James Robertson and the botany of Bute, 1768

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ABSTRACT

In 1768, during a visit of 18 days to the Isle of Bute, James Robertson recorded 445 plant species, comprising 357 angiosperms, one gymnosperm, 22 pteridophytes, 26 bryophytes, 16 lichens, 22 algae and one fungus. This long list demonstrates the high standard of botanical recording in mid-18th century Scotland. Excluding about 12 species that were certainly or probably misidentified, 35 species of vascular plant have no present records for the island. These include several geographical and/or ecologically noteworthy plants such as Anacamptis pyramidalis, Apera spica-venti, Calamagrostis canescens, Coeloglossum viride, Cuscuta europaea, Deschampsia setacea, Polygonum viviparum and Vaccinium vitis-idaea. In the manuscript, "[Valeriana] peregrina" may be a transcriber's error for Veronica peregrina.

INTRODUCTION

Employed at first as a gardener at the Royal Botanic Garden, Edinburgh, James Robertson became a highly assiduous, field-working associate of John Hope, Professor of Botany in the University of Edinburgh and King's Botanist (Fletcher & Brown 1970). According to Horn (1966) Robertson made the first recorded ascents of many Highland peaks. He was a skilled botanical artist (Lightfoot 1777, plate 28; Robertson 1768). After his Scottish journeys, in the 1770s he botanized in St Helena, Cape Province, India and China. Though Robertson has never been entirely forgotten (Fletcher 1959; Duncan 1980; Mackechnie 1958; Slack 1958; Slack & Dickson 1959), little has been written about him and he has sometimes been ignored or unmentioned by historians of botany.

Lodged in the library of the Marquess of Bute at Mount Stuart, Isle of Bute, are documents which reveal the efficiency and skilfulness of botanical recording in mid-18th century Scotland. They were written in 1768, four years before the visit by Lightfoot who published the first Flora of Scotland (1778 but dated 1777). There is a two-page letter, with the date 12th August 1768, which introduces a list of plants headed *Plantae in Insula Bute nascentes* (Plate 1). On eight pages of double columns and one page with a single column are 436 binomials mostly of vascular plants but also of bryophytes, lichens and algae. In addition there is a six-page document headed *Remarks made by James Robertson on the Island of Bute 1768*. These documents had been sent by John Hope to the third Earl of Bute, politician and devoted botanist. According to Hope's letter to Lord Bute, Robertson prepared a *Catalogue of Exotic Trees* and a *List of the four first classes of Animals* but these appear to have been lost.

The early history of botanical exploration in Scotland has been summarized by Fletcher (1959) and Balfour (1979) and is mentioned by Fletcher & Brown (1970); in none of these works is there any reference to the island of Bute. Botanical observations for Scottish islands prior to the mid-18th century are not unknown but are mostly insubstantial: Perring (1953) wrote concerning Martin Martin in the Hebrides, Sibbald (1710) concerning islands in the Firth of Forth and Raven (1950) concerning Ray on the Bass Rock. Wallace's list for Orkney (1700), however, includes over 250 names of vascular plants. The long list for Bute may well be the earliest extant compilation for a Scottish island made by professional Linnaean botanists. It appears to be the earliest thorough listing for any part of the west of Scotland.

Robertson travelled very widely in Scotland (Hope 1769; Robertson 1768). He botanized in the Highlands at least as early as 1766, and from 1767 to 1771 made very extensive tours each spring to

autumn in the service of the Commissioners on the Forfeited Estates (Smith 1982). He kept journals of his tours (Anonymous 1966; Mitchell 1897). In 1768 he was instructed to examine "marine plants" (Foulis 1788) and was "... employed ... in search of native plants on the sea coast and western isles of Scotland", according to an editorial note in Robertson (1768). Leaving Edinburgh on 10th May, apart from Bute, he visited Lanarkshire, Ayrshire, Wigtownshire, Arran, Mull and Skye. From the *Remarks* we know that Robertson sailed on 17th June 1768 to Kilchattan, Isle of Bute, from Brodick, Isle of Arran, where two years earlier he had been awaited as an adviser in "... Farming Including planting and wood Nursery" (Anonymous 1982). On 4th July, Robertson left Bute from the north end, crossed to Colintraive and made for Inverary (Foulis 1788). In September 1768 Robertson collected *Eriocaulon* on Skye (Hope 1769), where he stayed until 8th October.

