British & Irish Botany 6(2): 167-183, 2024

Bellflowers as bellwethers: how many unappreciated early records are there in herbarium collections?

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This pdf constitutes the Version of Record published on 20 December 2024.

Abstract

A comparison of specimens of British and Irish Campanulaceae in the Natural History Museum herbarium revealed many specimens pre-dating the first vice-county (v.c.) record on the Botanical Society of Britain & Ireland (BSBI) Distribution Database. A total of 232 new first vice-county records were recognised, out of the 1860 species–v.c. combinations available in this family. These specimens encompassed a wide range of collectors, dates and localities. The mean age difference was 60 years (55 years for neophytes; 61 years for native species), and the greatest increase was 156 years.

Introduction

Herbaria are widely recognised as an invaluable resource for documenting and preserving historical evidence of plant diversity (Funk, 2003; Bebber *et al.*, 2010; Besnard *et al.*, 2018). One important role of herbaria is to house physical voucher specimens, which can be re-examined at any time, and thereby definitively prove the presence of a given taxon at a particular place and time (Culley, 2013). Although such specimens are already widely used in the preparation of regional floras, many specimens may never have been noted in print, even where they represent significant records, and these records may not have been imported into online databases.

The ongoing digitisation of the British and Irish Herbarium at the Natural History Museum (**BM**) provides an opportunity to assess the undocumented value of specimens housed in herbaria. Just as large numbers of undescribed species are already present in herbarium collections (Bebber *et al.*, 2010), so we can assume that large amounts of biogeographic data are also awaiting discovery within specimens that have already been collected.

This paper investigates first records for Campanulaceae, the bellflower family. Specifically, it compares collection dates for taxa represented in the BM herbarium to the Botanical Society of Britain & Ireland's (BSBI) records for the earliest record for each species in each vice-county (v.c.) to determine the extent of previously undocumented presence of taxa across Britain and Ireland. Is the undocumented persistence more prevalent in native or introduced taxa? Is it concentrated in certain geographical areas? Are there particular collectors who frequently collected first v.c. records, perhaps unwittingly, and did not publish them?

Methods

The BSBI's Distribution Database ('DDb') was queried for the taxon "Campanulaceae" and for records whose singleton status was "first record (vc)". This output was then cross-referenced with the specimens held in BM, seeking herbarium sheets that pre-dated the earliest records on the DDb. The information on the specimen label was taken at face value: no attempt was made to verify the identification of each specimen, and specimens without dates were ignored. Older specimens may thus be detected in the future by inferring the possible date of collection from their collectors' biographical dates. For simplicity, only the year of collection was noted, ignoring the month and day.

The age increase (i.e., the gain in years between the earliest VC record on the DDb and the year of the herbarium specimen) was analysed for each species and for each VC. Infraspecific taxa were ignored, as their determination is more likely to be subjective or open to doubt, but any early specimens filed under infraspecific taxa were included as potential first VC records for their species more broadly. I took a conservative approach to calculating age increases. Where the existing earliest record had a date range rather than a single year, the earliest year was used for calculating the age increase: thus, "1950 – 1969" was treated the same as "1950"; where the earliest record on the DDb had an open-ended start date (e.g. "–1931"), no age increase was inferred.

The status of each species was taken from Stace (2019); any species not included there was treated as a neophyte. Species that are considered to be native to any part of Britain or Ireland were classed as native throughout.

Results

There were 1882 first VC records in the DDb for taxa in the family Campanulaceae, covering 59 taxa, of which 44 were species (Table 1) and 15 were infraspecific taxa. Eleven species were classed as native to the British Isles and two as archaeophytes; the remaining 31 were treated as neophytes.

There were 3194 specimens at BM, representing 28 of the 44 species included on the DDb. Within these, 232 specimens were found that represented previously unrecognised first v.c. records. All these specimens can be viewed on the NHM Data Portal (data.nhm.ac.uk).

