

BOTANICAL SOCIETY OF THE BRITISH ISLES

WELSH BULLETIN

Editor: R.H. Roberts M.Sc.

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'Great Fen - sedge', *Cladium mariscus* del. H.M. Reynolds 1983

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EDITORIAL

It is regretted that the Summer 1982 number of the Welsh Bulletin could not be produced. This was due to a complete lack of contributions at the time. However, our grateful thanks are due to those who have contributed to the present number.

CONGRATULATIONS AND BEST WISHES

Congratulations to Professor William S. Lacey, who recently had the title of Professor Emeritus conferred on him by the University of Wales upon his retirement from his post at the University College of North Wales, Bangor. Bill is well known to members of the B.S.B.I. in Wales and we wish him well in his retirement in Penrhyn Bay.

Our very good wishes, too, to Miss Ann Conolly on her retirement last summer from her post at the University of Leicester.

HON. SECRETARY'S REPORT

ANNUAL GENERAL MEETING, 1982

The fifth Quadrennial meeting and twentieth Annual General meeting of the B.S.B.I. Wales, was held at Glynllifon Hall near Caernarfon, Gwynedd on July 17th 1982.

On the Saturday morning, those members who had arrived early enjoyed a short field trip to Morfa Dinlle at the southern entrance to the Menai Strait. Many maritime species were seen and a fine stand of *Polygonum polystachyum* was completely naturalized in a ditch by the roadside.

The AGM proper started at 2.30 pm when the Chairman, Mr. G. Wynne, introduced the first speaker, Miss Ann Conolly. She gave a fascinating talk on the Flora of the Lleyn Peninsula, accompanied by an excellent series of slides (a précis of this talk appears elsewhere in this Bulletin). The AGM which followed was opened by the Chairman. After apologies for absence and the signing of the Minutes of the previous AGM, he said how much he had enjoyed his four years in office, which were now coming to an end. He drew attention to the fact that the Welsh membership stood at about 150, which compared favourably with the figure for Britain as a whole and was increasing slowly; he then thanked all the Committee members who had served with him over the years. The Secretary, Mr. R.G. Ellis, then gave his report on the previous year's activities. He mentioned that the Committee for Wales was now at full strength; Mr. T. Blackstock and Mr. T.G. Evans had both accepted an invitation to join. Mr. R. Meade, who had been the official N.C.C. observer on the Committee, had resigned and his role taken over by Mr. R.G. Woods, who was already serving on the Committee. He went on to thank the retiring Chairman, Mr. G. Wynne, on behalf of all members for the very valuable contribution he had made to the Society in Wales. During his four years as Chairman he was instrumental in getting the recent publicity campaign off the ground, which resulted in the recruitment of many new members. Being Welsh speaking he had also ensured that the campaign was conducted in both English and Welsh and that a Welsh language conservation poster was produced. A vote of thanks was proposed for Mr. Wynne and was carried by acclamation.

During the past year a number of topics had been discussed at meetings of the Committee for Wales, one of these involved the reintroduction of rare plants raised in gardens back into their original habitats. Serious doubts were expressed over the wisdom of this, as the introduced plants could contaminate any plants which had survived, unrecorded in that locality. One solution was for the reintroduction to be made in a similar habitat some 3-4 kilometres distant, to maintain genetic isolation.

The Secretary then drew attention to the fact that a long standing member of the Society and the vice-county recorder for Anglesey, Mr. R.H. Roberts of Bangor, had written a book on the Anglesey flora that had recently been published by the National Museum of Wales - *The Flowering Plants and Ferns of Anglesey*. Mr. Roberts was warmly congratulated on producing such an excellent work.

He then reported on the two field meetings held so far this year and the four held after last year's AGM, and he thanked the leaders for all the hard work they had put into their meetings and drew attention to the five remaining meetings to be held in 1982, including the one to Fens in the Lleyen Peninsula to be led by Miss Conolly the following day.

The Welsh Bulletin was to continue to be published twice a year so long as contributions were forthcoming. From Jan. 1983 the size of the Bulletin would be reduced to A5 and the price increased to 25p. The two editors, Mr. S.G. Harrison and Mr. R.H. Roberts, were warmly thanked for their considerable efforts.

The Secretary then thanked, on behalf of the Society, the Officers of Glynllifon Hall for allowing their rooms to be used for the AGM. He finally drew attention to the evening's programme, which consisted of a series of short slide shows and exhibits, one of which would be of a previous occupant of Glynllifon, Thomas Glynne, who had, in the 1630's, acted as host to Thomas Johnson on his tour of Wales, and was an accomplished botanist.

