

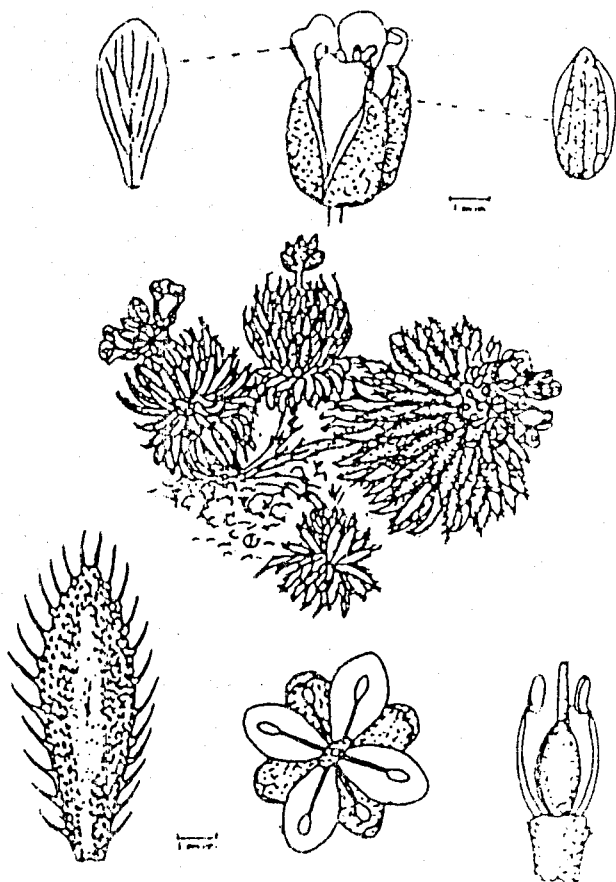
BOTANICAL SOCIETY OF THE BRITISH ISLES

# WELSH BULLETIN

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Yellow Whitlowgrass, *Draba auroides* deL. T.G. Evans 1984

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**Note from Hon. Secretary, Committee for Wales**

With this issue of the Welsh Bulletin we say good-bye to two editors who have served the Society well for many years. Mr S.G. Harrison, Keeper of Botany at the National Museum of Wales until his retirement in September 1984 was joint editor of the Bulletin from No 12, January 1970 to No 38, July 1983 while Mr R.H. Roberts was joint editor from No 28, January 1978 to No 39, February 1984. We thank them both for all their efforts on our behalf.

With the retirement of both joint editors the Committee for Wales decided to appoint just one editor to deal with both issues. Mr I.K. Morgan, 107 Denham Avenue, Llanelli, Dyfed SA15 4DD accepted the invitation and all contributions etc. for the Bulletin should now be addressed to him.

### Editorial

In conversation with many BSBI members who are either resident in, or regular visitors to Wales, one is often struck by their depth of knowledge on matters botanical.

This first issue of the BSBI Welsh Bulletin under my editorship contains an article by H.D. Pryce on the encouraging progress being made regarding the proposed 'Flora of Carmarthenshire' and there is a much more substantial contribution from the county recorder for Cardigan, A.O. Chater, on that pioneer of Welsh natural history, Edward Llwyd. Recalling past bulletins, the articles have included sites of botanical interest, groups of plants or more detailed notes on, for example, the ecology and distribution of single species.

What I would like to see is a vigorous continuation not only of the type of article outlined above, but of anything that will be of interest and a guide to BSBI members as well as making the Bulletin a valuable document for the future researcher into the Welsh Flora. County Recorders - and other members - could for example send reasonably regular reports on interesting or important botanical localities in their counties - making the Bulletin into a partial gazeteer of notable sites, but with always, of course, the conservation and protection of rarities kept in mind. Significant new finds with detailed notes and information on these discoveries would constitute a worthwhile contribution, as would notes aiding identification of difficult groups and material on botanists, past and present, who have worked on the Welsh Flora. What a shame it is, that we often know so little about some botanists who were active only a few generations ago - for example David Hamer who made many good discoveries in Carmarthenshire at the turn of the century springs to mind. There is always room for both articles of a detailed and erudite nature and those of more general appeal.

As already stated there is a veritable library of useful and very valuable information 'locked away' in the heads of many BSBI members, so let us use the Bulletin as a publication to be used for storage of such information for future use. Our knowledge of early Welsh botany would be a great deal poorer if botanists like Llwyd had not put pen to paper, the great pity is, as W.M. Condry states, that Llwyd was not 'spared a few more years' thereby giving us 'a very fine Natural History of Wales'.

I shall be approaching therefore, various members in due course to ask for articles, it will be appreciated of course, that the quality of future bulletins will greatly depend on the response received.

