

BRYOPHYTES, LICHENS AND SEaweEDS OF BUTE 1768

by J. H. Dickson

Botany Department, the University of Glasgow

The earliest botanical survey of Bute was carried out by James Robertson who visited the island for 18 days from mid June to early July, 1768 (Dickson 1985). He was a skilful field botanist and in the course of his short stay recorded no less than 380 vascular plants, 26 bryophytes (mosses and liverworts), 16 lichens, 22 algae (all but three being seaweeds) and one fungus (then thought to be an alga). Robertson's mentor, John Hope, Professor of Botany in the University of Edinburgh and King's Botanist, prepared a list of Robertson's discoveries and sent it to the third Earl of Bute, a keen botanist who had lived in England for more than twenty years. The list came back eventually to Bute and is kept in the Marquess of Bute's library at Mount Stuart.

Robertson's study of the flora of Bute concentrated on the flowering plants and pteridophytes (ferns and fern allies). He found juniper, the only native gymnosperm there was to find. By modern standards he listed only small proportions of the bryophytes, lichens and seaweeds that were present on the island, the geography and climate of which ensures a richness of these plants. However more than 200 years ago these plants were poorly understood and the literature for their identification was very limited. Robertson would have had knowledge of the works of Sibbald, Ray, Linnaeus, Hudson and Dillenius. Hudson's *Flora Anglica* (1762) was in all probability part of Robertson's field equipment; though containing very few data from Scotland, it was the most up-to-date account of the British flora and dealt with all the groups of plants discussed in this article.

Robertson's listing of the bryophytes and lichens may have been only part of his thoroughness but in studying the seaweeds he probably had economic importance in mind. The kelp industry had become very important in the western islands since 1750 (Gray 1951; Rymer 1974). During his visit, Robertson learned that the inhabitants were prohibited from burning seaweeds (Robertson 1768).

In the following table the plants Robertson listed are on the left as they were written except that the long s as used in the 18th century is shortened. On the right are the modern synonyms.

In the following table the plants Robertson listed are on the left as they were written except that the long s as used in the 18th century is shortened. On the right are the modern synonyms.

Bryophytes

<i>Sphagnum palustre</i>	<i>S. palustre</i> L.
<i>Fontinalis antipyretica</i>	<i>F. antipyretica</i> Hedw.
<i>Polytrichum commune</i>	<i>P. commune</i> Hedw.
---- <i>striatum</i>	<i>Ulotia crispa</i> (Hedw.) Brid.
<i>Bryum apocarpum</i>	<i>Schistidium apocarpum</i> (Hedw.) Br. Eur.
---- <i>pomiforme</i>	<i>Bartramia pomiformis</i> Hedw.
---- <i>subulatum</i>	<i>Tortula subulata</i> Hedw.
---- <i>murale</i>	<i>Tortula muralis</i> Hedw.
---- <i>argenteum</i>	<i>B. argenteum</i> Hedw.
---- <i>hygrometricum</i>	<i>Funaria hygrometrica</i> Hedw.
---- <i>serphyllifolium</i>	<i>Rhizomnium punctatum</i> (Hedw.) Kop.
---- <i>glaucum</i> ?	<i>Leucobryum glaucum</i> (Hedw.) Angstr.
<i>Hypnum bryoides</i>	<i>Fissidens bryoides</i> Hedw.
---- <i>complanatum</i>	<i>Neckera complanata</i> (Hedw.) Hüb.
---- <i>filicinum</i>	<i>Cratoneuron filicinum</i> (Hedw.) Spruce
---- <i>proliferum</i>	<i>Hylocomium splendens</i> (Hedw.) Br. Eur.
---- <i>cupressiforme</i>	<i>H. cupressiforme</i> Hedw.
---- <i>dendroides</i>	<i>Climacium dendroides</i> (Hedw.) Web. & Mohr
---- <i>sericeum</i>	<i>Homalothecium sericeum</i> (Hedw.) Br. Eur.
<i>Jungermannia bidentata</i>	<i>Lophocolea bidentata</i> (L.) Dum.
---- <i>resupinata</i> ?	<i>Scapania undulata</i> (L.) Dum.
---- <i>dilatata</i>	<i>Frullania dilatata</i> (L.) Dum.
---- <i>pinguis</i>	<i>Riccardia pinguis</i> (L.) Gray
---- <i>multifida</i>	<i>Riccardia multifida</i> (L.) Gray
<i>Marchantia polymorpha</i>	<i>M. polymorpha</i> L.
---- <i>cruciata</i>	<i>Lunularia cruciata</i> (L.) Dum.