The Treasurer, Mr. R.D. Pryce, then gave his report. He stated that since taking over as Treasurer at the last AGM two accounts had been opened, a current account and a deposit account.

FINANCIAL STATEMENT at 31st December, 1981.

<u>Income</u>		<u>Expenditure</u>	
			<u>Deposit account</u>
Brought forward from 1980	37.00		NIL
Profit from Coffee Morning	38.56		
Total	<u>£75.56</u>		
			<u>Current account</u>
Cash from BSBI Treasurer	£200.00	Excess Expenditure over Income (1980)	8.46
		Envelopes for Bulletin (Jan. 1981)	14.88
		Production of Bulletin and postage (Jan. 1981)	33.52
		Paper for Bulletin (July 1981)	52.33
		Production of Bulletin envelopes and postage (July 1981)	65.19
	<u>£200.00</u>		<u>£174.38</u>
Excess income over expenditure:	<u>£25.62</u>		

Statement of Current Account at 30 June, 1982

Brought forward	25.62	Production of Bulletin (Feb. 1982)	67.62
Cash ^{from} BSBI Treasurer	75.00		
Donation	4.00		
	<u>£104.62</u>		<u>£67.62</u>
Excess income over expenditure:		<u>£37.00</u>	

The Chairman thanked Mr. Pryce for the clear way in which he had portrayed our financial position. He also drew attention to the fact that more could be done by members to raise money for the Society. A Coffee Morning he had organized in Flint had raised £38.56p with very little effort and he urged other members to try their hand and organize some fund raising function in their area.

Election of Officers

The Hon. Secretary, Mr. R.G. Ellis, and the Hon. Treasurer, Mr. R.D. Pryce, were both nominated for re-election to their respective posts, and in the absence of other nominations were duly elected.

Committee Members: Mr. T. Blackstock and Mr. T.G. Evans had been co-opted to the Committee after the last AGM; they were now nominated for election and duly elected to serve for one year. Three other members, Mrs. M.E. Perry, Mr. S.B. Evans and Dr. Q.O.N. Kay retired from the Committee but were willing to stand for re-election. There being no other nominations they were duly elected to serve for a further period of two years. The retiring Chairman, Mr. G. Wynne, was eligible for election to the Committee for Wales and was duly elected to serve for two years.

Amendments to the Constitution

The following amendments to the Constitution were proposed and adopted.

1. Paragraph 4: The Officers delete "Minutes Secretary" and substitute with "Treasurer"
2. Paragraph 5: Election of Officer insert after "a later date" and before "The Secretary", "The retiring Chairman and/or Vice-Chairman shall be eligible for immediate election to the Committee for Wales".
3. Paragraph 11: Finance Following on from Proposal 1 delete "Secretary" and substitute "Treasurer".

The Chairman then reminded members that although the Committee for Wales put forward names of prospective members for election at the AGM, there was no reason why nominations could not be received from the floor and that it might be a very healthy thing if some nominations were to be received from outside the Committee in future years.

The fifth Quadrennial Meeting

Mr. M. Porter was nominated as the new Chairman of the Committee for Wales and Mrs. J.A. Green as Vice-Chairman, and were duly elected. The election of the Welsh Representative on Council followed and Mr. M. Porter was proposed by Prof. W.S. Lacey, seconded by Prof. R.E. Hughes and was duly elected.

This concluded the business of the AGM and Quadrennial Meeting.

After tea and biscuits Mr. M. Porter took the Chair and introduced Prof. R.E. Hughes, who gave a very interesting talk on "Arctic-Alpine species in Northern Snowdonia : their relationship to the environment".

The field meeting on the Sunday to Fens in the Lleyn Peninsula was ably led by Miss A.P. Conolly and was much enjoyed by all who attended. A short account of the meeting appears elsewhere in the Bulletin.

Following the election of Officers and Members at the AGM and Quadrennial meeting, the composition of the Committee for Wales for 1982-83 is as follows:

Chairman	Mr. M. Porter
Vice-Chairman	Mrs. J.A. Green
Secretary	Mr. R.G. Ellis
Treasurer	Mr. R.D. Pryce

Committee Members

Mr. T. Blackstock*	Mrs. M.E.R. Perry
Mr. N. Brown*	Mr. S.B. Evans
Mr. T.G. Evans*	Dr. Q.O.N. Kay
Mr. R.G. Woods*	Mr. G. Wynne

* Retiring Members

ANNUAL GENERAL MEETING AND WELSH EXHIBITION MEETING, 1983

The 21st Annual General Meeting and 1st Welsh Exhibition Meeting will be held at Caer Llan Field Study Centre, nr. Trelleck, Monmouth on July 9th 1983.