The residency time added by these specimens adds up to 13,810 years (Table 1). The age increases varied from a single year to 156 years, with BM014145365 extending the history of *Campanula medium* in Midlothian (v.c.83) from 1999 back to 1841 (see Figure 1). The earliest record uncovered during this research was a specimen of *Campanula glomerata* collected by Joseph Andrews in 1748 near Linton, Cambridgeshire (v.c.29). The search also turned up 16 new v.c. records (see Supplementary Material).

Among the 153 vice-counties, 87 were represented by at least one age increase, leaving 66 untouched. Midlothian (v.c.83) had the greatest mean age increase, at 118.4 years, but Surrey (v.c.17) had the greatest number of increases, with nine (Table 2). Surrey and Midlothian are both vice-counties with a rich Campanulaceae flora, so the number of increases per taxon present was also calculated for each v.c.; Bedfordshire (v.c.30) then had the highest proportion, with seven of its 14 species (50%) seeing an age increase.

Species with different colonisation histories produced similar age increases, with all three classes having an average gain of between 54 and 61 years (Table 3). They differed in the likelihood of finding a first v.c. record, with around 7% of specimens of native species, 8% of specimens of archaeophytes and 13% of specimens of neophytes representing new or improved first v.c. records.

As well as 30 specimens with no information about their collector, 140 named collectors were represented among the 232 new first v.c. records. The most prolific collectors among these specimens were John Boswell-Syme (8), Harry Joseph Riddelsdell (7), Edward Shearburn Marshall (6) and Henry N. Ridley (5). Six collectors collected four specimens each, five collected three each, and 12 collectors collected two of the first v.c. records; 112 collectors provided a single such specimen.

Table 1. The species considered, showing their status, the number of specimens of each species in the herbarium ("Spec"), the number of vice-counties for which a new earliest record was found ("Gains"), and the minimum ("Min"), arithmetic mean ("Mean") and maximum ("Max") number of years added by those records.

Taxon	Status	Spec	Gains	Min	Mean	Max
Campanula alliariifolia	neophyte	4	2	1	2.0	3
Campanula glomerata	native	328	27	1	75.7	134
Campanula carpatica	neophyte	0	0			
Campanula cochleariifolia	neophyte	0	0			
Campanula fragilis	neophyte	2	0			
Campanula garganica	neophyte	0	0			
Campanula lactiflora	neophyte	2	0			
Campanula latifolia	native	231	28	1	58.8	121
Campanula medium	neophyte	6	4	38	93.5	156
Campanula patula	native	122	2	9	32.0	55
Campanula persicifolia	neophyte	22	6	7	45.7	106
Campanula portenschlagiana	neophyte	1	1	86	86.0	86
Campanula poscharskyana	neophyte	5	1	4	4.0	4
Campanula punctata	neophyte	0	0			
Campanula pyramidalis	neophyte	0	0			
Campanula ramosissima	neophyte	0	0			
Campanula rapunculoides	neophyte	154	18	1	54.1	122
Campanula rapunculus	archaeophyte	74	6	1	31.2	59
Campanula rhomboidalis	neophyte	0	0			
Campanula rotundifolia	native	399	42	3	58.9	121
Campanula trachelium	native	252	27	20	73.3	120
Downingia elegans	neophyte	3	0			
Isotoma axillaris	neophyte	0	0			
Jasione montana	native	404	23	7	59.2	113
Legousia hybrida	archaeophyte	218	16	16	62.9	112
Legousia pentagonia	neophyte	0	0			

