

DYFED INVERTEBRATE GROUP



NEWSLETTER N°. 4

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The present issue of the DIG Newsletter is devoted entirely to annual reports by the county recorders summarising the events and highlights of 1986 as represented by their own particular field of interest. In many respects this is a milestone in biological recording in Dyfed but most particularly because, for the first time, a synthesis of the work of entomologists in the three vice-counties is presented together. As a result we are able to view the effects of the season on popular" groups for a wider geographical area than was previously possible, we are able to see which groups are currently being studied in Dyfed, and we can judge which areas are under-recorded and which groups would repay further survey work.

I am firmly of the opinion that there should be some aspect of feedback from county recorders and this newsletter is designed to show the naturalists of Dyfed that their records are valuable and are put to good use. I can assure you that the job of recorder is a very time-consuming one, but if we are to put records to a meaningful use in terms of invertebrate conservation we must be fully supported by our contributors. All of the authors of the reports which follow have appealed for a greater response from local naturalists: without you we cannot identify the conservation needs of Dyfed's invertebrate fauna. Although for reasons of economy this report concentrates largely on scarce species, it is also essential that we continue to have records of the common inhabitants of the region - seasonal and geographical variations in abundance make them of equal interest as the rarities. Biogeographically, Dyfed contains many elements of the 'Mediterranean' fauna - species which are found along the western seaboard of Europe and in the Mediterranean countries, the dragonfly Ischnura pumilio and the ground beetle Eurynebria complanata are good examples - and our milder climate, south of the mountains of Snowdonia, must have an effect on the invertebrate fauna.

The addresses of the relevant county recorders can be found on the back pages of DIG 1 - please spare them a thought this winter and extract your records from field notebooks. Without exception, they do a magnificent job voluntarily because of their devotion to invertebrates, but it can be a frustrating task without support from colleagues. To obtain maximum value from your records it is highly desirable that they are accompanied by a six-figure grid reference but if you are unsure of this contact your recorders anyway and they will be able to help you. Other details usually required are - date, abundance, recorder's name and rough habitat notes - please remember that an SAE is always appreciated.

Winter draws on and spring is not too far away, renewing hopes that next summer will be the best in living memory. Meanwhile, do not forget that a lot can be achieved in the winter months - why not look under a few stones in the garden and see who your nearest neighbours are? After all, this is the best time of year to look for slugs and snails!

Merry Xmas and Best Wishes for the New Year to one and all.

Editor: A P Fowles, c/o NCC, Plas Gogerddan, Aberystwyth, Dyfed SY23 3EE.

ORTHOPTERA

CRICKETS AND GRASSHOPPERS IN CEREDIGION, 1986 - A P FOWLES

The season began with a new, and surprising, addition to the county list - the first Cockroach to be reported in Ceredigion. This one appeared in a box of bananas delivered to Penrhyncoch Post Office on 12 April and it was a fine male Australian cockroach Periplaneta australasiae - a species that has now established itself in many parts of the world but there have been very few Welsh records. A second Australian cockroach, this time a female, arrived in bananas to a shop on Aberystwyth promenade on 14 December. Roger Bray rescued it from the puzzled proprietors and it is, to date, leading a pampered existence on apple cores.

The poor summer delayed the emergence of most of our native orthopterans and the common green grasshopper Omocestus viridulus was the first to mature, as usual, with adults heard 'singing' on 25 June. The meadow grasshopper Chorthippus parallelus broke into song ten days later and the season slowly picked up from there. Most species seemed to be in lower numbers than usual but parallelus did particularly well. There were few highlights to the summer's recording but it was pleasing to find a small colony of mottled grasshoppers Myrmeleotettix maculatus at 335 m asl on the shingle banks of Afon Tarenig (22/822822). Myrmeleotettix normally occurs on lead mine spoil and coastal cliffs in the county; there are still no records of it south of Llanrhystyd. A new sub-colony of Roesel's bush-cricket Metrioptera roeselii was found on Dyfi estuary, at Hen Hafod (22/667492) in a typical brackish marsh situation, in company with the short-winged conehead Conocephalus dorsalis on 17 August. Sightings of the oak bush-cricket Meconema thalassinum were fewer than usual though a male at house-lights on the RSPB reserve at Ynyshir delighted Dick Squires and Fiona Evans. The final record of the season was that of a male common field grasshopper Chorthippus brunneus discovered inside an NCC vehicle on 17 November - a 1980's version of the Cricket on the Hearth?

CARMARTHEN ORTHOPTERA, 1986 - I K MORGAN

Due to the increased attention given to other invertebrate groups, little recording work was completed on the Orthoptera, and few records of great interest were made. Tetrix ceperoi was, however, seen at a number of sites during the DIG meeting at Tywyn Burrows (22/3605) on 7 June and all those present had ample opportunity to view the salient identification features and the habitat of this rather rare groundhopper. The related T. undulata was noted at a wide scatter of sites within the vice-county in 1986, whilst T. subulata was seen at most of its known (mostly coastal and riverine) marshy localities.

An elusive orthopteran, Meconema thalassinum (oak bush-cricket) was recorded on a visit to Dinefwr Castle Woods (22/612217) on 18/6 and G W Hopkins found a male and female attracted to house-lights at Ffair-fach (22/629209) on 4 October.