Though Hope's British herbarium is lost, there is a notebook, kept in the Royal Botanic Garden (Anonymous 1907; Balfour 1900, 1901), which lists the specimens under the heading *A Catalogue of British Plants in Dr. Hope's Hortus Siccus*, 1768. Despite the heading, the *Catalogue* gives dates as late as the 1780s. The *Catalogue* mentions Bute 45 times, including nine references to vascular plants not in the list sent to Lord Bute. There is nothing to indicate that these additional records were made by anyone other than Robertson or at any time other than 1768. Therefore the 1768 recording of the Bute flora totals 445 species of all classes.

48 species not now known from Bute are in the list. About 12 are erroneous, several must be treated with caution, while others, for the most part distinctive species, are phytogeographically notable for the Clyde area or west of Scotland in general.

The nomenclature and taxonomic arrangement of the list is that of Hudson (1762) who adopted the Linnaean system. A copy of Hudson's book with Hope's book-plate and a few annotations is kept in the library of the Botany Department of the University of Glasgow, where there is also a second copy of *Hudson* signed by Hope on the title page. These may very well be the books used by Robertson and Hope in drawing up the list.

Diagonal crosses are placed before 31 names in the list (Plate 1). These indicate that the plants were not known to Hope as growing in the vicinity of Edinburgh. Six names in the list are followed by interrogation marks. Very brief comments follow four names. A pointing hand indicates "Sisymbrium moniense". These are all the annotations that Hope made to the list. Only two names of vascular plants in the list are puzzling.

It is clear from the *Catalogue* that Hope's herbarium included specimens collected by Robertson from Bute. In the absence of the specimens there can be no modern revision of the records.

Though many of the place names mentioned in the *Remarks* derive from the southern half of the island (Fig. 1), Robertson travelled widely on the island and may have visited Inchmarnock, the small island off the western coast. He saw and commented on the varied geology of the island which is bisected by the Highland boundary Fault and includes base-rich rocks (Hill 1979). He visited the southernmost parts of the island but it is not explicitly stated that he climbed the highest ground, Windy Hill, in the north, reaching 280 m. It would seem likely that such a thorough and energetic worker did so. However, he did not record the extensive stands of *Cladium mariscus* (L.) Pohl, a rarity in the Clyde area (Ballantyne 1897), from Bull Loch in the north.

The annotations to the list, the puzzling names, the erroneous and doubtful records, as well as the phytogeographically and ecologically notable species, are discussed below. The binomials are reproduced as written in the list except that the ligatures of a and e are separated and the long s as used in the 18th century is shortened (Tables 1 & 2). Modern synonyms of the Linnaean and Hudsonian binomials (Dandy in Stearn 1973) are given in brackets and follow Clapham, Tutin & Warburg (1981).

Though there have been several publications on the botany of Bute in recent years (Dickson 1981, 1983; Dickson & Boyd 1982; Kerr 1980; Mackechnie 1971; Marshall 1980), they are all short contributions. However, some 535 species of vascular plants have been recorded for the island since the last published listing by Ballantyne (1911). In making comparisons between the list and the modern flora I have used data compiled by the Biological Records Centre (1981), and recording from my field work in 1981 to 1985. Botanically minded members of the Buteshire Natural History Society have been helpful.

Those marked with X do not grow in the neighbourhood of Edinburg Planta in Insula Bute nascentes Calletruche verna Veronica officin canona Itolonifera . serfyllfolia Becabunga Palustris tira carulea chamedrys Aira cristala arvensis Aira flexuosa . hederaceus Setacea Punquicula oulgaris Poa trivialis * Lycopus Europaus annua Circa a Luteliana laliacca Anthoxanthum oderat Julua Doura Daleriana officin . decumberu · Locusta gluilans peregrena ? Bromus secalinus fris posculacorus avena elation Arondophragmiles X Schoenus nigricar X. Lalamagrostis Scirpus cespitofus arenaria --- Palustris Eryophorum fielys Solium perenne ternulenturn l'aginal. Nardis stryclus Treticum repond Cynofunus cristatus Phileurn praterife Alopecurus genicui . . Montia fontana Gadylis Glomeral . Scabiosa fuscifa

PLATE 1. Facsimile of page 1 of the list sent to Lord Bute. The last five pages of the list were written by Hope but the first four are in an unknown hand. It is perhaps significant that the only two puzzling names are on page 1. See discussions of *Veronica hederaceus* and *Valeriana pyrenaica*. Perhaps these names are the misunderstandings or carelessness of a transcriber and they remained uncorrected by Hope. See also the discussion of *Deschampsia setacea*.