Taxon	Status	Spec	Gains	Min	Mean	Max
Legousia speculum-veneris	neophyte	18	1	102	102.0	102
Lobelia cardinalis	neophyte	0	0			
Lobelia dortmanna	native	234	9	2	31.2	56
Lobelia erinus	neophyte	2	1	69	69.0	69
Lobelia filiformis	neophyte	0	0			
Lobelia gracilis	neophyte	1	0			
Lobelia siphilitica	neophyte	0	0			
Lobelia urens	native	144	1	15	15.0	15
Phyteuma orbiculare	native	208	2	26	32.0	38
Phyteuma scheuchzeri	neophyte	0	0			
Phyteuma spicatum	native	115	1	1	1.0	1
Platycodon grandiflorus	neophyte	0	0			
Pratia angulata	neophyte	7	0			
Pratia pedunculata	neophyte	3	0			
Trachelium caeruleum	neophyte	25	0			
Wahlenbergia gracilis	neophyte	0	0			
Wahlenbergia hederacea	native	212	14	2	57.4	113
Wahlenbergia nutabunda	neophyte	0	0			

Table 2. Vice-counties in which new first v.c. records were made, showing the number of taxa recorded in that v.c. ('Taxa'), the number of taxa for which new first records were found ('Gains'), and the total ("Years gained"), minimum ("Min"), arithmetic mean ("Mean") and maximum ("Max") number of years added by those records ('Years gained').

V.C.	Taxa	Gains	Years gained	Min	Mean	Max
3	17	6	240	1	40.2	93
4	13	2	115	2	57.5	113
5	19	4	271	49	67.8	79
6	17	5	334	3	66.8	120
7	17	2	52	24	26.0	28
9	23	5	145	17	29.0	50
10	16	1	69	69	69.0	69
11	20	5	286	37	57.2	79
12	19	2	168	54	84.0	114
13	20	4	157	19	39.3	62
14	23	6	361	23	60.2	80
15	18	3	250	35	83.3	117
16	22	6	391	17	65.2	107
17	26	9	550	1	61.1	115
19	16	2	125	26	62.5	99
20	15	4	291	46	72.8	92
21	22	5	246	1	49.2	104
22	20	5	442	31	88.4	131

V.C.	Taxa	Gains	Years gained	Min	Mean	Max
23	21	1	102	102	102.0	102
24	16	4	189	36	47.3	63
25	17	1	29	29	29.0	29
26	15	2	160	58	80.0	102
27	16	3	290	70	96.7	117
28	18	1	50	50	50.0	50
29	21	2	129	17	64.5	112
30	14	7	413	9	59.0	116
31	11	1	61	61	61.0	61
32	15	1	29	29	29.0	29
33	16	4	126	20	31.5	56
34	16	4	334	64	83.5	101
35	12	3	316	85	105.3	117
36	16	5	272	32	54.4	84
39	19	3	175	50	58.3	66
41	12	5	264	37	52.8	87
42	14	3	108	20	36.0	44
43	14	6	326	1	54.3	115
44	14	1	68	68	68.0	68
45	8	1	69	69	69.0	69
46	11	1	12	12	12.0	12
47	11	3	237	28	79.0	113
48	11	5	280	7	56.0	79
49	15	1	17	17	17.0	17
50	14	1	72	72	72.0	72
51	13	2	169	48	84.5	121
53	14	1	1	1	1.0	1
54	20	3	191	48	63.7	86
55	17	2	60	30	30.0	30
56	19	2	79	23	39.5	56
58	17	2	87	29	43.5	58
60	16	2	90	32	45.0	58
61	14	2	193	63	96.5	130
62	21	6	409	16	68.2	113
64	19	5	298	8	59.6	101
65	11	2	115	2	57.5	113
69	17	4	213	13	53.3	113
70	15	4	252	37	63.0	102
72	10	4	201	3	50.3	88
73	14	1	65	65	65.0	65
75	13	1	105	105	105.0	105
77	15	1	82	82	82.0	82
82	11	2	184	72	92.0	112
83	20	5	592	63	118.4	156
84	8	1	51	51	51.0	51
85	16	2	45	16	22.5	29