PROGRAMME

10.00 a.m.	Visit to sites of interest near Caer Llan
1.00 p.m.	Lunch
1.30 p.m.	Meeting of Committee for Wales
2.30 p.m.	Flora of the Wye Valley - T.G. Evans
3.30 p.m.	AGM
4.00 p.m.	Tea
4.30 p.m.	WELSH EXHIBITION MEETING - Exhibits, short talks with slides etc.
6.00 p.m.	Dinner
7.00 p.m.	Exhibition meeting (continued)

Members are urged to bring along a selection of their colour slides and/or any botanical exhibit to make this first meeting a success.

July 10th Field Meeting to Lower Wye Valley, Monmouthshire.
Leader: Mr. T.G. Evans.

Accommodation is available at Caer Llan in 2-3 bedded rooms at approx. £9 per night, including meals. All B.S.B.I. members and their guests are welcome.

Further details can be obtained from the Secretary to the Committee for Wales, Mr. R.G. Ellis, Department of Botany, National Museum of Wales, Cardiff CF1 3NP. Please apply before June 1st 1983.

Nominations for membership to the Committee for Wales, or for the post of Hon. Secretary or Hon. Treasurer should be made in writing with the signature of the nominee, before the end of May, to the Hon. Secretary at the above address.

FIELD MEETINGS, 1983

Saturday 11th June. Caerwys, Flintshire (Clwyd).
Leader: Mrs. J.A. Green

Visits will be made to two contrasting sites, one a wetland area on limestone, the other an acid bog.

Please apply for details to Mr. R.G. Ellis, address above, before 13th May.

Sunday 19th June. Newborough Warren, Anglesey (Gwynedd).
Leader: Mr. N. Brown

This area is well known for its very rich flora and it is hoped that many of its specialities will be seen during the visit, particularly marsh-orchids.

Please apply for details to Mr. R.G. Ellis, address above, before 20th May.

Sunday 26th June. Nash Point, Glamorgan.
Leader: Mr. R.G. Ellis

The Glamorgan Heritage Coast is the home of many interesting plants and among those to be seen on this meeting will be *Matthiola incana*, *Cirsium tuberosum* and *Gastridium ventricosum*.

Please apply for details to Mr. R.G. Ellis, address above, before 27th May.

Saturday 2nd July. Ysgolion Duon, Caernarfonshire (Gwynedd).
Leader: Mr. T. Blackstock

A fairly strenuous climb in the heart of Snowdonia to see some specialities of this area.

Please apply for details to Mr. R.G. Ellis, address above, before 11th June.

Sunday 10th July. (in conjunction with the B.S.B.I. Wales Annual General Meeting in Trelleck on Saturday 9th July). Lower Wye Valley, Monmouthshire (Gwent). Leader: Mr. T.G. Evans.

This area is famous for its native woodland and visits will be made to some of these and a dried out peat bog.

Please apply for details to Mr. R.G. Ellis, address above, before 19th June.

Sunday 31st July. Llyfnant Valley, N. Cardiganshire (Dyfed).
Leader: Mr. A.O. Chater

The purpose of the meeting is to examine the diverse and interesting flora of the base-rich rocky woods in this valley.

Please apply for details to Mr. R.G. Ellis, address above, before 1st July.

THE WEST LLEYN FLORA

(A summary of the illustrated talk given at the A.G.M. at Glynllifon, Caernarfon, on 17th July, 1982).

Progress was reported on the mapping of the flora of the west Lley'n peninsula which now totals some 700 species; these are being mapped on a 1km grid-square basis. Of the constituent 230 'squares', over half have 200 or more species recorded from them: the poorest with 64, the richest with 327 species. Ubiquitous species (those which occur in at least 90% of the 'squares') number some 60, and these were compared with the ubiquitous species in Sussex (Hall, 1980).

Among the rarer species, which were illustrated by colour slides and maps showing British or Welsh ranges as well as those for Lley'n, were examples of British rarity (*Tuberaria guttata*, *Hypericum linarifolium*) and of Welsh rarity (*Utricularia intermedia*, *Lathyrus japonicus*). Of other rarities, some are plants of a 'northern' affinity, here at, or close to, their southern British limit (*Selaginella selaginoides* and *Parnassia palustris*). Others are 'southern' species which, in Lley'n, are near their northern British limit. Examples of the latter are *Juncus acutus* and *Cicendia filiformis*, along with *Ranunculus parviflorus*, *Trifolium subterraneum* and *Viola lactea*, which reach north to Anglesey or the Great Orme.

