

NOTES ON THE FLORA AND VEGETATION OF FOULA, ZETLAND (V.C. 112)

D. L. HAWKSWORTH

School of Biology, University of Leicester

INTRODUCTION

The island of Foula (Fig. 1), lying 16 miles (26 km.) west of Walls, the nearest point on Shetland Mainland, and 46 miles (78 km.) north-west of Fair Isle, is the most westerly of the Shetland Islands and the most isolated inhabited island within the British Isles. Its isolation has been an important factor in the study of the island by botanists as the absence of any regular boat services makes short, inexpensive trips impossible. The island's rugged appearance with Old Red Sandstone cliffs rising to 1,220 ft. (366 m.) at The Kame and the abrupt peaks of The Sneug (1,373 ft. (412 m.)—the second highest hill in Shetland), Hamnafjeld (1,126 ft. (337 m.)) and The Noup (803 ft. (240 m.)) has lured only 18 botanists to this 11.85 square miles (3069 hect.) within the last 200 years.

The first botanist to visit Foula was the Rev. G. Low in 1774 (Low, 1879) but he recorded little apart from two species of lichens (Hawksworth, 1967a). The famous botanist W. H. Beeby did not neglect this island during his extensive studies of the Scottish flora, visiting it in 1887 (Beeby, 1888; and herbarium preserved at the South London Botanical Institute, SLBI) and his was the first significant contribution to our knowledge of the island's flora. Specimens of *Euphrasia* collected by Beeby are the holotype of *E. foulaensis* Wettst., (Wettstein, 1896, p. 140). Graves (1899) notes *Hymenophyllum wilsonii* Hook. on Foula. F. J. Lewis noted a number of interesting montane species in 1909 while engaged on studies of the peat deposits (Lewis, 1911) but specimens supporting his records have not been traced. Druce, in the *Flora Zetlandica* (Druce, 1922, 1925), includes only the records of Beeby. J. Gladstone, following up his important work on St. Kilda, visited Foula in 1928; his extensive collections and notes (preserved at the Royal Botanic Gardens, Kew, K) formed the basis of the paper by Turrill (1929) which lists 137 species of vascular plants.

A lull in botanical studies followed, interrupted only by the visit of Hampus Arnell (Uppsala, Sweden) in c. 1952 to collect bryophytes, until K. G. Messenger and J. G. Urquhart visited the island in 1956 and 1957 respectively (Messenger and Urquhart, 1959). Their collections (preserved in the herbaria of Uppingham School, Rutland, UPR, and the Royal Botanic Garden, Edinburgh, EDIN, respectively) added a further 55 species to the list. Professor Gunnar Degelius (Göteborg, Sweden) visited the island in 1958 to collect lichens. Mrs S. C. Gear (née Holbourn), who now lives on Foula, made collections in 1959 and 1960 (which are preserved in EDIN) which added another 30 to the number of published species from the island (Holbourn, 1961).