V.C.	Taxa	Gains	Years gained	Min	Mean	Max
88	16	3	244	57	81.3	119
89	12	2	108	1	54.0	107
90	13	2	112	50	56.0	62
91	9	1	104	104	104.0	104
96	13	1	54	54	54.0	54
97	10	1	59	59	59.0	59
98	8	2	165	52	82.5	113
101	6	1	2	2	2.0	2
102	7	1	34	34	34.0	34
104	9	1	22	22	22.0	22
105	11	1	13	13	13.0	13
108	5	2	67	23	33.5	44
109	6	1	122	122	122.0	122
112	10	1	88	88	88.0	88
H1	6	1	67	67	67.0	67
H2	8	2	102	41	51.0	61
H3	9	3	165	7	55.0	111
H7	5	1	18	18	18.0	18
H16	5	2	69	25	34.5	44
H20	7	1	17	17	17.0	17
H27	6	1	51	51	51.0	51
H28	7	1	12	12	12.0	12
H39	12	1	11	11	11.0	11

Table 3. Breakdown of age increases by type of species. "Spp." is number of species, and "Spec." is the number of specimens. "Prop." is the proportion of specimens which represent a new first v.c. record, and "Min", "Mean" and "Max" are the minimum, arithmetic average and maximum time (in years) gained by those new records, respectively.

Status	Spp.	Spec.	Gains	Years	Prop.	Min	Mean	Max
native	11	2649	176	10730	0.066	1	60.97	134
neophyte	31	255	34	1886	0.133	1	55.47	156
archaeophyte	2	292	22	1194	0.075	1	54.27	112

Discussion

The flora of the British Isles is one of the best studied and best mapped (Walker *et al.*, 2023). Despite this, a huge amount of previously undocumented history was found during a fairly short search of one herbarium over just a few hours, and covering a single small family. These age increases could be found across all types of taxa, and across all geographical regions. Although some of the potential age increases may turn out to be the result of misidentifications of taxa or geographic locations, I expect such cases to be sufficiently few in number that it will not undermine the main outcomes.

There are far more specimens representing native taxa in the herbarium than non-native taxa, but each individual specimen of a recent introduction is more likely to be significant than one of a native taxon. This will be partly due to the limited period in which a recent introduction could have been collected – only since it first appeared here – but may also reflect a tendency of collectors to overlook or dismiss non-natives, leaving them under-represented in collections. The pattern of age increases across vice-counties seems to reflect the biases inherent in the herbarium collections, rather than geographical variation in biodiversity. Some of the vice-counties that produced no new first v.c. records are those that were well studied by the earliest botanists, such as v.c.1 (West Cornwall) and v.c.18 (South Essex). Others occupy the other end of the spectrum, having produced no new first v.c. records because of the paucity of specimens in this herbarium. These include v.c.8 (South Wiltshire), v.c.40 (Shropshire) and v.c.59 (South Lancashire); other herbaria may be able to fill some of the gaps in these latter cases. The wide range of collectors responsible for the new first v.c. records indicates that the undocumented records are not the result of a few overlooked collections being incorporated into the NHM's collections. Rather, they too reflect the herbarium more widely.

I have no doubt that further age increases are waiting to be uncovered in other herbaria, even in this family. Some well-known and widespread taxa have inexplicably late first records in particular vice-counties Harebell (*Campanula rotundifolia* L.) is reasonably common around the coast of western Ireland; can it really be that nobody noticed it in East Donegal (v.c.34) until 1968? Did nobody pick sheep's-bit (*Jasione montana* L.) in Carmarthenshire (v.c.44) or Kintyre (v.c.101) until 1950? Water lobelia (*Lobelia dortmanna* L.) is not recorded on the DDb in Easter Ross (v.c.106) or Shetland (v.c.112) until the 1950s, and in Stirlingshire (v.c.86) not until the 1960s. In all these cases, neighbouring vice-counties with similar ecologies and within the species' acknowledged ranges have much older records for the same taxon, and these taxa are unlikely to be confused with any other, at least when in flower. Where these dates reflect the earliest known occurrences, the absence of earlier records may be best treated as a historical oversight, where (potential) collectors or recorders did not realise the importance of their observations, even of apparently mundane taxa. Before the current information age, it must have been harder for a provincial botanist to know if their observations were significant. Given that some of the specimens included above were collected before the vice-counties were established in Great Britain (Watson, 1852) and Ireland (Praeger, 1901), it is hardly surprising that some first v.c. records went unnoticed, especially in traditional counties like Wiltshire and Donegal that were later divided into multiple vice-counties.