FIGURE 1. Map of the Isle of Bute. Place names underlined are those as written in the *Remarks*. Where different, modern spellings are shown in brackets. Freshwater lochs are shown in black.

 TABLE 1. SPECIES NOW ABSENT FROM BUTE

 Manuscript binomials are followed by their modern equivalents in brackets. A: No records since Robertson; B:

 No records since Ballantyne (1911); C: No records since Lee (1933); some of Lee's records may refer to the
19th century.

1. Weeds and garden escapes.	•
Agrostema githago (A. cytupium L.) Fool's Paisley	A
Agrostis spicaventi (Anera spicaventi (L) Reguy) Silky Apera	C A
Anthemis nobilis (Chamaemelum nobile (L.) All.) Chamomile	A
Brassica campestris (B rana I, ssp. sylvestris (I) Janchen) Wild Turnin	A B
Bromus secalinus (B. secalinus L.) Rye Brome	Б А
Cheiranthus cheiri (C. cheiri L.) Wallflower	A A
xCuscuta Europaea (C. europaea L.) Large Dodder	A
xHelleborus viridis (H. viridis L.) Green Hellebore	A
[Lolium] temulentum (L. temulentum L.) Darnel	A
Scleranthus annuus (S. annuus L.) Knawel	A
[Trifolium] agrarium (*T. campestre Schreb.) Hop Trefoil	В
2. Plants of unimproved pasture, wetlands, heaths, rough ground and the coast.	
Aira setacea (Deschampsia setacea (Huds.) Hack.) Bog Hair-grass	Ά
x[Arundo] calamagrostis (Calamagrostis canescens (Weber) Roth) Purple Smallreed	Α
[Carex] inflata (†C. vesicaria L.) Bladder Sedge	Α
Carex pilulifera (C. pilulifera L.) Pill-headed Sedge	В
[Cerastium] Semidecandrum (C. semidecandrum L.) Little Mouse-ear Chickweed	Α
Filago germanica (F. vulgaris Lam.) Common Cudweed	A
Fumaria claviculata (Corydalis claviculata (L.) DC.) White Climbing Fumitory	В
[Lycopoaium] selago (Huperzia selago) Fir Clubmoss	В
XOphioglossum vilgai. (O. vilgaium L.) Adder's Tongue	A
Orchus Infrantiauits (Anacampiis pyramiaatis (L.) Rich.) Fyramidal Orchid	A
x Pog loligceg (Desmazerig maring (L.) Druce) Darnel Pog	A
xPolygonum vivingrum (P. vivingrum I.) Alnine Ristort	
x[Satyrium] albidum (Pseudorchis albida (L.) Á & O Löve) Small White Orchid	R
xSatvrium viride (Coeloglossum viride (L.) Hartman) Frog Orchid	D A
Saxifraga granulata (S. granulata L.) Meadow Saxifrage	A
xVaccinium vitis-idaea (V. vitis-idaea L.) Cowberry	A
[Vicia] lathyroides (V. lathyroides L.) Spring Vetch	Ă
[Vicia] sylvatica (V. sylvatica L.) Wood Vetch	Ā
3. Aquatic plants	
Myriophyllum spicat (M. spicatum L.) Spiked Water-milfoil	Α
[Potamogeton] lucens (P. lucens L.) Shining Pondweed	Α
Sparganium natans (S. minimum Walbr.) Small Bur-reed	A
Zostera marina (Z. marina L.) Eel-grass	В
4. Certainly or probably misidentified plants. (Not recorded since Robertson's visit).	
<i>XAcrosticnum livense</i> (<i>Wooasta alpina</i> (Bolton) S. F. Gray) Alpine Woodsia	
Bunium buidocasianum (B. buidocasianum L.) Great Pignut	
[Carex] divisa (C. divisa I.) Divided Sedae	
[Carex] arvau (C. arvau L.) Divided Scage [Fauisetum] fluviatile (*F. telmateia Ehrh.) Great Horsetail	
Inneus acutus (L. acutus I.) Sharp Rush	
[Potamogeton] compressum (P. compressus L.) Grass-wrack Pondweed	
xPotentilla argentea (P. argentea L.) Hoary Cinquefoil	
xSedum sexangulare (S. sexangulare L.) Insipid Stonecrop	
Sium latifolium (S. latifolium L.) Water Parsnip	
Thymus serpyllum (T. serpyllum L.) Thyme	
Ulmus campestris (U. procera Salisb.) English Elm	