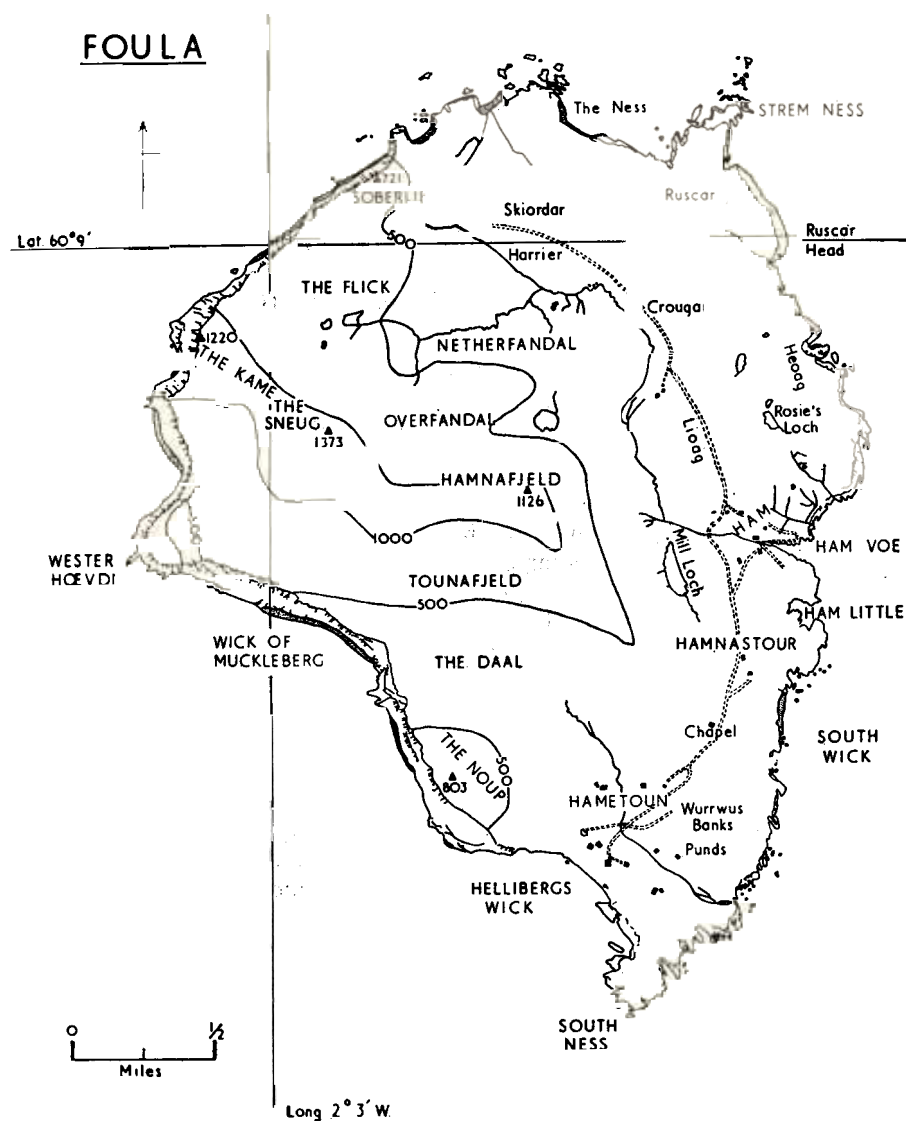


FIGURE 1. Foula. (Reprinted with the permission of the *Lichenologist*.)

In addition the island has been visited by a further eight collectors: W. Scott in 1959, 1962 and 1965; J. Ogden in 1961; R. Oxlade in 1958; T. Hooker in 1963; G. Wynne in 1964; the author in 1965 and 1966; and Miss C. Mills and Mrs S. Leitch in 1966.

It is the purpose of the present paper to summarise the additions and corrections to the vascular plant flora made necessary as a result of field work by these collectors.

ADDITIONS AND CORRECTIONS

This list is arranged according to Dandy (1958). The names of some species have been altered from those in Dandy in accordance with modern nomenclatural practice. The following abbreviations, in addition to those already defined above, have been used:—

* first record for the island.

† extinct.

? field record not supported by specimen and in need of confirmation.

c confirmation of a pre-1930 record.

BM herbarium of the British Museum (Natural History).

WS herbarium of Walter Scott (Scalloway, Shetland).

LTR herbarium of the Botanical Laboratories, School of Biology, University of Leicester.

* 1/1. *HUPERZIA SELAGO* (L.) Bernh. ex Schrank & Mart. (*Lycopodium selago* L.) The Sneug, BEEBY 1887 (*omissa* in Turrill, 1929) SLBI; The Kame, W. SCOTT 1965; above Harrier, MILLS & LEITCH 1966 LTR; subfossil spores in peat deposits, The Noup, HAWKSWORTH 1966.

*?1/5. *DIPHASIMUM ALPINUM* (L.) Rothm. (*Lycopodium alpinum* L.) R. OXLADE 1958; subfossil spores in peat deposits, The Noup, HAWKSWORTH 1966.

c 7/2. *HYMENOPHYLLUM WILSONII* Hook. This plant is common in the bases of *Luzula sylvatica* and *Juncus squarrosus* and on damp rocks on The Sneug—Hamnafjeld ridge. J. OGDEN 1961; HAWKSWORTH 1965, 1966 LTR; MILLS & LEITCH 1966. Although published by Graves (1899) this species is omitted by Turrill (1929) and Messenger and Urquhart (1959).