Of course, part of the explanation for these absences lies in the DDb itself. Although the earliest record for any taxon– v.c. combination is (automatically) labelled "1st", this may not always be the true first record. Historical records have been patchily imported, leaving unacknowledged gaps in its coverage of older records. This is an area that could be given greater priority; I cannot be the only botanist who uses the DDb to find first v.c. records, especially given the prominence they are afforded.

The presence of so many apparently significant specimens in the herbarium at BM – over 7% of the specimens examined – demonstrates that many botanists did not share their records, either in print or in correspondence, such that the only

record left is the specimens they collected. This clearly demonstrates the benefits of vouchering important discoveries.

Collating first v.c. records for taxa may seem to be a task of purely academic interest, but it does also have real-world applications. Assessing the native status of a taxon in an area relies partly on the length of its continuous presence in that area. If the first record is from within the last few decades, it is more likely to be thought a recent introduction. If, instead, it can be shown that the taxon has lived in an area for many decades or even hundreds of years, then it is much more likely to be considered native (e.g. Rumsey, 2007; Rumsey & Spencer, 2012), and this assessment can have consequences for its subsequent conservation. More importantly perhaps, the ease with which new significant records could be unearthed, even from a well-known and well investigated collection like the BM's British and Irish Herbarium, emphasises the vast wealth of information that continues to go untapped. To this end, the DiSSCo UK project will digitise huge numbers of specimens in natural history collections across the UK over the next decade or so, unlocking much more data of this kind (Wainwright, 2024).

Conclusions

The value of herbaria, although frequently reiterated, probably remains underappreciated. If a rapid search over a single, small family in a single herbarium can reveal thousands of years of undocumented botanical history, we must assume that similar treasures are to be found in herbaria across the archipelago, and around the world. The advent of digitisation has made it much easier to discover valuable specimens, and to disseminate information about them. As a result, we may soon have a much fuller understanding of the flora of our islands and its history.

Acknowledgements

My thanks are due to Mark Carine, Chris Preston and Alice Luck for constructive comments on earlier versions of this manuscript.

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ISSN: 2632-4970

https://doi.org/10.33928/bib.2024.06.167

Figure 1. Specimen (BM014145365) of *Campanula medium* from "nr. Edinburgh". The collector of this specimen is someone called "T. Y. Gowan" or "T. G. Gowan", about whom I could discover very little. Other specimens from the same collector dated 1838 and 1840 reaffirm that the year of this specimen is indeed 1841 and not 1891, as it might otherwise be read.

Table S1. New vice-county records

Species	V.C.	Date	Barcode	Collector	Verbatim locality
Campanula alliariifolia	57	8/2003	BM014145370	T. W. J. David Dupree	Wall of Car park in front of Miners' Standard pub, Winster, Derbys
Campanula rapunculoides	100	24/7/1882	BM014146080	L. Watt	I. of Cumbrae
	H21	31/07/1935	BM014146061	H. Stanley Redgrove	Rush (co. Dublin, Ireland)
Campanula rapunculus	52	<1821	BM014145282	Hugh Davies	Baron Hill wood
Legousia hybrida	59	1847?	BM014162554	Dr. Howitt	Corn Fields near Liverpool
Legousia speculum-veneris	10	7/1918	BM014162683	H. Stanley Redgrove	Mersley Down (I. of W.)
	14	8/1909	BM014162686	Thomas Hilton	Racehill Brighton East Sx.
	16	05/07/1906	BM014162694	Rev. C. W. Shepherd	foot of hills, Trottiscliffe, Kent
	25	1900	BM013721647	F. M. Burton	Oulton Broad
	28	24/08/1917	BM014162690	Frederick Robinson	rubbish heap, Griston v.c.28
	53	2/7/1862	BM013721648	Robert E. G. Cole	Cornfield nr Boultham Moor
	55	15/07/1903	BM014626862	William Bell	Blaby Mill, v.c.55
Trachelium caeruleum	15	9/1835	BM014162877	E. H. Ellis	Ramsgate (Kent)
Lobelia urens	14	30/09/1924	BM014142560	"a lady"	Hurst Green, near Burwash, Sussex
Phyteuma orbiculare	24	6/1944	BM014163075	T. W. J. David Dupree	Combe Hill near Wendover, Bucks. 42/848068
Phyteuma spicatum	63	sin. dat.	BM014162951	Dr. Hooker	Sheffield