^{*}See Dandy in Stearn (1973). †See Jermy et al. 1982.

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TABLE 2. ANNOTATIONS AND PUZZLING NAMES Manuscript binomials are followed by their modern equivalents in brackets.

Cardamine hirsuta? (*C. flexuosa With.) Wood Bitter-cress [Carex] vesicaria? (†C. rostrata Stokes) Beaked Sedge Draba verna? (Erophila verna (L.)) Spring Whitlow Grass Populus nigra is it indigenous (P. nigra L.) Black Poplar Prunus cerasus Huds. Geen=ang. (P. cerasus L.) Sour Cherry Sambucus nigra is it indigen: (S. nigra L.) Elder [Sisymbrium] moniense (Rhychosinapis monensis (L.) Dandy ex Clapham) Isle of Man Cabbage

x[Valeriana] peregrina? (Veronica peregrina?) American Speedwell? Veronica hederaceus (Veronica hederifolia?) Ivy-leaved Speedwell?

*See Dandy in Stearn (1973). †See Jermy et al. (1982).

SPECIES NOW ABSENT FROM BUTE

More than 320 of the vascular plants recorded by Robertson are widespread, mostly abundant species still growing on the island. The following are also still present on Bute but are more or less rare in west-central Scotland and on the Clyde isles: *Baldellia ranunculoides*, *Bidens tripartita*, *Chaerophyllum temulentum*, *Conium maculatum*, *Glaucium flavum*, *Mertensia maritima*, *Osmunda regalis*, *Parietaria judaica* and *Saxifraga aizoides*. However, most interest centres on the species which have disappeared from Bute since the 18th century.

Of the 47 species listed in Table 1 the great majority have not been recorded since Robertson's visit. Weeds of arable farming constitute an important group (category 1). Agrostemma is an outstanding example of a bad weed rendered all but extinct in Britain by improved agricultural techniques. According to Hennedy (1865: 23) it was "... plentiful on Bute ...". Lee's record (1933) may refer to the 19th century. The species of *Cuscuta* are all very rare in Scotland now and *C. europaea* is not considered native. The genus can hardly be in error but could the species have been *C. epilinum* Weihe? In the *Remarks* Robertson observed that the inhabitants "... sow oats, barley and some peas, a good deal of flax, and some hemp ..." (my italics). Robertson's discovery of *Apera*, the only one for the island, may well be the first Scotlish record.

The introduced and commonly ruderal *Chenopodium bonus-henricus*, recorded by Robertson and last seen in 1945, is another plant which has much declined, like the arable weeds. It may have escaped from cultivation, as probably had *Tanacetum*. Such as assessment applies with even greater force to *Helleborus*, *Chamaemelum* and *Cheiranthus*, all well-known garden plants and none native in Scotland. Robertson's specimen of *Cheiranthus* came from Rothesay where perhaps it grew on the walls of the ancient castle, but the species is not there now.