The preponderance of 'western' species (in a European context) was contrasted with those species which, though common in England and east Wales, are scarce or absent from west Wales and Lley'n; thus only scattered localities are known here for *Verbena officinalis* and *Ballota nigra* (always closely associated with habitations), and *Melampyrum pratense*, though common immediately east of Pwllheli, has been seen on only a single occasion.

Restricted patterns of distribution within Lley'n include a 'coastal' type, which, besides maritime species, is shown by *Galium verum* and even in part by *Phragmites*. Also coastal are more obviously calcareous demanders such as *Anacamptis pyramidalis* and *Erigeron acer* confined to shelly sand-dunes or the like. *Rubia peregrina*, of Mediterranean geographical affinity, *Picris echioides* and *Thalictrum minus* are examples of restriction to the sheltered south coast. Woodland species have a 'central' pattern avoiding the exposed northern and western coasts. The montane *Lycopodium* species and ferns such as the arctic-alpine *Cryptogramma crispa* are known only from the Garn Fadryn range; though *Hymenophyllum wilsonii* extends to Bardsey Island. Fen and marsh species are concentrated in the Cors Geirch to Edeyrn ill-drained communities. These are particularly rich in orchids (e.g. *Dactylorhiza purpurella*, *D. traunsteineri*) and in sedges; here too are rare *Ranunculus lingua* and more frequent *Cladium*, *Schoenus* and *Juncus subnodulosus*.

Introduced species and aliens include the 'mediaeval' relic, *Sambucus ebulus* and a recent arrival, *Hordeum jubatum*.

A. Conolly

THE FLORA OF CARMARTHENSHIRE -
SOME ASPECTS OF THE FIRST YEAR'S RECORDING

The season started with the circulation of about thirty botanists and naturalists all having some connection with Carmarthenshire, whom it was thought might be willing to contribute to the new county tetrad recording project. No formal meetings were proposed, though it was thought likely that most participants would meet-up at some time during the year at B.S.B.I., Trust or Llanelli Naturalists field-meetings. Individual recorders were provided with the existing species-list, if any, for their home tetrad and asked to fill-in as many extra species as possible. In addition, blank cards were included for recording extra sites and tetrads, should recorders wish to go further afield. At the time of writing fifteen of those originally contacted have contributed records; some have been very prolific.

The highlight of the year was undoubtedly the B.S.B.I. meeting at the M.O.D.'s Proof and Experimental Establishment at Pendine on July 4th. Despite the inevitable rain and a ban on photography, the day was very enjoyable. The party split into four groups, each widely deployed to include as many tetrads as possible, led by at least one competent botanist and escorted by a member of M.O.D. staff to ensure that we did not venture anywhere out of bounds. The number of species recorded in each tetrad was very considerably increased by the end of the day, since restriction of access has severely limited botanical recording here in the past.

The largely undisturbed nature of the burrows was a notable feature with only moderate colonization, in parts, by *Hippophaë rhamnoides*, in contrast to Tywyn Burrows across the Tywy estuary. The superb richness of the plant communities stood out, especially in the wet, former saltmarsh areas, as did the diversity of the emergent species in the drainage ditches, which included *Hippuris vulgaris*, *Typha latifolia*, *Baldellia ranunculoides* and *Veronica catenata*. A very large dune-slack yielded one plant of *Liparis loeselii*, discovered quite by chance, growing amongst dense *Salix repens* and the moss *Acrocladium cuspidatum*. This was the first vice-county record for the species since 1971, despite repeated searching. Not far away another group found a stand of *Brachypodium pinnatum*, only known elsewhere in the county on Pembrey dunes. The party deployed to the Ginst Point area, at the eastern end of the range, turned up three very interesting records, viz. *Atriplex longipes*, *Salicornia pusilla* and *Hypochoeris glabra*, the former being a new county record, the latter new post-1930 records. In a more acid slack, close to the central part of the range, an extensive stand of *Cirsium dissectum* and its hybrid with *C. palustris*, *C. × forsteri*, was noted; this was considered rather unusual due to the normally base-rich nature of Carmarthenshire dune-systems. On the dry dune ridges at the western end of the range a few plants of *Thalictrum minus* were seen, only known elsewhere in the vice-county on base-rich mountain rocks, well inland.