Draba aizoides (Yellow Whitlowgrass)

T.G. Evans

(See cover illustration)

The dwarf cushions of this yellow crucifer are found, in this country, only on the exposed cliffs, turf and walls on the southern coast of Gower, from Pennard to Worm's Head. In Central and Southern Europe it is found in the mountains from the Pyrenees to the Carpathians. Its Gower associates, flowering at the same time are Euphorbia portlandica, Cochlearia danica, Cerastium diffusum, C. semidecandrum, Erophila verna, Stellaria pallida, where sand blows on to the cliffs, Luzula campestris, Poa annua and several others, depending on the season. If one is limited in time, I recommend a search of Pennard Castle walls but is easy to find by scrambling just below the edge of the cliffs. It starts flowering in early March but is at its best in mid April. The early flowering helps conserve it to some extent, but it has retreated from some of its more accessible sites probably due to collection by gardeners or to the increasing trampling of visitors. Though its numbers have decreased there are still enough plants to ensure its survival, though I hope gardeners in particular, will purchase their plants from Alpine suppliers, who propagate their own stocks and do not replenish them from the wild. Its occurrence in the British Red Data Book is a necessary reminder of the need for vigilance.

An unpublished botanical notebook of Edward Llwyd  
A.O. Chater

Brynley F. Roberts, in his Edward Llwyd, the making of a Scientist, Cardiff, 1980, gives a very full account of what is known about Llwyd's early years and the scientific context of his life at Llanforda, Oswestry, the house of his father, Edward Lloyd. On p.16 he gives a tantalising summary of notes by Llwyd in a notebook which is in the British Library (BL Add. MS 15070). These notes record botanical excursions in North Wales in or around 1682, and are the earliest surviving documentary evidence of Llwyd's botanical activities. Parts of the information in them are repeated in a manuscript entitled Edd. Llwyd's Directions to David Lloyd on Travailing our Hills, in the National Library of Wales (Peniarth MS 427). This was printed in full in K.T. Gunther, Life and Letters of Edward Llwyd, Oxford, 1945, pp. 67-69 (Early Science in Oxford, Vol. 14), and is clearly derived from the notebook entries, being a fair copy, likewise in Llwyd's hand, of certain of the entries, designed to help David Lloyd in a collecting trip. The notebook entries, however, contain a great deal more information, especially about Llwyd's excursions to Aberdyfi, Tyno-hir, Pumlumon, Borth and Aberystwyth. It is impossible to tell whether the entries were written during the excursions or back home, but the internal evidence of some of the phrases (e.g. "August ye 24th. 1682. An exact account of what plants were then found on Snowdon-hills,") and the fact that some of the lists are arranged in taxonomic order, suggests that he may have written them up, at least in part, back at Llanforda. Whether he made any other notes in the field, or took specimens, we cannot tell. The entries in the notebook, however, are of sufficient interest in themselves, and contain sufficient unpublished material, to make them worth publishing here.

The notebook consists of nine leaves 20 x 14.5 cm, which have been bound up with two other notebooks. Preceding our nine leaves, which have been numbered 55-63 at some comparatively recent date, is a notebook in which Llwyd's father wrote accounts of scientific experiments, lists of garden plants and much else, on a much thicker paper. Following our nine leaves and numbered 64-69 is a notebook of the same thin paper but with a slightly larger page size, containing chiefly lists of garden plants and probably again in Llwyd's father's hand; the first page of this is dated 1680. The notebook of nine pages that we are concerned with here is mostly in Llwyd's hand, and was clearly bound up with the others at a later date. (I have omitted in this paper the entries on pp. 55-57 recto, as they are especially difficult to interpret and are apparently of lesser interest than the later pages; they contain lists

of seeds, garden plants and plants from sites near Llanforda, as well as an interesting but complicated list from the Breiddin, and are dated April and May.) Most of the nine pages are ruled across, and into several columns downwards, in pencil. The writing is in ink, and on some of the pages certain items have clearly been added at a later date by Llwyd in a different ink.

The plant names used by Llwyd are the so-called phrase-names which were current before Linnaeus introduced the now familiar binomial nomenclature in 1753. The names in the notebook are mostly equatable with modern binomial names by following them through the botanical literature. Llwyd, in 1682, appears to have identified his plants and taken the phrase-names chiefly from Parkinson's Theatrum Botanicum, Gerard's Herball revised by Johnson, and Kay's Catalogus Plantarum Angliae; names from works by the Bauhins, Clusius, Dodoens and Lobelius, which he often used, could have been got at second hand. A list of the abbreviations and references to other authors in the notebook follows:

<u>C.B.</u>	C. Bauhin, <u>Pinax Theatri botanici</u> . Basel. 1623.
<u>C.B. in prodr.</u>	C. Bauhin, <u>Prodromos Theatri botanici</u> . New ed. Basel. 1671.
<u>J.B.</u>	J. Bauhin, J.H. Cherler and D. Chambrey, <u>Historia Plantarum universalis</u> . 3 vols. Yverdun. 1650-51.
<u>Clus. or Clusii</u>	C. de l'Ecluse (Clusius), <u>Hariorum Plantarum Historia</u> . Antwerp. 1601.
<u>Dod.</u>	R. Dodoens, <u>Stirpium Historiae Pemptades sex</u> . Antwerp. 1583.
<u>G., Ger. or Gem.</u>	J. Gerard, <u>The Herball</u> . Ed.2, by T. Johnson. London. 1633.
<u>Lob.</u>	M. de l'Obel (Lobelius), <u>Stirpium Adversaria nova</u> . London. 1570. (Or other works.)
<u>Morris.</u>	R. Morison, <u>Plantarum Historiae universalis Oxoniensis Pars...</u> Oxford. 1680.
<u>P. or Park.</u>	J. Parkinson, <u>Theatrum Botanicum</u> . London. 1640.
<u>Kail</u>	J. Kay, <u>Catalogus Plantarum Angliae</u> . Ed. 2. London. 1677.