Category 2 (Table 1) covers a diversity of species including three plants often growing at altitudes far higher than those reached on Bute. However there need be no doubting Robertson's discoveries of Huperzia selago, Polygonum viviparum and Vaccinium vitis-idaea on grounds of his unfamiliarity with the species. In 1767 he had recorded *Polygonum viviparum* on hills in the Highlands and, for Ben Wyvis, he lists Vaccinium myrtillus, V. uliginosum and V. vitis-idaea. That Robertson knew his mountain plants is further made clear in a letter Hope wrote to Joseph Banks in February 1767. None of these three species is restricted to high altitudes. Huperzia was last reported for Bute by Ballantyne (1911). Still growing near sea-level in Kintyre (Cunningham & Kenneth 1979), it could well have inhabited moorland on Bute, especially in the north of the island where it may even linger. If it has disappeared, possibly grazing or fire was the cause (Page 1982). Polygonum viviparum has been recorded from the hills of northern Arran and also from three of the low hills of Knapdale (Cunningham & Kenneth 1979) which reach 550 m, 270 m higher than the Bute hills. However, the cliffy ground at the northern end of the island might harbour this species and also Vaccinium vitis-idaea which in Kintyre grows "on most hills from c. 500 ft. up" (Cunningham & Kenneth 1979). Fruitless hunts for these three species were made in 1982 and 1983 at the northern end of Bute, though some ground remains unsearched.

Not least because Robertson is known to have drawn four orchids, there are firm reasons for believing he had a good knowledge of these plants. His record of *Anacamptis* remains the only one

for the Clyde area, though there is a recent record for south-western Kintyre (Cunningham & Graham 1979). The scarcity of this calcicolous orchid in Scotland was already realized by Lightfoot (1777) who stated "In dry pastures, but very rare, as near Kiloran in the island of Colonsa". Disturbed by holidaymakers and grazing animals, the very small areas of shell sand which remain on the western side of Bute and on Inchmarnock were searched in 1984 with negative results. Similarly, neither *Coeloglossum* nor *Pseudorchis* has been refound but they could still be discovered, both being inconspicuous, especially *Coeloglossum*. Both *Deschampsia setacea* and *Calamagrostis* need comment. If correct, this is the earliest Scottish record of *D. setacea* which, though scattered over Britain, is absent from all of southern Scotland and there are no Clyde area records (Perring & Walters 1976). Unknown now on Bute, the genus *Calamagrostis* is virtually absent from the Clyde area; the most likely species is *C. epigejos*, known from Kintyre (Cunningham & Kenneth 1979).

If in small stands in tall growing vegetation, another readily overlooked species is *Ophioglossum* vulgatum. However, if it has disappeared from Bute, this may be part of a marked decline over the last 300 years (Page 1982). Similarly, *Corydalis claviculata* may linger; perhaps referring to a record made 30 years earlier, Lee (1933) gave the species as growing at Scalpsie. That plants known to Robertson, but with no published records since his visit, can still be refound is shown by the discoveries of *Carex pallescens* and *C. pulicaris* in 1982 (Dickson & Boyd 1982) and, more surprisingly, of *Populus tremula* in 1984. However, aspen has only been encountered in the southeast of Inchmarnock where there is a small stand of fairly well-grown trees. On the mainland of Bute aspen may linger vegetatively as a small shrub in rocky ground or on a cliff as it does on Ailsa Craig and elsewhere round the Scottish coasts.

If only because of the state of knowledge of both taxonomy and topographical botany in the mid-18th century, it is inevitable that doubts arise about some of the entries comprising the long list of 380 vascular plants. However there are at least twelve species which deserve detailed consideration or can be freely accepted as mistakenly identified (Category 4, Table 1). On chorological and ecological grounds *Woodsia alpina* is an impossible record. Young *Cystopteris fragilis*, a species absent from the list but occurring now on Bute, may have been the source of error (Jermy *et al.* 1978). Robertson also found *Conopodium majus* (Gouan) Loret and not *Bunium bulbocastanum*; the two are superficially similar (Tutin 1980). *Carex distans* may possibly still occur on Bute. However, the then undescribed *C. binervis* Sm. could have been confused with *C. distans*, as claimed by Smith (1800) with reference to Lightfoot. *C. binervis* is such an abundant plant of moorland on Bute that Robertson must have seen it. *Carex divisa* is unlikely to be correct; the only two modern records of *C. divisa* in Scotland are possibly introductions (Jermy *et al.* 1982). Confusion with another species is the probable explanation but which species is far from clear.