With a view to finding more plants of *Liparis loeselii*, Mr. Stephen Evans and I made a return visit to the range in late August. On this occasion we were accompanied by Mr. John Rees of the M.O.D. staff, who showed us a small number of recently collected specimens from the Pendine area, which we looked at whilst waiting for the rain to stop! Included among them were *Asplenium marinum* from the limestone cliffs west of Pendine and one flower spike of *Salvia horminoides* from a roadside verge on the perimeter of the range. This latter species we were shown *in situ* later in the day and represents the first Carmarthenshire record since 1911.

When the rain eased somewhat we revisited the *Cirsium dissectum* "slack" discovered the previous month and found it to be more extensive than originally thought. Close by, on a little-used trackway, we came upon about a dozen plants of *Gentianella uliginosa* not more than 50 mm in height, accompanied by a greater number of individuals of the hybrid *G. uliginosa* x *amarella*, two to three times the stature of the parent. Continuing eastward along the line of the dredged and straightened Witchett Pill the richness of the emergent species and adjacent wet, former saltmarsh areas, often dominated by *Equisetum variegatum*, was a constant source of excitement, though no more *Liparis* was discovered. At the furthest extremity of the Pill we came to a well-delineated area about 30 m across supporting a community dominated by *Equisetum* spp., *Oenanthe fistulosa* and *Alisma lanceolatum*, the only place where we saw the latter two species. This small area was surrounded by vegetation dominated by *Equisetum variegatum* and *Oenanthe lachenalii*, a much more common plant community on these burrows. Finally, on our return to the car across the series of dry dune ridges, we discovered four flowering plants of *Spiranthes spiralis* growing in a small dry hollow.

Many notable records have been received from Messrs. Ian Morgan, Nigel Stringer and Dick Davies, who have surveyed part of the Swan-Pool Drain and associated ditches on the reclaimed saltmarsh in the Pembrey area and the ponds at Machynys south of Llanelli. Some of the species they have uncovered include *Lemna trisulea*, *Chara vulgaris* var. *papillata*, *Chara hispida*, *Hippuris vulgaris*, *Zannichellia palustris*, *Potamogeton crispus*, *Callitriche obtusangula* and *Sparganium emersum*, among many more common species. Ian has also rediscovered *Dryopteris aemula* in the gold mines at Dolaucothi, which has not been seen in the county since H.H. Knight's record of 1907 from the same locality, and just recently he has recorded *Potentilla erecta* ssp. *strictissima*, a new vice-county record for the subspecies, from Banc-y-Llyn, near Gorslan.

Mrs. A.M. Pell is another recorder who has turned up a number of new and interesting vice-county records, principally in the Ammanford area, including *Mentha suaveolens*, *Rorippa austriaca*, *Barbarea intermedia*, *Euphorbia exigua* and *Plantago maritima* at its first inland station. Mrs. Pell is also acting as co-ordinator for the Churchyard Survey in the county and has been informed of a very species-rich graveyard of $\frac{1}{3}$ acre attached to a chapel near Glanamman, which was dominated by *Sanguisorba officinalis*, *Eriza media*, *Euphrasia* sp., *Centaurea nigra*, and *Carum verticillatum*, with frequent *Lotus corniculatus* and *Dactylorhiza maculata*, amongst the occasional clumps of *Molinia*.

Mention must also be made of the efforts of the Dyfed County Council's Woodland Survey Team, the members of which have surveyed about fifty sites in the Carmarthen area and let me have copies of their species lists, which have contributed greatly to many under-recorded tetrads.

Many useful records were made during Llanelli Naturalists' meetings at Allt Rhyd y Groes, Pembrey Burrows and Towyn Burrows, where a number of plants of *Parentucellia viscosa* were seen - this species seems to have done particularly well this year. The West Wales Naturalists' Trust meeting at Llanglydwen also helped fill some gaps on the map.

The year has produced a concentration of records from the south of the vice-county, largely due to the fact that the bulk of recorders lives in the south, so I must appeal to those involved to make a concerted effort next year and in succeeding years, to attempt to fill-in some of the many gaps in the north. But I must express my thanks to all participants for their sterling work in this first year and hope for a continuation of the enthusiasm they have shown for the future.

R.D. Pryce

COTONEASTER INTEGERRIMUS:

A STEP AWAY FROM EXTINCTION?