Numerous specimens collected by Llwyd survive, chiefly in the Sloane Herbarium in the British Museum (Natural History) and in the Fielding-Druce Herbarium, Oxford. They are mostly undated and unlocalised, but it seems likely from evidence in his letters and elsewhere that all, or most of them, were collected on much later excursions than those recorded in the notebook. In one or two cases, however, I have used Llwyd's annotations on later-collected specimens to clarify his use of a name in 1682.

Apart from the intrinsic interest of the plant records, many of which

must be the earliest from the localities involved, the entries are of interest for several other reasons. They show sometimes how Llwyd tried to work out the identity of a plant, worrying whether what he had found was the plant that Gerard or Parkinson knew by a particular name, and changing his mind as he realised more satisfactorily what it was. Oxyria digyna seems particularly to have puzzled him in this respect. The entries show how interested he was in the ecology of many species, and how particular he was in describing localities. They show what books he seemed to be learning his plants from. And they show how good he was at finding what, then as now, were often very rare plants. The impression is that he found the plants himself, rather than being shown them. In later years he revisited Snowdon, the Gluders, Cader Idris and Craig Breiddin and there is considerable documentation of what he then found. But there seems no evidence of further visits to Pumlumon, Tyno-hir, Aberystwyth, Aberdyfi, the Berwyn and possibly Aran Benllyn, and for these sites this notebook is unique. For a full interpretation of the significance of the entries, including those on the first pages of the notebook, we must await a thorough account of Llwyd's botanical activities throughout his life. Meanwhile, I hope that this presentation of his early notes will throw a little more light on the early career of this remarkable man. I am grateful to the Trustees of the British Library for permission to publish this transcript of the notebook, to Mrs. Judith Diment of the Department of Library Services, British Museum (Natural History) for help in various ways, to Professor Brynley F. Hoberts for his discovery of the manuscript, and to Dafydd Davies, Cymdeithas Edward Llwyd, for his encouragement and for permission to print this translation of a paper that first appeared in Naturiaethwr, Vol. 10, 2-13 (1983).

The text of the relevant pages is reproduced verbatim (expanding the conventional sign for a terminal m, as in Sedū to Sedum, wherever it occurs), and omitting only certain unlocalised lists as indicated. The modern names, using the nomenclature of K.G. Ellis, Flowering Plants of Wales, Cardiff, 1983, and H.A. Hyde & A.E. Wade, Welsh Ferns, ed. 6 by S.G. Harrison, Cardiff, 1978, of all the species listed are given after Llwyd's names, in parenthesis. Underlining indicates significant items that are not repeated in Peniarth MS 427, and which are therefore of particular interest. My own notes, in parenthesis after each separate locality, emphasise features of special interest and comment on some of the problems involved. Thus everything in parenthesis is mine and not Llwyd's.



## The notebook.

(p.57 verso)

June 3d plants found upon Snowdon hills in Caernarvan-shireRhodia radix (Rhodiola rosea).Cotiledon hirsuta (Saxifraga stellaris)Auricula muris pulchro flo. fol. tenuiss. (Minuartia verna)Sedum Alpinum trifido-folio. major (Saxifraga hypnoides) Also on Breiddin hil in Mountgomery shire. and all ye high hills in North Wales.X Caryoph. pumilio Alp. Clusii. Ger: emac. (Silene acaulis)X Caryophyllus &c. Huic affinis si non idm. Caryophyllus omnium minimus et humillimus Morriss. praeludiorum Bot. parae primam descriptus.Oxalis rotundifolia (Oxyria digyna). X. In drie water courses near Llanberrys.X This pl: seemed to me totally to differ from our French sorrel. ffor til I tasted ye leaf I took it to be Cochlearia J.B. Dod. The leaf being soround: so yt I think this must be ye Acetosa Cambro-Brittanica montana (Oxyria digyna) Mentiond by Mr Park.Muscus cupressiformis (Diphasiastrum alpinum). On ye high top of ye Gluder.Musc: erectus, abietiformis (Huperzia selago). On ye side of mount: frequently.Mus: polyspermos (Selaginella selaginoides). On ye Clifs of ye Mou: in wet placesMus: clavatus (Lycopodium clavatum). Common on most of ye mountains in N.W.M. terres: repens clavis singularibus erectis foliosis (Lycopodiella inundata). It creeps among ye grasse & is not unlike a Lycopodium.Cirsium Britan: repens Clusii. J.B. (Cirsium helenioides) as you ascend ye Gluder, in great abundance.

(p.58 recto)

+Argemone Cambrobrittanica lutea (Meconopsis cambrica) On ye wet places as you ascend ye mountain called y Gluder.An Hypericon nummulariae folio CBP. (Hypericum nummularium) about Top of Snowden.Lychnis marina Anglica (Silene vulgaris subsp. maritima). On ye Top of ye Gluder.Cochlearia marina (?Cochlearia danica). On ye Side of ye Cliffs, but not common.