In all likelihood Robertson saw the common plant now called Equisetum fluviatile L. and not E. telmateia. E. fluviatile is readily found at Greenan Loch, where Robertson botanized, as it is at other lakes on the island. Robertson's Juncus acutus was certainly J. maritimus. The only 20th century Scottish records for Potamogeton compressus were made in Angus where the species is now extinct (Ingram & Noltie 1980). The record for Bute, likely to be an error, was perhaps based on P. obtusifolius Mert. & Koch, well-known on the island now. Potentilla argentea is not a plant of the Clyde area at present. It is absent from the western seaboard of Scotland except for Dumfriesshire. A misidentification seems unlikely. The Catalogue uses both the names Argentea and Argentina, the second followed by "ad vias passim" (Anonymous 1907: 169). This clearly refers to P. anserina L., as it does in Hudson (1762). Perhaps there was a slip of the pen, the common P. anserina being intended. However, that being the case the "X" is hard to explain. Hope must have known P. anserina near Edinburgh.

The occurrence of Sedum sexangulare is extremely unlikely. It resembles S. acre, which Robertson found. Possibly the source of confusion may have been the then undescribed Sedum anglicum which Robertson must also have seen. It was described for the first time by Hudson (1778). Sium latifolium is a very rare Scottish plant with only two localities, both on the eastern coast. Perhaps Robertson saw Berula erecta (Huds.) Colville, not now known on Bute, or more likely, Apium nodiflorum (L.) Lag., known now on the island. Robertson would have seen Thymus praecox subsp. arcticus (Durand) Jalas and not T. serpyllum, in Britain only found in the Breckland of East Anglia.

Ulmus procera occurs only as a planted tree in Scotland and, because there had already been extensive tree planting on Bute long before 1708, Robertson may have seen that species. More likely, however, he saw the common, native Ulmus glabra Huds. In his 1767 journal Robertson uses

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only the name U. procera; it is highly improbable that he did not see U. glabra during his extensive travels.

ANNOTATIONS AND PUZZLING NAMES

The few species listed with qualifications and the two puzzling names are given in Table 2. The interrogation marks placed against *Cardamine hirsuta* and *Draba verna* are difficult to explain unless Robertson found only poor specimens. Difficulty in separating *Carex rostrata* from *C. vesicaria* may have made Robertson cautious and hence the interrogation mark.

The questioning of *Populus nigra*, if that is what Robertson saw, was well justified. Lightfoot (1777) was also doubtful. No modern botanist has claimed that Black Poplar is indigenous in Scotland. Perhaps also Robertson saw *Sambucus* only in the vicinity of buildings. Otherwise it is difficult to see why the native status is questioned. That such a thought occurred to him gains credance from the entry in Hope's *Calendarium Florae* (Anonymous 1907; 127) which states "Aug. 3. Sambucus niger. On a rock in a den, north of Aughtermughty, therefore a native".

"Prunus cerasus Huds. Geen. = ang." is a doubly noteworthy entry. It is the only one with a vernacular name, apart from one alga, and the only one referring to Hudson by name. The latter part I take to mean that the name in English is Gean, a name normally applied to Prunus avium (L.) L., as is done in the Catalogue. Probably P. avium was the plant seen by Robertson. The garden cherries, now seldom if ever seen wild in western Scotland, could well have been grown at Mount Stuart and seen by Robertson there. However, the list avowedly consists of indigenous plants.

Robertson, who had already found *Rhynchosinapis monensis* on the Ayrshire coast in 1766, found this British endemic on Bute where it was also seen by Lightfoot (1777: 353) "... about a mile to the south of Mount Stewart ...". It is discussed by Ray (1724) and listed in both editions of Linnaeus (1754, 1759) but is omitted from Hudson (1762) as Hope's use of the hand symbol indicates.