Table S2. Newly found first vice-county records in Campanulaceae

Species	V.C.	Was	New	Collector
Campanula alliariifolia	3	1949	1948	E. N. H. Phillips
	6	1972	1969	C. A. Howe
Campanula glomerata	5	1950	1871	F. A. Lees
	6	1963	1853	R. E. G. Cole
	9	1931	1914	H. J. Riddelsdell
	11	1941	1878	E. D. Marquand
	12	1890	1836	J. W. Curtis
	13	1963	1901	E. S. Marshall
	14	1901	1840	Reeves
	15	1950	1833	F. Bossey
	17	1875	1819	anon.
	20	1904	1812	G. C. Gorham
	21	1867	1866	J. Benbow
	22	1968	1837	J. W. Ewing
	24	1912	1862	J. Benbow
	29	1860	1748	J. Andrews
	30	1949	1839	H. Brown
	33	1903	1847	[Benbow?]
	34	1950	1886	J. W. White
	41	1953	1902	E. Vachell
	55	1923	1893	Mrs. L. Smith
	61	1953	1823	anon.
	62	1962	1853	J. G. Baker
	64	1952	1851	G. Fowler
	69	1959	1846	anon.
	70	1950	1889	anon.
	83	1999	1865	anon.
	85	1863	1834	anon.
	90	1954	1904	E. S. Marshall
Campanula latifolia	3	1968	1920	W. S. M. d'Urban
	5	1975	1904	Miss B. Cole
	22	1968	1849	J. Carroll
	30	1850	1814	E. Forster
	33	1940	1912	H. J. Riddelsdell
	34	1950	1849	anon.
	35	1955	1838	A. Knight
	36	1858	1805	E. Forster
	39	1894	1844	R. C. Douglas
	41	1951	1904	H. J. Riddelsdell
	42	1925	1905	H. J. Riddelsdell
	43	1950	1835	anon.
	48	1956	1949	S. T. Jermyn
	50	1953	1881	H. F. Parsons

Species	V.C.	Was	New	Collector
	51	1942	1821	H. Davies
	53	1856	1855	R. E. G. Cole
	60	1907	1849	anon.
	61	1937	1874	H. F. Parsons
	62	1888	1852	anon.
	65	1833	1831	anon.
	69	1894	1881	R. P. Murray
	70	1953	1851	W. Salkeld
	72	1955	1907	E. S. Marshall
	77	1950	1868	anon.
	84	1950	1899	F. C. Crawford
	88	1959	1891	E. S. Marshall & E. F. Linton
	89	1949	1842	anon.
	H39	1973	1962	N. D. Simpson
Campanula medium	16	1950	1912	J. Roffey
	23	1972	1870	A. French
	64	1987	1909	N. D. Simpson
	83	1997	1841	T. G. Gowan
Campanula patula	14	1932	1877	B. Helyer
	43	1893	1884	H. N. Ridley
Campanula persicifolia	11	1966	1921	N. D. Simpson
	16	1965	1914	J. Roffey
	17	1926	1919	L. B. Hall
	54	1940	1883	Mackinder
	62	1987	1881	W. W. Reeves
	64	1879	1871	F. A. Lees
Campanula portenschlagiana	54	2007	1921	A. H. G. Alston
Campanula poscharskyana	21	1982	1978	J. M. Mullin
Campanula rapunculoides	7	1907	1883	E. S. Gregory
	17	1948	1840	J. Walton
	19	1950	1924	G. C. Brown
	21	1955	1851	anon.
	24	1948	1885	R. Paulson
	26	1950	1892	Haslehurst
	30	1910	1901	D. M. Higgins
	33	1930	1908	H. J. Riddelsdell
	36	1950	1866	A. Ley
	43	1957	1956	P. C. Hall & J. F. Hall
	62	1935	1906	T. J. Foggitt
	64	1967	1909	J. Cryer
	70	1956	1904	J. G. Wilkinson