Lichens

<i>Lichen scriptus</i>	<i>Graphis scripta</i> (L.) Ach.
<i>calcarius</i>	<i>Aspicilia calcarea</i> (L.) Mudd
<i>ericetorum</i>	<i>Icmadophila ericetorum</i> (L.) Zahlbr.
<i>pallidus</i>	<i>Ochrolechia pallidus</i> (L.) Massal.
<i>albescens</i>	<i>Pertusaria albescens</i> (Huds.) Choisy & Wern
<i>ater</i>	<i>Leconora atra</i> (Huds.) Ach.
<i>parietinus</i>	<i>Xanthoria parietina</i> (L.) Th. Fr.
<i>fraxineus</i>	<i>Ramalina fraxinea</i> (L.) Ach.
<i>horizontalis</i>	<i>Peltigera horizontalis</i> (Huds.) Baumg.
<i>caninus</i>	<i>Peltigera canina</i> (L.) Wild.
<i>cocciferus</i>	<i>Cladonia coccifera</i> (L.) Willd.
<i>pyxidatus</i>	<i>Cladonia pyxidata</i> (L.) Hoffm.
<i>rangiferinus</i>	<i>Cladonia rangiferina</i> (L.) Wigg.
<i>paschalis</i>	<i>Stereocaulon paschale</i> (L.) Hoffm.
<i>Lichen fragilis</i>	<i>Sphaerophorus fragilis</i> (L.) Pers.
<i>floridus</i>	<i>Usnea florida</i> (L.) Wigg.

Algae

<i>Tremella nostoc</i>	<i>Nostoc commune</i> Vauch. ex Born. & Flah.
<i>purpurea</i>	<i>Nectria cinnabarina</i> (Tode ex Fr.) Fr.
<i>hemisphaerica</i>	<i>Rivularia atra</i> Roth.
<i>Chara vulg.</i>	<i>C. vulgaris</i> L.
<i>Fucus serratus</i>	<i>F. serratus</i> L.
<i>vesiculosus</i>	<i>F. vesiculosus</i> L.
<i>ceranoides</i>	<i>F. ceranoides</i> L.
<i>linearis</i>	<i>Himanthalia elongata</i> (L.) S. F. Gray
<i>fastigiatus</i>	<i>Furcellaria lumbricalis</i> (Huds.) Lamour
<i>excissus</i>	<i>Pelvetia canaliculata</i> (L.) Dcne.
<i>nodosus</i>	<i>Ascophyllum nodosum</i> (L.) Le Jol.
<i>siliquosus</i>	<i>Halidrys siliquosa</i> (L.) Lyngb.
<i>aculeatus</i>	<i>Desmarestia aculeata</i> (L.) Lamour
<i>lumbricalis</i>	<i>Furcellaria lumbricalis</i> (Huds.) Lamour
<i>filicin</i>	<i>Halopteris filicina</i> (Grat.) Kutz.
<i>plumosus</i>	<i>Sphacelaria plumosa</i> Lyngb.
<i>sacharinus</i>	<i>Laminaria saccharina</i> (L.) Lamour
X <i>Baderlocks aberdonio</i>	<i>Alaria esculenta</i> (L.) Grev.
<i>digitatus</i>	<i>Laminaria digitata</i> (Huds.) Lamour
<i>rubens</i>	<i>Phycodrys rubens</i> (L.) Batt.
<i>sanguineus</i>	<i>Delesseria sanguinea</i> (Huds.) Lamour
<i>filum</i>	<i>Chorda filum</i> (L.) Stackh.
<i>Ulva intestinalis</i>	<i>Enteromorpha intestinalis</i> (L.) Grev.