* 29/1. *OPHIOGLOSSUM AZORICUM* C. Presl. (*O. vulgatum* subsp. *ambiguum* (Coss. & Germ.) E. F. Warb.) A small patch at Bankwell, J. OGDEN 1961 WS; a single plant in grassland by Ham Burn below Leirabeck Croft, HAWKSWORTH 1965.

* 46/2. *RANUNCULUS REPENS* L. J. OGDEN 1961; locally common near Gravins, HAWKSWORTH 1965, 1966.

*?97/4. *CARDAMINE FLEXUOSA* With. J. OGDEN 1961.

* 123/13. *SILENE DIOICA* (L.) Clairv. subsp. *ZETLANDICA* (Compton) Tutin. This robust densely hairy taxon is the only form of this species on Foula. It is frequently grown in gardens and occurs around crofts but has not been seen in its natural habitat of sea cliffs (Scott, 1966) on Foula. HAWKSWORTH 1965 LTR.

?123/14. *SILENE ALBA* (Mill.) E. H. L. Krause. There is no real evidence for this species on Foula. All white flowered specimens of *Silene* sect. *Melandrifformes* Boiss. (including that of Gladstone in K) appear to be white-flowered forms of *S. dioica* subsp. *zetlandica*.

* 220/3. (10). *ALCHEMILLA GLABRA* Neygenf. Road in front of Post Office, J. OGDEN 1961.

* 225/p. *ROSA PALUSTRIS* Marsh. Introduced, W. SCOTT 1959 WS (Scott, 1960).

* 259/-. *MYRIOPHYLLUM* sp. A poor specimen indeterminable to the specific level, Mill Loch, MILLS & LEITCH 1966.

* 320/1(b). *POLYGONUM BOREALE* (Lange) Small. A weed of cultivation, W. SCOTT 1962. A common species of this habitat on Shetland Mainland (cf. Styles, 1962) and probably the species to which the *P. aviculare* recorded by Turrill (1929) should be referred.

*?320/8. *POLYGONUM AMPHIBIUM* L. J. OGDEN 1961.

may be *?E. SCOTTICA Wettst. but more material is needed to confirm this. All specimens of this genus collected by MILLS & LEITCH and the author are in LTR.

The species of *Euphrasia* on Foula are divided in respect to their ecological preferences. *E. cf. scottica* (to which Urquhart's specimen of '*E. frigida*' probably belongs) appears to be confined to the *Eriophorum* bog between The Flick and Blobbersburn. *E. micrantha*, *E. foulaensis* and *E. marshallii* are found in short turf on peat or mor in the lower parts of the island (below 450 ft. (137 m.)). *E. confusa* and *E. arctica* (*E. borealis* auct. mult.) occur in tall grassland in damp areas near Ham and Hametoun (*E. brevipila* of Urquhart is *E. arctica*). *E. nemorosa* is a frequent species of short turf on Shetland Mainland and should be searched for on Foula since it has not been re-collected since Messenger found it in 1956.