Cotoneaster integerrimus, Wild Cotoneaster or the Great Orme Berry, has long been of great interest to botanists, and more recently conservationists who live near to, or visit the Great Orme's Head at Llandudno. Sadly, this popularity has contributed in the past to a decline in the number of plants occupying this lone British outpost of this attractive shrub, and hence the recent interest shown by conservationists.

In 1970 a local botanist, Mr. M. Morris, commenced a programme aimed at increasing the number of plants, then totalling four, by propagating cuttings and seed in controlled conditions with the intention of later returning the young plants to the Great Orme. This was described in Welsh Bulletin No. 28 (1978).

Following the success obtained in propagating cuttings, and later germinating seed, a time was reached when it was considered appropriate to re-introduce a number of the plants, and the search for suitable sites began. Surprisingly, it proved quite difficult to find sites that could be regarded as suitable. This was due to the stringent criteria decided upon in advance, to ensure that the plants had the best possible chance of survival. It was considered essential that the sites should be reasonably inaccessible to reduce the incidence of grazing by both sheep and goats; not too exposed, as both strong sunlight and strong winds could have detrimental effects on the newly established plants; and have a sufficient depth of soil to permit root development. The search uncovered seven suitable sites and in June 1979 Mr. M. Morris, with the able assistance of Mr. T. Parry, a member of the local cliff-rescue team (the limestone cliffs have a justifiable reputation for being dangerous to climb upon), began the replanting programme. The seven plants, all approximately one year old, were monitored frequently during the months that followed and the fate of each plant was recorded. By the autumn of 1982 two plants still survived, and of the five that failed, two appeared not to have established a good root system and died through dessication, two died following disturbance by rabbits and the fifth, having proved very difficult to relocate for two years, was eventually found to have died for an unknown reason.

It was apparent from the first re-establishment programme that the young plants of one year, being taken from the somewhat cossetted environment of a garden and introduced into the relatively severe conditions on the Great Orme, had a low rate of survival. It was therefore decided to attempt to reintroduce more mature plants, and in the summer of 1982 four plants aged three years were planted and it is hoped to monitor these equally closely.

In addition to the re-establishment programme, seed collected from propagated stock has been sown at selected sites on the Great Orme to observe whether germination will take place under natural conditions. Seed was sown at five localities during the autumn of 1982 and these are to be monitored during the coming years.

Footnote

In the course of the last two years the existence of a further plant, said to have been once removed from the Great Orme and planted in the Happy Valley gardens, came to light. It appears that this plant has also been the subject of propagation experiments and the resultant three plants are in the possession of Aberconwy Borough Council. The history of these plants is currently under investigation and should they prove to be of Great Orme stock, then they will be a valuable addition to the current genetic pool.

John A. Davies

CAMPANULA PATULA L. FLOWERING IN NOVEMBER

When Mark and Claire Kitchen first reported finding *C. patula* in flower in Highmeadow Wood, Gwent, v.c. 35, in late October I was sceptical. However, with my wife, I searched the extensive area on the day following the report with no success. As the Kitchens had set off for Kent I had to wait for their return before I could follow up the matter. On Sunday 7th November the Kitchens met me near Staunton and we set off into the woods. There was some disagreement as to the exact spot on one of the paths where the plants had been recorded. Nevertheless, all three of us walked past the spot without seeing any signs of flowers. On retracing our steps Mark eventually found a plant still in flower and then another and then all three of us got in on the act. We are convinced that there are quite a number of plants of *C. patula* in several places fairly widely separated along this north/south path and await next July with considerable anticipation.

Though I know of others who have seen *C. patula* in flower in September, I have never seen them later than the beginning of August. Also the plants I have seen on previous occasions have approached a metre in height (CTW quotes 20-60 cm), these specimens in Highmeadow Wood were 30 cm in one case but less than 20 cm in the others. CTW also gives the flowering period of *C. patula* as July to September, so that 7th November is considerably outside this.

C. patula seems to flourish in stony ground with little soil and to do well on the built-up tracks provided by the Forestry Commission. Thus having lost some of the open woodland provided by coppicing, especially in stony areas, the plants have found an artificial habitat to their liking.

We have had very few, light, superficial frosts as yet and on the roadside where we left our cars two plants of *Hesperis matronalis* L. were in full bloom. It would be interesting to hear of other late blooming species.