Juniperus Alpina (Juniperus communis subsp. nana). On ye Top of Ye Gluder.

Salix humilis saxatilis (?Salix herbacea). On ye Side of ye Cliffs Common.

frutex alias Vacciniam rub: (Vaccinium vitis-idaea) putatus. As you ascend ye Gluder.

(Also a list of unlocalised plants, not Welsh mountain species, probably in another hand.)

(This entry probably refers to 1682, although it could be a year earlier. At all events, it is the earliest of Llwyd's visits to Snowdon that we have record of. The entries are arranged in columns, the names being in a different ink from the localities. As some of the locality information refers to North Wales in general, it is possible that it may have been added much later when Llwyd knew the area more fully. On this May visit to Snowdon, Llwyd records two plants, both problematical, that he did not find on his next recorded visit. Hypericum nummularium is not a British plant, and it is difficult to imagine what he mistook it for. Salix humilis saxatilis seems not to be a recognised phrase name, but it probably refers to Salix herbacea. Oxyria digyna clearly gave him a lot of trouble, and his comments on this (and on Silene acaulis) were added later in the margin. Cochlearia worried him too, just as it does us today, and he seems several times to have misidentified these plants; C. danica is most unlikely to have been found on Snowdon.)

(p.58 verso)

In ye ditches before you passe over Severn goeing to Breiddin hill.

Nummularia sive Centimorbia J.B. (Lysimachia nummularia)

Eruca aquat. Ger. emac. Park. (Morippa sylvestris)

Lysimachia galericulata Lob. (Scutellaria galericulata) s. Gratiola latifolia Ger. (Scutellaria minor)

Lysimachia purpurea spicata Ger. P. (Lythrum salicaria)

(These records must refer to the Shropshire side of the Severn at a crossing between Oswestry and the Breiddin. Llwyd seems uncertain which species of Scutellaria he had found.)

On Gwern Velk.

Chamaemelum vulgare P. (Matricaria recutita)

Pulegium regium Ger. s. latifol. C.B. (Mentha pulegium)

(I do not know where Gwern Velk is.)

(p.59 recto)

(A list of plants, with 'Briddin' written in the margin half way down, all probably in another hand.)

(p.60 recto)

Apr ye 17 82 Plants found at Aran Benllin about 5 miles distant from Bala in Merioniddshire.

1. Saniculae alpinæ aliquatenus affinis J.B. quæ A Sanicula mont: minor C.B. in prodr. Cotyledon hirsuta phyt. Br. Kail (Saxifraga stellaris)
2. Sedum alpinum laciniatis ajugæ fol. P. (Saxifraga hypnoides)  
(The above two species have written against them:) On ye moist places of the Rocks and by ye currents of water which descended from ye mountains, very common.
3. An Sedum minus a rupe Sti Vincentii (Sedum forsterianum) .
4. Muscus erectus abietiformis (Huperzia selago).
5. Vitis Idaea sempervirens fructo rubro J.B. (Vaccinium vitis-idaea)
6. Oxycoccus sive Vaccinia palustria ejusdm on ye boggie grounds about Llaniwllyn (Vaccinium oxycoccus)

(On the opposite page, p.59 verso, which is otherwise blank, is written, referring to this plant:) 6. They told me that they had of these berrys that were white as well as spotted and red.

7. Meu vulgare sive radix ursina ejusdem (Meum athamanticum). In a field close by Llaniwllin called Bryn y ffaenigl.
8. +Vitis Idea vulg. (Vaccinium vitis-idaea)

(Although the entry is clearly dated 17 April 1682, a letter from Llwyd to his collector David Lloyd, dated 21 August 1686 (Gunther, op. cit. p.82) implies that he was on Aran Benllin in April 1685. He seems unlikely to have gone there twice in April, and I cannot explain the contradiction. In the letter he says: "Aran Benllin I hear is too far from you, else I am sure you might finde there twice as many plants as on either of the forementioned hills [Cader Dhimael and Cader Ferwin]. Divers Gentlemen have gon from London, Oxford, and Cambridge to Snowdon, Cader Idris and Plinlimmon in search of Plants; but I finde there were never any at Aran Benllin: the reason I suppose may be, because it is not soe fameous for height as the forementioned hills, but to my knowledg it produces as many rarities as Cader Idris and more than Plinlimmon; although it was but a very untimely season that I was at it, being last April was twelvmth". The name "Vitis Idea vulg." replaces a deleted entry that read: "Salix pumila folio rotundo J.B. on ye sides of the mountains." This is Salix herbacea, judging by a specimen labelled with this phrase-name by Llwyd in Herb. Sloane 113: f.229, a plant easily

confused with Vaccinium vitis-idaea, which was not found on this massif until 1962, on Aran Fawddwy. Apart from this correction, all this list seems to be written in the same ink. Moel Ffenigl is the modern name of part of the north spur of Aran Benllyn; Meum still grows nearby (see W.M. Condry, The Snowdonia National Park, ed.2, London, 1967, p.190.)

(p.60 verso)

On a mountain called Cefn Lwyd the back side of Craig yr aderyn in Meirionith shire; + Pes cati (Antennaria dioica).  
on ye remaining part of ye walls of a ruind Castle called Castell Llanihangel distant about a mile from Craig yr aderyn Ceterach officinarum (Ceterach officinarum).