- * 400/9. MYOSOTIS DISCOLOR Pers. W. SCOTT 1959.
- * 445/3. MENTHA × GENTILIS L. Messenger's *M. spicata* and Urquhart's *M. × smithiana* both refer to this hybrid.
- * ?491/3. LONICERA PERICLYMENUM L. J. OGDEN 1961.
- * 544/2. CENTAUREA MONTANA L. Introduced, Ham Burn, W. SCOTT 1962 WS.
- * ?574/2. TRIGLOCHIN MARITIMA L. J. OGDEN 1961.
- * 577/1. POTAMOGETON NATANS L. Mill Loch, MILLS & LEITCH 1966 BM.
- * 577/6 × 9. POTAMOGETON × NITENS Weber. (*P. gramineus* × *perfoliatus*). Flick Lochs, MILLS & LEITCH 1966 BM.
- * 577/9. POTAMOGETON PERFOLIATUS L. Mill Loch, MILLS & LEITCH 1966 BM.
- * 593/2. LILIUM PYRENAICUM Gouan. Introduced, by Ham Burn, W. SCOTT 1962; introduced, Manse Garden, HAWKSWORTH 1966.
- * 605/18. JUNCUS ACUTIFLORUS Ehrh. ex Hoffm. J. OGDEN 1961; on an old pile of peats, Hamnastour, HAWKSWORTH 1966.
- * ?605/22. JUNCUS KOCHII F. W. Schultz. J. OGDEN 1961.
- * 606/1. LUZULA PILOSA (L.) Willd. The Sneug, BEEBY 1887 SLBI (*omissa* in Turrill, 1929); J. OGDEN 1961; MILLS & LEITCH 1966 LTR.
- * 636/1. GYMNADENIA CONOPSEA (L.) R. Br. On peat, near Crougar, HAWKSWORTH 1965 LTR (Hawksworth, 1967b); by Daal Burn Mill, Hametoun, HAWKSWORTH 1966. This plant is only known from five other localities in Shetland; three of these are in association with serpentine debris on Unst.
- * 663/26. CAREX PANICEA L. Ham, W. SCOTT 1959.
- * 671/2. LOLIUM MULTIFLORUM Lam. Introduced with corn, grassland, Ham, HAWKSWORTH 1965 LTR.
- * ?673/1. PUCCINELLIA MARITIMA (Huds.) Parl. J. OGDEN 1961.
- * 673/c. PUCCINELLIA CAPILLARIS (Liljeb.) Jensen, *Fl. Neerl.*, 1, 2 (1951) p. 69 *ad not.* (*Festuca capillaris* Liljeb., *Sv. Fl.*, ed. 2 (1798) p. 48; *P. retroflexa* auct. mult. non Curt.; for details of synonymy see Tzel, *Fl. Arct. URSS* 2 (1964) p. 201). Ham Voe, W. SCOTT 1962 WS; T. HOOKER 1963 K. This species is widespread in Shetland and Orkney where it probably replaces *P. distans* (Jacq.) Parl. It is distinguished from *P. distans* and *P. maritima* on the size of its lemmas and anthers and is common in northern and central Scandinavia.
- * ?676/4. POA ALPINA L. This record, made by Lewis in 1909 (Lewis, 1911, p. 805, as *Poa alpina* var. *vivipara*) is probably an error for *Festuca vivipara* but as Lewis mentions *F. ovina* var. *vivipara* on the following page (p. 806) in the absence of material the record should not be ignored. Lewis was an eminent botanist and a

few of his rarities from Foula have been re-discovered within the last decade (e.g. *Polygonum viviparum* L. by Holbourn, 1961).

- * 679/1. *CYNOSURUS CRISTATUS* L. Near Gravins, J. OGDEN 1961; frequent in grassland, Ham, HAWKSWORTH 1966. Probably introduced with corn.
- †692/3. *AVENA STRIGOSA* Schreb. Once cultivated on Foula, it has now died out in its locality at Harrier.