The entry "X [Valeriana] peregrina?" is one of the most intriguing in the list. It is not a formal binomial used by any other author. Perhaps the interrogation mark implies that "peregrina" was being used informally, meaning literally foreign; the plant was unfamiliar and hence not considered indigenous. If so, this would be the only example of such a usage in the list. Moreover, elsewhere in the list the expression "is it indigenous" is written. What species of Valeriana could it have been? Valeriana peregrina purpurea albave of Bauhin, called Valeriana cornucopiae by Linnaeus, is the modern Fedia cornucopiae (L.) Gaertner. This is an annual, arable weed of the Mediterranean region. Not unlike a Valerianella but with conspicuous flowers, it has never been claimed as part of the British flora. If this is what was intended, why was the Linnaean binomial not used? Perhaps Valeriana pyrenaica should be given consideration. This robust species is locally well established in Scotland now and is known from Bute. Hope did not have a specimen but he knew the species (Anonymous 1907: 149). If the plant Robertson found was V. pyrenaica, why was the epithet peregrina used at all? Moreover why was the cross used? Could it be that Veronica peregrina was intended? The close proximity of Valeriana and Veronica in the list makes this a tempting conclusion (Plate 1). Veronica peregrina is very well established in the old walled garden at Kames (Dickson 1981). From the Remarks it seems likely that Robertson visited the castle there (Fig. 1), though the walled garden was not constructed until 1786 (Ross 1880). Veronica peregrina is not in the Catalogue. Therefore Hope and his associates may only have known it from the few lines in Species Plantarum and from the figure and description in Morison (1680) where it is called Veronica annua alba polygonifolio. That could account for both the cross and the interrogation mark. If "Valeriana peregrina" should be read as Veronica peregrina this was the first Scottish record and one of the first in the British Isles, long before those records made in Ireland (Bangerter 1964). Whatever the genus, the binomial is not in Hudson. Hope should have placed a pointing hand symbol against the entry, as was done in the list for Rhynchosinapis monensis and for 23 taxa in the Catalogue.

No 18th century author used the name Veronica hederaceus. Probably V. hederifolia L. was the species intended. That is the name used in the Catalogue (Anonymous 1907: 148). The species is now known to be markedly eastern in Scotland. It has not been recorded from Bute since Ballantyne (1911).

SPECIES MISSING FROM THE LIST

There are some noteworthy absentees from the list. By these are meant distinct species, recognized in the mid-18th century, which in all likelihood were just as common then as now. Allium ursinum L., Drosera rotundifolia L., Hydrocotyle vulgaris L., Hypochaeris radicata L. and Rumex obtusifolius L. are five which spring to mind. Though 30 taxa of grasses are listed, Robertson seemingly missed Brachypodium sylvaticum (Hudson) Beauv., Deschampsia cespitosa (L.) Beauv., Phalaris arundinacea L. and Poa trivialis L. All these species were in Hope's herbarium. However, Festuca rubra, though a Linnaean species and discussed by Hudson, is not in the Catalogue and so perhaps was not known to, or misunderstood by, Robertson and Hope and this omission can be explained. It is especially surprising that the common, conspicuous Deschampsia cespitosa is missing from the list. Could the rare Deschampsia setacea, discussed above, be a thoughtless transcriber's error for D. cespitosa, unchecked by Hope? See Plate 1. Another striking absentee is the sedge Carex nigra (L.) Reichard, which is conspicuous on Bute. Then known as Carex cespitosa L., this species can scarcely have escaped notice by Robertson who recorded no less than 17 sedges; the modern list totals only 23. However, none of the names used by Robertson can be applied to C. nigra. It is hard to account for some of these omissions except to say that nobody can find everything especially on a short visit or, perhaps, some species though recognized or even collected never found their way on to the list finally sent to Lord Bute.

CONCLUSION

In the letter, Hope praises the list as "numerous" considering the brevity of Robertson's visit. Even had Robertson stayed much longer on the island this is a claim with which one can readily agree. Robertson and Hope compiled a list of 380 species of vascular plants. It is clear that this represents a very substantial part of the flora that there was to find.

The disappearances of species recorded in 1768 and now extinct on Bute can for the most part be readily explained. The many changes in agricultural practices, such as the efficient cleaning of seeds, improvement in grassland management, drainage, fire and reclaiming of marginal land, may well have been the major agents. The misidentified species represent only a few percent of the total 380 vascular plants and are readily understandable with regard to the state of knowledge in the mid 18th century. The likely sources of these mistaken records are widespread species familiar in the west of Scotland.

The list in its length and detail and even in the annotations, sparse though they are, demonstrates the assiduousness, efficiency and perceptiveness of the partnership of Robertson and Hope. Like Hope, Robertson published very little and in consequence has suffered the undeserved fate of being little known to British field botanists.

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