(Craig yr Aderyn is in the Dysynni valley, and "Castell Llanihangel" is Castell y Bere.)

On Craig Verwin, In Denbighshire.

+Chamaemorus Anglica (Kubus chamaemorus).  
 +Chamaeitatea foliis vitis Idaeae angulosae, capitulis per ramulos singulatim dispositis Cat. Angl. app. (? Salix repens) Ibidem etiam magnam copia proveniunt. Erica baccifera (Empetrum nigrum), Sedis affinis trisulca alpina J.B. (Saxifraga hypnoides)  
Vitis Idaea sempervirens fructu rubro ejusd. (Vaccinium vitis-idaea)  
Muscus abietiformis (Huperziz selago), et Cupressiformis (Diphasiastrum alpinum)

('Chamaeitatea' refers to the name used by Gerard and others for Salix repens, but whether Llwyd saw this species or meant some other plant I cannot tell; nor can I find the reference in Kay's Cat. Angl. The species listed are all still present on the Berwyn. The words 'In Denbighshire' and everything from 'Ibidem' to the end were added later in a different ink.)

(p.61 recto)

May ye 20th. Plants found at Cader Idris.

In ye Rocks about Llyn y Cau where they told me that not many years agoe, an Eagle did breed.

1. Saniculae alpinae aliquatenus affinis J.B. (Saxifraga stellaris) Pl.
2. Sedis affinis trisulca Alpina ejusdem (Saxifraga hypnoides).
3. Rhodia radix, nusquam non obviam (Rhodiola rosea).
4. +Thalictrum minus (Thalictrum minus) plentyfully.
5. +Acetosa montana Cambro-Britannica P. (Oxyria digyna)
6. Muscus abietiformis (Huperzia selago). Pl.

7. Muscus polyspermos (Selaginella selaginoides). Pl.

Towards ye top of ye hill

8. Muscus clavatus fol. cupressi C.B. (Diphasiastrum alpinum) Pl.  
 9. Vitis Idaea sempervirens fructu rubro J.B. (Vaccinium vitis-idaea) Pl.  
 10. Filix an saxatilis r IV. s. Alpina crispa C.B.? (Cystopteris fragilis)  
 11. Erica baccifera procumbens nigra ejusdem (Empetrum nigrum). Pl.

The plants which I found at Plinhimmon have this (Pl.) marke at them.

(The reference to eagles breeding at Llyn y Cau is extremely interesting; there are no certain records of eagles nesting in Wales and this seems as plausible a record as any. All the plants listed for Cader Idris are still known there. The six species listed for Pumlumon are of special interest as no record of Llwyd's finds on this mountain have been published before: Saxifraga stellaris is now plentiful around Llyn Llygad-Rheidol, down the Marchnant stream, and (recently found by W.M. Condry) at the source of the Wye; Huperzia selago, Diphasiastrum alpinum, Vaccinium vitis-idaea and Empetrum nigrum are all abundant in places on the mountain; Selaginella has never again been recorded from Pumlumon, but it is not impossible that Llwyd saw it as, though until recently Cader Idris was thought to be its southernmost site, in 1968 it was found near Llyn Brianne. The whole of this list is in one ink, although it looks as though the "Pl." annotations were put in after the rest was written.)

Plants found in the marshes below Tyno hîr.

1. Elaeagnus Cordi Lob. (Myrica gale)  
 2. Ros solis folio oblongo (Drosera intermedia).  
 3. Asphodelus Lancastriae (Narthecium ossifragum)  
 +Cochlearia Britannica Ger. (Cochlearia anglica)  
 +Gramen spicatum marinum (Triglochin maritima),  
Kosmarinus sylvestre florens (Andromeda polifolia).  
 +Anagallis aquat 3a Lob. (Samolus valerandi)  
Ranunculus Sardinus laevis (Ranunculus sceleratus).  
 +Glaux exigua maritima (Glaux maritima).

(Tyno-hîr, just east of Dovey Junction Station, below Machynlleth, was the home of Llwyd's uncle Walter Pryse, brother of his mother Bridget Pryse, both being members of the Gogerddan family. Llwyd doubtless visited his uncle when he went from Llanforda to visit his mother, who lived with her father Thomas Pryse at Glanfred, in the Leri valley below Tal-y-bont. The area of marsh listed by Llwyd, presumably on 20 or 21

May 1682, was probably the Trefaldwyn (Powys) part, in the angle of the Dyfi and Llyfnant; it is the nearest part of the marsh to Tyno-hir, and he is less likely to have crossed the Dyfi into the Meirionnydd part. Furthermore, all the species listed occur in the Powys part today, and in the Ceredigion part of the marsh several of the species, such as Andromeda and Drosera intermedia, do not occur until as far away as Ynys Edwin or beyond. For the coastal species at least, these records must be the earliest from V.C. 47. The Cochlearia was probably again misidentified, as C. anglica is not known from this site; Llwyd probably saw C. officinalis. This list is all in one ink.)

(p.61 verso is blank)

(p.62 recto)

May ye 21st.

Sea plants observed about Aber Dyfi in Merionethshire.