NOTES ON PARTICULAR SPECIES

- 8/1. *PTERIDUM AQUILINUM* (L.) Kuhn. Since Turrill (1929) reported 'Quite recently an exceptionally hard winter is said to have killed it off', this plant re-appeared at Quivrigill only to be killed off again in the severe winter of 1947 (Messenger & Urquhart, 1959). This plant is still extinct on Foula which must be at the climatic limit for this species. Remains of its rhizomes were noted by the author in the upper layers of the peat deposits at Quivrigill, but it never appears to have been an ecologically important plant on Foula as only occasional spores have been encountered in pollen analyses.
- 34/1(b). *JUNIPERUS COMMUNIS* L. subsp. *NANA* Syme. This species, which Lewis (1911) claimed he found as a distinct layer in all the peat profiles he examined, was noted by the author in peat at Flick Lochs and Hamnastour. No pollen was found in association with the macroscopic remains so the extinct Foula population is tentatively referred to this subspecies. Specimens of this taxon from Collafirth Hill, North Mainland, HAWKSWORTH 1966 LTR, are sterile and dwarf, indicating that they too are approaching extinction. Grazing by sheep appears to be a major factor in the decline of this species in Shetland (Spence, 1960).
- 46/1. *RANUNCULUS ACRIS* L. The Foula material belongs to subsp. *acris* but some specimens from Foula cultivated at Leicester University had peculiarly long rootstocks, which were retained in cultivation, and approached the rhizomes of subsp. *friesianus* (Jordan) Rouy & Fouc. in this character (Coles, 1968). These long rootstocks were noted in the Shetland forms of this species by Drabble (1931) who named them *R. acer* var. *friesianus* f. *villosus* Drabble.
- 267/1. *CHAMAEPERICLYMENUM SUBCICUM* (L.) Aschers. & Graebn. This species was first reported from The Sneug by Beeby (1888) and Turrill (1929) and was also seen there by W. Scott in 1959 and 1965. Stunted plants are also locally abundant on the ridge between Soberlie Hill and The Kame, MILLS & LEITCH 1966 LTR (sterile).
- 356/1. *CALLUNA VULGARIS* (L.) Hull. Is abundant on the lower parts of the island. All plants are the glaucous and slightly hairy var. *hirsuta* S. F. Gray which Gimingham (1960) states is the more frequent form of the species in maritime situations. This species now flowers and sets seed abundantly although Turrill (1929) remarked that it '... is said to have decreased and to flower less than formerly.'
- 364/1. *EMPETRUM NIGRUM* L. Turrill (1929) noted that 'The islanders say that it has descended to the low ground and that it has more berries than it used to have.' On the low ground today it is phytosociologically a very important plant in areas cleared of peat by cutting, or where drainage has been increased as a result of other anthropogenic activities. The undisturbed habitat of this species on the summits of Ronas Hill and Collafirth Hill, North Mainland, is open, well-drained soils resembling those revealed after the removal of peat by man, at lower altitudes, on Foula. Throughout Shetland *Empetrum nigrum* occurs in damp heaths (mainly '*Calluna-Erica tetralix* heaths rich in *Empetrum nigrum*' (Gimingham, *op. cit.*)) but only becomes dominant in open well-drained habitats.

?†364/2. *EMPETRUM HERMAPHRODITUM* Hagerup. Two pollen grains of this species were found in silt below the peat deposits at Lioag and one was found in peat at The Noup, but these may be contaminants from Shetland Mainland, and cannot be taken as definite evidence of the former presence of this species on Foula. Extensive searches for *E. hermaphroditum* on Foula in 1965 and 1966 failed to discover it. Its apparent absence is especially interesting in view of the heaths which this species dominates locally on Shetland Mainland (Spence, 1960).

LIFE FORM ANALYSIS

Turrill (1929) published a life-form analysis of the island's flora, and in view of the 102 species added to the list since 1928, it was thought desirable to see how these additions affect the percentages of the different life-forms present. The results of this analysis are given in Table 2. From this table, which excludes

TABLE 2. LIFE FORM ANALYSIS (see text for explanation; figures in brackets are post- 1928 introductions).

| Year | Phan- erophytes | Chamaephytes | Hemi- cryptophytes | Geophytes | Therophytes | Total number of species |
|------|--------------------|--------------|-----------------------|-----------|-------------|----------------------------|
| 1928 | 2 | 13 | 86 | 10 | 26 | 137 |
| | %1.4 | 9.5 | 63.8 | 7.3 | 19.0 | |
| 1966 | 2(+8) | 22(+2) | 136(+10) | 13 | 22(+23) | 239 |
| | %4.2 | 10.2 | 61.0 | 5.4 | 19.2 | |

extinct species and the 'microspecies' of *Euphrasia officinalis* L. *s.l.*, it is seen that the only marked percentage change is in the number of phanerophytes and that this is due almost entirely to introductions by man. Hydrophytes are included with the hemi-cryptophytes in both cases.

The hemicryptophytes are the most numerous group, as is to be expected in any British flora, but the high frequency of chamaephytes is interesting. Turrill explained the frequency of chamaephytes as to be expected considering the latitude of Foula (Lat. 60° 06'–09' N) and regarded most of the therophytes as introduced.

THE MAIN PLANT ASSOCIATIONS

As a result of the tables and descriptions given in the monographs of McVean & Ratcliffe (1962) and Burnett (1964) it has been possible to recognise a number of distinct plant communities on Foula:—

1. *PLANTAGO* SWARDS (Gimingham, in Burnett, 1964). These predominate on cliff tops all round the island. *Campylopus atrovirens* De Not. and *Parmelia omphalodes* (L.) Ach. are often abundant between the plants of *Plantago coronopus*, *P. maritima* and *Armeria maritima*.