T.G. Evans

B.S.B.I, WELSH REGION FIELD MEETINGS, 1982

FENS OF THE LLEYN PENINSULA, 18TH JULY 1982

Two base-rich fens and a wet pasture with heathy patches in the vicinity of Edeyrn in the west Lleyn peninsula were visited by some 30 members on Sunday 18th July. The common south of Edeyrn produced a fair quantity of *Genista anglica* in flower and in fruit, and *Oenanthe fistulosa* (both with less than half-a-dozen sites in Lleyn). *Carex hostiana*, *C. binervis*, *C. pulicaris* and other sedges were seen, but no trace of the *Botrychium* once recorded from here.

The two fen sites were especially rich both in Orchids and in Cyperaceae. Apart from splendid *Epipactis palustris* at both places (a pale-flowered form was much admired), and *Gymnadenia conopsea* at one, the *Dactylorhiza* taxa were all but over. Some possible hybrids of *D. traunsteineri* with Heath Spotted Orchids, and perhaps *D. purpurella*, were discussed. In addition to the commoner sedges, well-grown *C. lepidocarpa* was in abundance, and we also found *C. lasiocarpa*, *C. dioica*, *C. rostrata*, *C. acutiformis*, *C. diandra* and *C. disticha*, as well as *Cladium mariscus* and *Eriophorum latifolium*. Two species of *Utricularia*, *Crepis paludosa* and *Ranunculus lingua* were amongst taxa seen which have only one or two localities in Lleyn; and *Parnassia palustris*, which only occurs in fens and flushes towards the northern side of the peninsula.

In and around the farm at Edeyrn were a number of species which in this region are closely associated with old 'habitation' sites and appear to be relics of former 'herbal' usage: *Ballota nigra*, *Verbena officinalis*, *Artemisia absinthium*, *Chelidonium*, *Calamintha ascendens* and *Parietaria*; though perhaps some link with more 'calcareous' or drier soil is implied for some, for here, too, we saw one of the only two stands in west Lleyn of *Knautia arvensis*, and the locally rare *Malva moschata* and *Reseda luteola*.

A. Conolly

PENALLY MARSH AND NEIGHBOURHOOD, TENBY

SATURDAY, 31st JULY, 1982 AND MUCH EARLIER

Twenty members and friends gathered at Penally railway station on the last day of July 1982, to explore the fen between the railway and the dunes, in company with the author. The marsh owed its origins to the growth of dunes north from the Carboniferous Limestone of Giltar Head. Long before this growth had finally enclosed the whole of the old Ritec estuary, an ample supply of calcareous water had created a freshwater marsh or fen in the "armpit" of this extending limb of sand.

The fens and marshes of Pembrokeshire are widespread, but amongst the least known wetlands in southern Britain. Penally Marsh is the only one for which early records of plants exist. Before leaving the footpath, members were treated to a somewhat abbreviated version of this history, owing to the separation of the leader from his notes so carefully compiled the previous evening, but then left behind on the kitchen table.

Tenby was the main focus for botanical recording in 19th century Pembrokeshire, and it is no coincidence that the first attempt at a flora by Dr. R.W. Falconer, F.R.C.S., listed 388 flowering plants and 14 ferns indigenous to "The Neighbourhood of Tenby" in 1848. On 25th August of the same year Charles Babington, Professor of Botany at Cambridge, had visited Penally Marsh and his opinion was that "the marsh is like the rough parts of the Cambridgeshire fens reproducing Bog Myrtle (*Myrica gale*) etc. Here is Marsh Fern (*Thelypteris palustris*), Greater Tussock Sedge (*Carex paniculata*), Small-fruited Yellow-sedge (*Carex serotina*) and other deep marsh plants".

In Philip Gosse's "Tenby, a seaside holiday", published in 1856, there is a delightful chapter on "Bog-botany", describing an expedition to Penally Marsh "well armed with pocket-lens and vasculum". I make no excuse for reproducing at length from this chapter, as it must be the earliest description of the art of *Carex paniculata* walking - an art with which modern connoisseurs of wetlands are all too familiar! ... "The perambulation of our ground was a matter of no small difficulty. It was an area of black soft mire, out of which grew great tussocks of bog-grass - the Panicled Sedge, I believe. These afforded a firm support when the foot was placed fairly on the centre of the tussock; but owing to the spreading of the grass on all sides, overarched the pits and ditches of mire below, it was not easy to know where to set down the foot. Many were the slips, many the plunges, desperate the struggles; and what with the efforts of the gentlemen to help the ladies from tuft to tuft, their own herculean attempts at balance-keeping while they sustained the fair, their occasional tumbles, dragging their protégées into

their own humiliation, the ups and downs of all, the screams, the laughs - we became most uproariously merry. Grievously bemired of course we were: boots that had been lavender-coloured looked as if they had been dipped into the blacking bottle, the polishing being omitted; and hose of snowy radiance were encased in sable mud. But we had come out to botanize, and botanize we would; we were out for a day's pleasure, and we were not to be disconcerted by a little bog-mire"