Eryngium marinum (Eryngium maritimum), Leucoium maritimum magnum latifolium J.B. (Matthiola sinuata) Papaver corniculatum luteum ejusdem (Glaucium flavum). +Anthyllis lentifolia peplios effigie maritima ejusd. (Honkenya peploides)

Soldanella vulgaris s. Volubilis marina P. (Calystegia soldanella) Caryophyllus, marinus minimus (Armeria maritima).

+Geranium pumilum supinum maritimum Betonicae folio Kaii (Erodium maritimum).

Geranium moschatum inodorum flore rubro et albo (Erodium cicutarium)

Eruca marina (Cakile maritima). Geranium haematoades (Geranium sanguineum).

Coronopus maritima (Plantago coronopus). Chamaefilix marina Anglica (Asplenium marinum). Anthyllis Leguminosa (Anthyllis vulneraria). Barbarea muralis (Arabis hirsuta). Glaux exigua maritima (Glaux maritima).

Rosa pimpinellae faciae (Rosa pimpinellifolia). Kali spinosum (Salsola kali).

Echium marinum (Mertensia maritima). Lychnis marina Anglica (Silene vulgaris subsp. maritima) at ye Borth and Aberystwith.

(This list is all in one ink, and although it is not possible to be absolutely certain which species Llwyd meant to say were at Borth and Aberystwyth, it does look on the manuscript as though it was just the Silene vulgaris subsp. maritima. Some of the records may well have been from Ynys-las, which until recently was easily reached from Aberdyfi by boat. Glaucium flavum and Asplenium marinum are now not known from near Aberdyfi, although both occur further south towards Aberystwyth. Matthiola and Mertensia are now extinct in mid-Wales. Arabis hirsuta,

being a plant of mountain rocks, is presumably an error of Llwyd's.)

(p.62 verso)

August ye 24th. 1682. An exact account of what plants were then found on Snowdon-hils.

1. Juniperus Alpina J.B. Park. (Juniperus communis subsp. nana)
2. Cotyledon hirsuta Pl. Br. an Saniculae Alpinae aliquatenus affinis J.B? Sanicula montana minor C.B? (Saxifraga stellaris)
3. Rhodia radix, J.B. C.B. G.P. (Rhodiola rosea)
4. Sedum Alpinum trifido folio C.B. Sedis affinis trisulca Alpina J.B. (Saxifraga hypnoides)
- † 5. Auricula muris pulchro flore fol tenuissimo J:B. (Minuartia verna) hujus florem nondum observavi; unde de illam tantum conjecturam feceram; ad quod autem plantarum genus reveram spectat, me penitus ignorasse fateor.
- † 6. Sedum Alpinum ericoides purpur. vel caerul. C.B. J.B. (Saxifraga oppositifolia)
7. Caryophyllus marinus minim. G. (Armeria maritima) fforte etiam major aliquot enim plantas reperi foliis quam alias longioribus praeditas; florem autem nondum conspexi(...)
- † 8. Caryophyllus pumilio Alpinus Clus. Ger. em. Ocymoides muscosus Alpinus Park. Lychnis Alpina pumila folio gramineo, sive muscus Alpinus Lychnidis flore C.B. Muscus Alpinus flore insigni dilute rubenti J.B. (Silene acaulis) Ad scaturigines aquarum in ascensu Montis copiosissime.
- † 9. Lychnis Alpina Caryophyllo holosteo aliquatenus affinis. Alsines myosotis facie Lychnis Alpina flore amplo niveo (Cerastium arcticum).

(p.63 recto)

10. Lychnis maritima repens C.B. marina repens alba Park. (Silene vulgaris subsp. maritima)
11. Cochlearia major rotundifol. sive Batavorum Park. (Cochlearia officinalis)
12. Cochlearia, an Danica minor erecta C.B? (Cochlearia danica)
13. Acetosa cochleariae fol. montana nostras. An Acetosa montana Cambro-Britannica P? (Oxyria digyna) Hanc saepius juxta rivulos aquarum ad latera montium Snowdon & Cader Idris observavi. Quamvis autem J.B. Acetosam Francam sive Romanam aliquoties foliis rotundioribus variare assevit, nullo modo tamen hanc nostratam eandem cum illam concesserim: hujus enim observavi mille fortasse plantas, neq'ox tot, una ullam cum acetosam Romanam conformitatem habituit, nisi sapore acido et habitu floris et seminis. Acetosa in extremitate foliorum deliquium patiens Morris.