2. *ATRIplex GLABRIUSCULA-SILENE MARTIMA-TRIPLEUROSpermum MARITIMUM* STANDS ON PEBBLE BEACHES WITH A MATRIX OF 'WRACK' AND SAND (Gimingham, *op. cit.*). A rare community on Foula but occurring where habitats are suitable as at Boulder Beach, near The Ness.
3. *CALLUNA-ERICA TETRALIX* HEATHS RICH IN *EMPETRUM NIGRUM* (Gimingham, *op. cit.*). A common community on low lying areas which have been cleared of peat. On Foula it has relatively small amounts of *Sphagnum* (the most important species of which are *S. plumulosum* Röhl. and *S. cuspidatum* Ehrh. ex Hoffm. emend.). Within it a complete spectrum from *Empetrum nigrum* dominance to *Calluna vulgaris-Erica tetralix* co-dominance is seen. Gimingham states that the cycle from the co-dominant vegetation and back to it via an *Empetrum* peak, takes 3 to 5 years.
4. *CALLUNA-TRICHOPHORUM* BOG (Ratcliffe, in Burnett, 1964). This occurs locally, usually adjacent to 5 below, as on the summit of Skiordar.
5. *MOUNTAIN EMPETRUM-ERIOPHORUM* BOG (Ratcliffe, *op. cit.*) This occurs over much of the island below about 800 ft., on moderately well-drained slopes, intergrading with '*Calluna-Trichophorum* bog' in drier facies, and with *Sphagnum*-rich '*Calluna-Erica tetralix* heaths rich in *Empetrum nigrum*' in wetter facies. *Calluna* is characteristic of this community but is often less frequent than *Empetrum nigrum*. The abundance of *Vaccinium uliginosum*, *V. myrtillus*, *Carex bigelowii* and *Cladonia arbuscula* (Wallr.) Rabenh. show that the Foula community belongs to this nodum rather than to the 'Upland *Calluna-Eriophorum* bog' (Ratcliffe, *op. cit.*).
6. *FESTUCA-DESCHAMPSIA-(NARDUS) TYPE 3* (King & Nicholson, in Burnett, *op. cit.*). This occurs on well-drained slopes of the hills, as on the west side of The Kame, and locally forms an alternative community to the '*Mountain Empetrum-Eriophorum* bog'. It was also noted in association with peat cuttings on the southern slopes of Skiordar and Crougar.
7. *NARDETUM SUB-ALPINUM (SPECIES POOR)* (McVean & Ratcliffe, *op. cit.*) intergrades with 6 and 8. It ascends almost to the summit of The Noup and The Kame.
8. *JUNCETUM SQUARROSUM SUB-ALPINUM (SPECIES POOR)* (McVean & Ratcliffe, *op. cit.*) is characteristic of the steep eastern slope of Hamnafjeld where it forms an altitudinal zone between the '*Festuca-Deschampsia-(Nardus)* type 3' grassland nodum and the '*Luzula sylvatica* grassland nodum'.
9. *LUZULA SYLVATICA* GRASSLAND NODUM (McVean & Ratcliffe, *op. cit.*) forms the summit vegetation of The Sneug and Hamnafjeld and its presence on Foula agrees with King & Nicholson (in Burnett, *op. cit.*) who state that it occurs "... on hill tops at about 457 m. (1500 ft.) elevation along the Atlantic seaboard.' The slightly lower altitude (950-1,373 ft. (285-412 m.)) of this community on Foula is probably due to the cooler climate of Shetland. Spence (1960) notes the occurrence of similar communities on Hermaness and Sandness Hill, Shetland Mainland, where *Vaccinium uliginosum* appears to be a more important constituent of this community than it is on Foula.
10. *CALLUNA-ERIOPHORUM VAGINATUM* WET HEATH (Gimingham, *op. cit.*) occurs locally in the marshy area in the bottom of The Daal valley.
11. *ELEOCHARIS PALUSTRIS-LITTORELLA* (Spence, in Burnett, *op. cit.*). Although aquatic communities are poorly developed in the Foula lochs, probably due to the frequency of waves, this community is present in the south-west corner of Mill Loch where it is relatively sheltered.