Although over 120 years had elapsed since the visits by Babington, Gosse and their contemporaries, most of the ca. 30 wetland species they recorded were re-found by our 20th century party. *Carex disticha*, first recorded in 1853, was admired for its dominant stands on the mown areas of the marsh, and perhaps indicative of its estuarine origins. *Lysimachia vulgaris* and *Rumex hydrolapathum*, both recorded in 1848, were still abundant along the ditches and tall fen. In an area of more acid peat kept open by grazing horses, *Thelypteris palustris*, *Osmunda regalis* and a few bushes of *Myrica gale* were re-found. The latter had evidently declined since Gosse's time as he described the most fragrant Sweet-gale or Bog Myrtle as "growing in great profusion" and mentioned that "here in Wales they offer it as a token of kindly feeling to strangers". Although not in full flower, *Cyperus longus* was closely examined and photographed by the party. H.W. Pugsley had first found it at Penally in 1923. It has one other extant location in Pembrokeshire - at Orielton, where it may have been introduced to the lake. *Cyperus longus* was one of the first plants to be collected in Pembrokeshire. A specimen was taken from Whitesands Bay, St. Davids, in July 1773, but numerous searches have failed to re-find it despite precise locational details on the British Museum label.

In the wettest areas, amongst the species-rich *Phragmites* and *Molinia* stands of the fen, were Gosse's large *Carex paniculata* tussocks. Growing alongside were the smaller tussocks of *Carex elata*. This was not amongst the 6 sedges recorded in Victorian times, but was discovered by the leader early in 1982 and is only the second record for the Vice-county. A few flowering plants of *Baldellia ranunculoides* were found by Mr. and Mrs. Kitchen. It was the first record for the marsh since Babington's day. Two of his notable species that have yet to be re-discovered are *Cladium mariscus* and *Carex serotina*. It seems likely that the first-named is now extinct, whilst the latter may just have been overlooked.

During lunch, the appearance of riflemen was followed by gunfire on the Ministry of Defence Small Arms Range. The marsh forms an integral part of this Range, and there is no doubt that the survival of this species-rich fen in such a popular tourist area as Tenby owes all to the presence of the military.

After refreshments, the party avoided the small arms fire and set off for the limestone sea-cliff of Giltar Head. A detour en route took in the site of *Gentianella uliginosa*, where much debate and reference to Clapham, Tutin and Warburg preceded the identification of *G. uliginosa*, owing to the confusion caused by the presence of apparent intermediates with

Gentianella amarella. The Dune Gentian is now confined in Pembrokeshire to the one disused sand pit, whereas it was more widespread when discovered by H.W. Pugsley in September 1923, "in a damp sandy pasture around Tenby" as a first record in Britain. Relict clumps of *Juncus acutus* were seen, and *Thalictrum minus* subsp. *minus* was spotted growing in the main dunes and on the wind-blown sand that tops Giltar Head itself. Both had been seen here by John Lightfoot in 1773.

Once on the sea-cliff, there were splendid views across to Caldey and St. Margaret's Islands, and time was spent discussing the *Limonium binervosum* group. Again with the help of Clapham, Tutin and Warburg, another of Pugsley's finds - his endemic *Limonium transwallianum* - was examined. There was, predictably, mixed enthusiasm for the prospect of yet more splitting of this group following Martin Ingrouille's work at Leicester University. The dry, south-facing and exposed maritime turf yielded two surprises. One was a plant of *Salvia horminoides* not previously recorded from the headland; the other was the re-discovery of *Asparagus officinalis* subsp. *prostratus*. This was last seen here by the late Tommie Warren Davis in July 1973 and, after repeated searches in subsequent years, it was assumed to be extinct. Mr. and Mrs. M. Kitchen found two clumps; one was growing on the extremely exposed margin of the cliff slope, whilst the second flowering stand was set back from the edge in a lush growth of *Festuca rubra* and *Ammophila arenaria* over sand. This second locality seemed to be the site of the 1973 record. The *Asparagus* had been seen by Babington between Giltar Head and Lydstep Haven in August 1848, and R.W. Falconer refers to it as plentiful near Giltar Head in his work of the same year. Its re-location was a most appropriate end to the day's botanising in the footsteps of our more illustrious forebears.

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S.B. Evans