14. Cirsium Britannicum Clusii repens J.B. (Cirsium helenioides)
15. Argemone Cambro-Britannica lutea P. radice perenni Kail (Meconopsis cambrica).
16. Muscus clavatus sive Lycopodium Ger. P. (Lycopodium clavatum)
17. Muscus clavatus fol. Cupressi C.B. G.em (Diphasiastrum alpinum)
18. Muscus erectus abietiformis (Huperzia selago).
19. Musc. polyspermos (Selaginella selaginoides).
20. Muscus terrestris repens clavis singularib. erect. foliosis Kail (Lycopodiella inundata)
21. Muscus denticulatus Ger. pulcher parvus repens J.B. (Selaginella helvetica)
22. Serratula J.B. (Serratula tinctoria)
23. Gramen Parnassi Lod. (Parnassia palustris) quibusd. hepaticus flos ejusd.
24. Thalictrum montanum perpusillum rarum (Thalictrum alpinum).
25. Thal. min. Ger. P. (Thalictrum minus)
26. ffilicula Alpina fol. crispido tenuissimo (Cryptogramma crispa)
27. Caryophyllata, an minima Alpina Ger.? (? Dryas octopetala)

(This list is almost the same as the one in Peniarth MS 427, Parnassia, Serratula and Dryas being the only extras here. Llywd found much more on this occasion than on his June 3 visit. The identity of his Minuartia verna is clear from a specimen of his in Herb. Sloane 113:f.227 labelled with the same phrase-name; Gunther (op. cit. p. 68) must be in error in considering this to be Cerastium arvense, an impossible species anyway for Snowdon (see below). Llywd on this occasion identified it when not in flower. Gunther also mistakenly identifies Llywd's Lycopodiella inundata here as Lycopodium annotinum; L. inundata is now known from only one site in Snowdonia, near Capel Curig. Llywd presumably again got Cochlearia danica wrong in this list. J. Bauhin's "Serratula" is Serratula tinctoria, but it is perhaps more likely that Llywd saw Saussurea alpina and got the wrong name for it. The identity of "Caryophyllata, an minima Alpina Ger." is uncertain; in Peniarth MS 427 this phrase-name is altered to that of Geum rivale, but our one could well refer to Dryas. Selaginella helvetica is not a British plant, and Llywd was doubtless misled by Gerard's illustration into thinking some other plant, perhaps a leafy liverwort, was this. The case of Cerastium arcticum is complicated and of considerable interest. In most cases where specimens labelled by Llywd exist, it is clear that his identifications were correct according to the taxonomic opinions of his day. A specimen in Herb. Sloane 113: f.224 collected by Llywd in "Cambria boreali" is labelled by him "Alsines myosotis facie Lychnis Alpina grandiflora synopsis. Method." is Cerastium arcticum, although his phrase-name is usually taken to mean C. alpinum (e.g. by J.E. Smith and by Gunther). In a letter he wrote from Oxford eight years later to John Hay, dated 25 November 1690, Llywd said of this plant "The Alsine myos. lan. Alpina grandiflora I do not question at present to be a distinct plant from the Aur. muris pulchro fl. albo, J.B. Cerastium arvense L.



which is very common in these parts, but nowhere in North Wales (supposing this no mistake) that ever I could find. The plant I mean I never saw but at the highest part of all Snowdon: it is very woolly, but more especially before it comes to flower, which is extraordinary membranaceous, or thin; the calyx very long, crooked, and transparent, and divided at the top with many notches; the whole plant every way bigger than the Auricula muris." (E. Lankester, The Correspondence of John Kay, London, 1848, p.228.) The second phrase-name for this plant in the notebook is written in a different ink and was clearly added later; but it must have been added before the Peniarth MS 427 was copied out, as this second one is the name that is used there.)

(p.63 verso)

Muscus terrestris repens clavis singularibus erectis fol. Cat. Ang.  
(Lycopodiella inundata) At a place calld Cerrig y rhwyd (...) abt  
a mile and a half from Pont Aberglaslyn.

(Cerrig-y-rhwydwr is 3 km south of Pont Aberglaslyn, on the west side of the Afon Glaslyn. For Lycopodiella inundata see note above.)

Carmarthenshire Flora Project: Progress in the 1983 Season  
K.D. Pryce

The prolonged, cool, wet spring suited the ferns and several new records were made by Mr I.K. Morgan. Following his rediscovery of Knight's 1907 record of Dryopteris aemula at Dolaucothi, in the autumn of 1982, he rediscovered Hymenophyllum wilsonii on Mynydd Myddfai, probably at the same locality as Knight's record, again of 1907. Asplenium trichomanes subsp. trichomanes was also found here by Mr Morgan. Several new records of the subspecies of Dryopteris affinis were made, including the only vice-county record to date of D. affinis subsp. stillupensis, from the same Mynydd Myddfai site. Other of his records include Dryopteris carthusiana from Llannon, D. x deweveri from Talley Lakes, Polystichum x bicknellii from Glyn Abbey and several new records of Phegopteris connectilis and Gymnocarpium dryopteris from the northeast of the county. The critical taxa have all been confirmed by either C.K. Fraser-Jenkins or P.M. Benoit.

Other spring discoveries included some new localities for Chrysosplenium alternifolium in the Llandovery - Myddfai area, presumably much overlooked in the past; Manunculus ficaria subsp. bulbifer at both Talley and Maes-y-bont and Viola reichenbachiana quite frequently, in some of the more base-rich woodlands in the south.

1983 will be remembered as a very good year for the growth of orchids. At least 115 flowering plants of Ophrys apifera were counted on Tywyn Burrows in June - the largest number for many years at the site. Several new stations for Plantanthera spp. were noted. Attention was drawn to a churchyard near Nantgeredig by Miss Holmes, which included in its old hay-meadow type flora, as well as Dactylorchids and a generally species-rich sward, forty-three flowering spikes of Plantanthera chlorantha. This species was also in smaller numbers at Llansadwrn Churchyard. Both P. chlorantha and P. bifolia together with Dactylorchids and Listera ovata, were found to be abundant in superb, species-rich hay-meadows near Laugharne, which must rank as the best sites discovered during the year.