Species	V.C.	Was	New	Collector
	72	1955	1893	Miss Hannay
	82	1961	1889	A. Craig-Christie
	83	1955	1892	A. Craig-Christie
	85	1850	1834	anon.
	109	2010	1888	J. Grant
Campanula rapunculus	13	1918	1899	C. E. Salmon
	17	1838	1837	H. C. Watson
	22	1895	1864	E. Chandler
	24	1902	1866	J. Benbow
	36	1894	1853	W. H. Purchas
	39	1871	1812	Moseley
Campanula rotundifolia	6	1956	1889	H. T. Wright
	9	1931	1911	H. E. Fox
	10	1950	1881	W. A. Pearce
	11	1954	1892	Allardice
	12	1954	1840	anon.
	14	1900	1827	M. A. Elgar
	16	1948	1866	J. T. I. Boswell-Syme
	17	1881	1836	C. P.
	20	1912	1833	H. D. Henslow
	21	1913	1837	anon.
	22	1955	1892	A. B. Jackson
	27	1955	1838	T. R. Tuck
	29	1880	1863	F. A. Hanbury
	30	1948	1891	D. M. Higgins
	33	1933	1913	J. W. Haines
	34	1950	1849	J. Carroll
	36	1881	1849	anon.
	39	1952	1886	W. H. Painter
	41	1947	1905	W. Moyle Rogers
	42	1925	1881	A. Ley
	43	1956	1916	W. C. Barton
	44	1956	1888	A. Ley
	47	1951	1923	W. C. Barton
	48	1950	1884	H. N. Ridley
	54	1877	1829	C. M. Cautley
	56	1880	1857	R. E. G. Cole
	58	1866	1837	H. Newman
	62	1951	1838	C. T.
	69	1951	1920	R. S. Adamson
	72	1955	1952	F. L. Balfour-Browne
	83	1955	1834	anon.
	88	1931	1874	H. M. Drummond-Hay
	90	1954	1892	E. S. Marshall
	91	1955	1851	J. T. I. Boswell-Syme

