<i>Melilotus officinalis</i> , Desr. ( <i>M. arvensis</i> W.)	-	x	-	-
350	<i>Trifolium arvense</i> , L.	x	-	-	-
413	<i>Spiræa salicifolia</i> , L.	x	-	-	-
* 482	<i>Fragaria elatior</i> , Ehrh.	x	-	-	-
525	<i>Pyrus Aria</i> , Sm.	-	-	x	-
* 541	<i>Saxifraga umbrosa</i> , L.	x	-	-	-
* 541b	do. var. <i>punctata</i> Don.	x	-	-	-
* 547	do. <i>granulata</i> , L.	x	-	-	-
* 627	<i>Cicuta virosa</i> , L.	x	-	-	-
* 637	<i>Sium latifolium</i> , L.	x	-	-	-
643	<i>Scandex Pecten-Veneris</i> , L.	x	-	-	-
* 720	<i>Dipsacus sylvestris</i> , E.	-	x	-	-

* 769	<i>Matricaria Chamomilla</i> , L.	.	x	.	.
706	<i>Arctium minus</i> , Schenk.	.	x	.	.
* 809	<i>Cnicus arvensis</i> , Hoffm., var. <i>vestitus</i> .	x	.	.	.
* 817	<i>Centaurea Scabiosa</i> , L.	.	x	.	.
* 853b	<i>Hieracium pallidum</i> , Biv., var. <i>Schmidtii</i> , Tausch.	x	.	.	.
*	do. <i>rubicundum</i> , F., J. Han- bury.	x	.	.	.
*	do. <i>duriceps</i> , F., J. Hanbry.	x	.	.	.
*	do. <i>sparisifolium</i> , Lindb.	x	.	.	.
* 859e	<i>murorum</i> , L., var. <i>microclad-</i> <i>ium</i> , Dablst.	x	.	.	.
905	<i>Campanula rotundifolia</i> , L.	.	x	.	.
949	<i>Lysimachia vulgaris</i> , L.	x	.	.	.
* 981	<i>Polemonium caeruleum</i> , L.	.	x	.	.
* 988	<i>Anchusa officinalis</i> , L.	.	x	.	.
*1000	<i>Myosotis collina</i> , Hoffm.	x	.	.	.
1010	<i>Convolvulus arvensis</i> , L.	.	x	.	.
*1011	<i>Cuscuta Epilinum</i> , Weibe.	x	.	.	.
1035	<i>Linaria vulgaris</i> , Mil.	.	x	.	.
*1049	<i>Veronica polita</i> , Fr.	x	.	.	.
*1105	<i>Mentha viridis</i> , L.	x	.	.	.
*1106	do <i>Piperita</i> , Huds.	x	.	.	.
*1117	<i>Origanum vulgare</i> , L.	x	.	.	.
1296	<i>Salix aurita</i> , L.	.	.	x	.
*1329	<i>Neottia Nidus-avis</i> , Rich.	x	.	.	.
*1395	<i>Convallaria majalis</i> , L.	x	.	.	.
*1429	<i>Juncus Gerardi</i> , Lois.	.	x	.	.
*1464	<i>Acorus Calamus</i> , L.	x	.	.	.
*1473	<i>Sagittaria sagittifolia</i> , L.	x	.	.	.
*	<i>Potamogeton undulatus</i> , Wolfg.	x	.	.	.
*1502	do. <i>pusillus</i> , var. <i>Berchtoldi</i> Fieber.	x	.	.	.
*1663	<i>Apera Spica-venti</i> , Beauv.	.	x	.	.
*1688	<i>Sesleria caerulea</i> , Scop.	.	.	.	x
1731	<i>Festuca arundinacea</i> , Schreb.	x	.	.	.
*1733a	<i>Bromus asper</i> , Murr, var. <i>serotinus</i> , Benek.	x	.	.	.
*1735	<i>Bromus madritensis</i> , L.	.	x	.	.
*1749	<i>Agropyron caninum</i> , Beauv.	x	.	.	.
*1813	<i>Equisetum pratense</i> , Ehrh.	x	.	.	.