The hot, dry July and August resulted in a rapid termination of the summer flowering season and the whole countryside became very parched. This was the condition of the hilltop on which Mr K.G. Woods discovered several plants of Moenchia erecta very probably at the same locality as Knight's record of 1908, the only previous record for the vice-county. Associated with it was a rich ephemeral flora forming a short, sheep-grazed sward.

The meeting organised at St. Clears, at the height of the hot weather,

was notable, as more than 230 species were recorded from one tetrad during the afternoon. Included were Wahlenbergia hederacea, unusual so near to the coast, and Coronopus squamatus, also seen the previous day at Machynys: only the second and third vice-county records since c. 1860. The Red-Data Book grass, Alopercurus bulbosus was also found in a nearby saltmarsh: only the third v.c. record.

Other coastal records were made during visits to the Proof and Experimental Establishment at Pendine. An extensive stand of Carex pseudocyperus was found by the Witchett Pool, this being the first record for the county since Motley's unlocalized record c. 1850. The hybrid horsetail, Equisetum x litorale, first found by Mrs Pell a couple of years ago in Capel Hendre, was seen forming a dense, near-pure sward covering a considerable area of roadside verge west of the pool: it has since been found in a few more localities by I.K. Morgan. Utricularia vulgaris ss was seen flowering in at least two of the drainage ditches in the vicinity and two spikes of Coeloglossum viride were growing at the site where Gentianella uliginosa was discovered last year. Four or five spikes of Liparis loeselii were seen this year at the same site as the one discovered in 1982, these being the only records for the species in Carmarthen since 1971. On the young dunes Atriplex laciniata was recorded, the first post 1970 v.c. record, as was Onopordum acanthium the first since c. 1850, unfortunately destroyed before it could be confirmed. At Llanmiloe House, the range headquarters, I was shown the substantial plant of Viscum album, one of only seven known in the vice-county.

At the other end of the county, a survey of the site of the proposed new Loughor Bridge revealed a single flowering specimen of Inula crithmoides, the fourth v.c. record, together with several plants of Atriplex littoralis amongst the more usual upper saltmarsh flora. At the top of the strand-line was a great abundance of Chaenorhinum minus.

Other new v.c. records included Mrs A.M. Pell's Nasturtium microphyllum from a wet pasture at Carmel and I.K. Morgan's Potamogeton obtusifolius which, together with P. berchtoldii were found at Talley Lakes. Adventives new to the county included Allium roseum spp. bulbiferum from Capel Hendre chapelyard (A.M.P.), Muscari neglectum from Pembrey Forest and Curtonus paniculatus from Machynys (both I.K.M.). One plant of Ambrosia artemisiifolia was found growing through the gravel of a roadside lay-by late in the season (R.D.P.), which was the second v.c. record and the first since 1911.

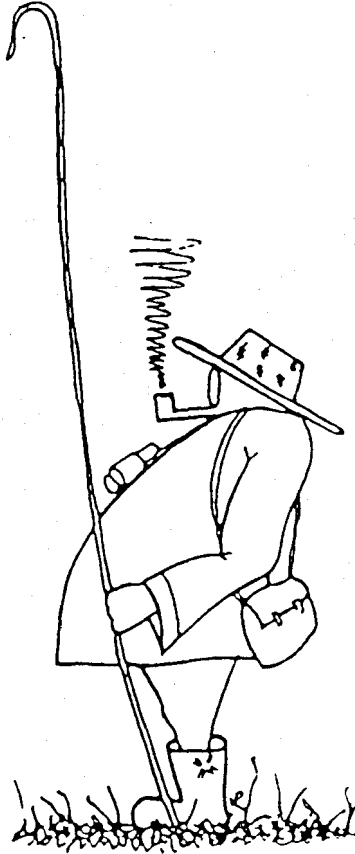
The lawns surrounding a recent housing development on the outskirts of Pembrey, part of a former dune-system, support a rich flora of duneland annuals. Regular mowing simulates rabbit-grazed turf and species including Trifolium striatum, Ornithopus perpusillus, Saxifraga tridactylites and Erophila verna were recorded by Mr F.H. Webb. In the spring he also recorded Narcissus obvallaris on Tywyn Burrows,

representing a considerable extension in the range of the species.

In conclusion, I must thank all recorders, most particularly Dr G. Hutchinson and Mr I.K. Morgan who between them have probably contributed about 80% of all the year's records, Mrs A.M. Pell who continues to turn up many notable species in the Ammanford area and Mr J. Kees who monitors the flora of the Pendine ranges more-or-less single handed. I am also greatly indebted to the professional botanists who generously provide information and encouragement particularly Messrs A.O. Chater (B.M.), and K.G. Ellis (N.M.W.).

#### REFERENCES

ANON. (1984). Plant records. Watsonia, 15:125-143.



"Take me to your Leader"

If you can think of a more appropriate caption, send it to the editor. The best (printable suggestion) will be given in the next issue.