Species	V.C.	Was	New	Collector
	96	1947	1893	A. Somerville
	97	1949	1890	S. M. Macvicar
	98	1945	1893	E. S. Marshall
	102	1930	1896	A. Somerville
	108	1959	1915	F. J. Hanbury
	H1	1950	1883	H. N. Ridley
	H3	1964	1853	J. Carroll
	H28	1897	1885	E. F. Linton
Campanula trachelium	6	1956	1836	J. W. Ewing
	9	1912	1892	E. F. Linton
	11	1957	1878	J. Comber
	13	1947	1909	C. C. Lacaita
	14	1899	1876	anon.
	15	1950	1852	J. T. I. Boswell-Syme
	16	1945	1838	A. Atkins; R. Pryor
	17	1926	1811	N. J. Winch
	19	1950	1851	E. G. Varenne
	20	1934	1888	D. M. Higgins
	21	1900	1839	H. Kingsley
	25	1867	1838	anon.
	27	1950	1847	anon.
	28	1962	1912	F. Robinson
	30	1948	1832	anon.
	31	1945	1884	E. F. Linton
	32	1882	1853	W. Lewin
	35	1955	1841	J. S. G.?
	36	1882	1820	J. Banks
	41	1940	1903	H. J. Riddelsdell
	51	1929	1881	H. F. Parsons
	60	1919	1887	F. J. Hanbury
	64	1950	1897	C. Waterfall
	65	2012	1899	W. L. Benbow
	72	1975	1887	F. J. Hanbury
	83	1969	1851	J. T. I. Boswell-Syme
	88	1970	1851	J. T. I. Boswell-Syme
Jasione montana	3	1936	1875	T. R. Archer Briggs
	4	1947	1834	anon.
	5	1956	1907	E. S. Marshall
	7	1943	1915	W. C. Barton
	9	1931	1893	E. F. Linton
	17	1899	1809	N. J. Winch
	30	1946	1918	J. E. Little
	43	1953	1903	H. J. Riddelsdell
	45	1951	1882	H. N. Ridley
	47	1932	1836	W. A. Leighton

Species	V.C.	Was	New	Collector
	48	1950	1874	J. Backhouse
	58	1950	1892	J. A. Wheldon
	70	1925	1888	anon.
	73	1917	1852	J. T. I. Boswell-Syme
	75	1950	1845	J. T. I. Boswell-Syme
	98	1950	1837	anon.
	112	1953	1865	R. Tate
	H2	1950	1889	T. J. Foggitt
	H3	1964	1957	A. W. Exell
	H7	1900	1882	J. W. Nicholson & J. Britten
	H16	1875	1831	Blake
	H20	1899	1882	J. W. Nicholson & J. Britten
	H27	1882	1831	anon.
Legousia hybrida	3	1851	1828	Kippist
	9	1932	1882	H. N. Ridley
	14	1956	1876	J. H. A. Jenner
	15	1900	1865	H. Trimen
	16	1945	1849	anon.
	20	1913	1839	J. Brown
	22	1951	1853	J. T. I. Boswell-Syme
	24	1950	1910	E. Foord-Kelcey
	26	1955	1853	S. Grubb
	27	1955	1885	J. E. Cooper
	30	1948	1891	D. M. Higgins
	34	1950	1882	J. Britten
	55	1933	1903	Vice
	56	1962	1906	A. B. Jackson
	62	1860	1844	H. Ibbotson
	82	1959	1847	J. Mitchell
Legousia speculum-veneris	17	1960	1858	J. Linnell
Lobelia dortmanna	48	1872	1820	J. Banks
	69	1837	1781	T. J. Woodward
	101	1899	1897	C. E. Salmon
	104	1856	1834	R. K. Greville
	105	1948	1935	A. J. Wilmott
	108	1856	1833	anon.
	H2	1899	1858	C. C. Babington
	H3	1900	1853	J. Carroll
	H16	1856	1831	R. J. Shuttleworth
Lobelia erinus	14	1993	1924	H. S. Redgrove

Species	V.C.	Was	New	Collector
Lobelia urens	3	1836	1821	W. J. Borrer
Phyteuma orbiculare	13	1887	1849	J. T.
	17	1835	1809	N. J. Winch
Phyteuma spicatum	89	1872	1871	H. M. Drummond-Hay
Wahlenbergia hederacea	3	1941	1848	I. W. N. Keys
	4	1873	1871	W. T. Thiselton-Dyer
	5	1955	1883	S. W. Carruthers
	6	1890	1856	R. E. G. Cole
	11	1927	1890	H. Goss
	16	1860	1843	anon.
	35	1924	1839	C. Conway
	41	1959	1872	E. Wheeler
	42	1925	1881	A. Ley
	43	1956	1845	J. Wood
	46	1935	1923	W. C. Barton
	47	1952	1839	J. G. Gowan
	48	1927	1848	F. J. A. Hort
	49	1880	1863	J. E. Whalley