12. POTAMOGETON NATANS-JUNCUS FLUITANS SOCIATION (Spence, *op. cit.*) occurs in two sheltered localities: on the north-east and south-east corners of Mill Loch. *P. polygonifolius* replaces *P. natans* in a similar association in the more oligotrophic water of Overfandal Loch.

CHANGES IN THE FLORA AND VEGETATION, 1909-1966

The flora as a whole has not changed drastically during the period in which it has received most study, between 1909 and 1966. The extinction of the arctic-alpine species recorded by Lewis (1911) may be attributable in part to the disappearance of suitable habitats. *Loiseleuria procumbens*, *Arctous alpinus*, *Polygonum viviparum* and *Salix herbacea* are all plants of well drained open habitats and were noted by Lewis '... on the higher hills above 1,000 feet.' This part of the island, The Sneug-Hamnafield-Kame ridge, is now occupied by a '*Luzula sylvatica* grassland nodum' as described above, which is a closed, mor-producing community with poor drainage and little space between the tussocks of *Luzula* and *Juncus* available for colonisation by other species. If Lewis's records of *Loiseleuria* and *Arctous* are authentic, as the rediscovery of *Polygonum viviparum* '... on top of Sneug, and Hamnafield' (Holbourn, 1961) might suggest, their loss may be attributable to the maturation of the '*Luzula sylvatica* grassland nodum'. Lewis does not mention *L. sylvatica* in his discussion of the general vegetation of Foula which is surprising in view of the present frequency of this species on the island's summits. He also notes *Salix herbacea* as 'being plentiful' but this species is now largely restricted to rock crevices on The Sneug and Hamnafield suggesting that it has decreased in frequency since Lewis found it in 1909. The extinction of *Pteridium aquilinum* supports the view that phytosociological changes rather than climatic ameliorations may have governed the disappearance of *Loiseleuria procumbens* and *Arctous alpinus* from the island's flora.

The increased luxuriance of *Calluna vulgaris* and *Empetrum nigrum* since Gladstone visited the island in 1928 appears to be due to an extension of the heathland communities (the '*Calluna-Erica tetralix* heaths rich in *Empetrum nigrum*' and the '*Calluna-Trichophorum* bogs') into areas which have since been cleared of peat by man. The sandy podsolised stony soil which underlies the peat provides an ideal habitat for *Calluna* and *Empetrum* and so explains both the extension of these species and their increased luxuriance. Lewis stated that the vegetation of one area which had been cleared of peat 'more than 150 years ago' (i.e. prior to about 1759) consisted of '*Calluna vulgaris*, *Nardus stricta*, *Juncus squarrosus*, *Festuca ovina* var. *vivipara*, *Empetrum nigrum*, *Potentilla tormentilla*, with *Viola palustris*, *Hydrocotyle vulgaris* and a small quantity of *Sphagnum* in damper places.' This species list suggests the '*Calluna-Erica tetralix* heaths rich in *Empetrum nigrum*', which still occur in the area studied by Lewis at the eastern end of The Daal, indicating that once established this community is relatively stable in this type of habitat.

The only other notable change in the island's flora during this period has been the continued introduction of species by man, both accidentally and for cultivation, as in the cases of *Cynosurus cristatus* and *Lilium pyrenaicum* respectively. The addition to the flora of 102 species since 1928 includes 43 introductions (see Table 2) most of which were accidentally brought in with corn. As the purity of marketed grass seed increases the number of accidental intro-

ductions may therefore be expected to decrease. Turrill (1929) regarded 24 species as probable introductions so that, of the 239 species known to occur on the island in 1966, 67 (28%) are introduced.

The islanders now grow the hardy cultivated varieties of *Avena sativa* instead of *A. strigosa*, which was the main crop in the early decades of the present century, and this latter species has now become extinct due to this change in agricultural practice.

The flora of the island's lochs is still in need of further extensive investigation, as is indicated by the discovery of *Myriophyllum* sp., *Potamogeton natans*, *P. × nitens* and *P. perfoliatus*, before they can be considered at least as well known as the rest of the island's flora.

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