Because of the great advances made in the taxonomy of cryptogams since the 18th century some doubt must be attached to the identifications made by Robertson. Two examples concern the lichens. Robertson may well have found *Cladonia impexa* Harm. rather than *C. rangiferina* (L.) Wigg. and *Usnea subfloridana* Stirt. rather than *U. florida* (L.) Web. The interrogation mark following *Leucobryum glaucum* is unexpected because this moss is one of the most distinctive in Britain.

Tremella purpurea, included in the **Cryptogamia Algae** by Linnaeus and Hudson, is now known to be the fungus *Nectria cinnabarina*. Two seaweeds given as distinct by Hudson, *Fucus fastigiatus* and *F. lumbricalis*, are now thought to be one species *F. lumbricalis* (Huds.) Lamour.

The entry "X [*Fucus*] *Baderlocks aberdonio*" is one of the most interesting in the entire list. The "X" means that Hope did not know that seaweed near Edinburgh. Now called *Alaria esculenta* (L.) Grev, it is not given specific rank in either Linnaeus' *Species Plantarum* or Hudson's *Flora Anglica*. Therefore, Robertson and Hope resorted to the Gaelic name "*Baderlocks*" (meaning tufted). The use of "*aberdonio*"

(meaning pertaining to Aberdeen) is explained by reference to Ray (1724) or Lightfoot (1777 p.938) who states, "It is to be found both on the eastern and western coasts of Scotland. It was observed about a century and a half ago by Mr Cargill, near Aberdeen..." This Mr Cargill was Dr. James Cargill (c. 1565 - 1616), a physician in Aberdeen (Braid 1954). Though he was the first Scottish botanist of note, he remains obscure if only because he left no publications. He sent plant specimens to Gaspard Bauhin, a distinguished botanist who lived in Switzerland.

Though the list of bryophytes, lichens and algae is short and consists for the most part of widespread plants still to be found on the Clyde Isles (vice-county 100) it is of interest for two reasons. Firstly, it is the earliest known of its kind for the west of Scotland and secondly, it demonstrates the assiduousness of James Robertson, an energetic pioneer of field botany in Scotland.

References

- | | |
|----------------------|---|
| BRAID, K. W. 1954 | Dr. James Cargill – an early Aberdeen Botanist. |
| DICKSON, J. H. 1985. | The Glasgow Naturalist 17, 127-128. |
| GRAY, M. 1951. | James Robertson and the Botany of Bute. Watsonia , in press. |
| HUDSON, G. 1762. | The Kelp industry in the Highlands and Islands. |
| LIGHTFOOT, J. 1777. | Economic History 4, 197-209. |
| LINNAEUS, C. 1762 | Flora Anglica . London. |
| RAY, J. 1724. | Fora Scotica . London |
| ROBERTSON, J. 1768. | Species Plantarum . 2nd ed. Stockholm. |
| | Synopsis Methodica Stirpium Britannicarum . 3rd ed. London |
| | Remarks made by James Robertson on the Island of Bute 1768. |
| | Manuscript in the library at Mount Stuart. |

Acknowledgements

I am grateful to my colleagues Professor A. D. Boney, Mr A. C. Crundwell and Dr. T. A. Norton for useful comments and to Lord Bute's librarians for their help and courtesy. Various members of the Buteshire Natural History Society were most helpful, especially Mrs A. Buchanan who first drew my attention to the list.

Legend for Figure 1

Fucus Baderlocks aberdonio (= **Fucus esculentus** = **Alaria esculenta**) as drawn by Robertson and published by Lightfoot. Common around the Scottish coasts, it is a large brown seaweed of the upper sublittoral zone especially on exposed coasts.

XXVIII.