LEPIDOPTERA

BUTTERFLIES AND MOTHS IN CEREDIGION IN 1986 - A P FOWLES

There is a widely held maxim that no year is bad for all of our butterflies and although 1986 came close to breaking the rules, a few species did fare reasonably well. The cold

and wet spring delayed emergence of many species and the hibernators seemed to have suffered pretty badly. Peacocks Nymphalis io did appear in small numbers from early May but 1986 will surely be remembered as an appalling year for small tortoiseshells Aglais urticae which were distinctly rare throughout the year. There were a few good records early on however, notably the appearance of a brimstone Gonopteryx rhamnoides at Talybont on 25 and 26 April, increased sightings of holly blues Celastrina argiolus at several localities, and the continued presence of pearl-bordered fritillaries Boloria euphrosyne in the southwest of the county.

Many species appeared later than usual as the summer warmed up and late June/early July brought several records of dingy skippers Erynnis tages and green hairstreaks Callophrys rubi. It was a second successive poor year for marsh fritillaries Eurodryas aurinia but another new colony was discovered near Capel Betws Leucu. Common blues Polyommatus icarus had a disastrous time with hardly any records inland and a noticeable decline on the coast, whilst wall browns Lasiommata megera had to wait until the autumn brood before they began to show in any numbers. The real success story of the year was the super-abundance of large heaths Coenonympha tullia on Cors Fochno in early July, undoubtedly the commonest they've been in recent years.

Mid-summer saw the arrival of a handful of painted ladies Cynthia cardui but it was not a good year for migrants and red admirals Vanessa atalanta only featured strongly towards the end of the season. September brought a spell of prolonged fine weather in which butterflies were at last seen in good numbers and many species remained on the wing for much longer than usual. A large skipper Ochlodes venata was still on the wing by 19 August but it was the Browns **Satyridae** that took real advantage of the autumn sun, particularly graylings Hipparchia semele, flying until 18 September, and meadow browns still out the following day. The weather soon broke, however, and apart from frequent sightings of small coppers Lycaena phlaeas and red admirals the season was effectively over.

The story was pretty much the same for the county's moths and there were no additions to the county list of "macro's", which currently stands at 545. The distribution and status of micro-lepidoptera in Ceredigion are still imperfectly known but work by Dr A N B Simpson continues to turn up interesting species and the county list of 'micros' now totals 563. The identification of the catches made at the three 'Rothamsted' permanent traps in the county is not yet complete but it appears that it was a quiet year with little migrant activity and few notable discoveries. For a brief period from the end of June until 22 July there was an influx of hummingbird hawkmoths Macroglossum stellatarum and ten individuals were reported but the only other interesting migrant was a death's-head hawkmoth Acherontia atropos found dead inside a bee-hive, where it had presumably been stealing honey.

Earlier in the year, traps set in the Eglwys-fach area produced some good records - a blossom underwing Orthosia miniosa on 26 April; three red-necked footman Atolmis rubricollis, a beautiful snout Hypena crassalis, and a brussels lace Cleorodes lichenaria in late June; and a white satin Leucoma salicis on 4 July. The evidence from casual sampling of a range of invertebrate groups clearly suggests that these northern woodlands have retained a high invertebrate interest through centuries of clear-felling. A dog's tooth Lacanobia suasa captured at Eglwys-fach on 29 June was only the fourth record of this species in the county since 1950, estuarine marshes are a favoured habitat. Nine red-necked footman were also seen on 7 July on the eastern boundary of Ceredigion along Afon Tywi.

There were also some interesting sightings amongst the day-flying species. The spectacular black, red and cream scarlet tiger Callimorpha dominula was found in three new localities in early July, all of which consisted of marshy pasture adjacent to willow scrub. Silver hooks Eustrotia uncula were seen on two sedge-rich fields in the centre of the county and a beautiful yellow underwing Anarta myrtilli was flying over mature wet heath at Cilcennin on 6 June. A pleasing find was the discovery of a single wood tiger Parasemia plantaginis

on the upland moors above Cwm Llyfnant on 3 August. This was previously a common species on peat-bogs and moorland throughout Ceredigion until the 1950's when a sudden decline set in. The last record for this period was in 1961 on Cors Caron and since then there has been only one sighting, at the edge of Cors Fochno in 1984.

I am grateful for the continuing interest shown in Ceredigion's lepidoptera by local naturalists and thank the following for their records - A O Chater, W M Condry, P E & A Davis, F Evans, L R Gander, D Hughes, D Radford, H Roderick, A N B Simpson, I D Wallace, I Williams and E & D Woolley.

BUTTERFLIES AND MOTHS, CARMARTHENSHIRE 1986 - D POULTER

Thirty species of butterflies and over fifty species of moths were reported by a handful of observers. Generally it was a disappointing year with populations of many butterflies at a low ebb and all observers commented on the scarcity of some of our common species, notably small tortoiseshells Aglais urticae. Holly blues Celastrina argiolus were reported more frequently than usual, however, particularly in May. Silver-washed fritillaries Argynnis paphia and commas Polygonia c-album were widespread but marbled whites Melanargia galathea were in lower numbers this year, although a singleton was found at Penlan Holiday Village (22/258414) near Cenarth on 16 July far from any known colony.

A welcome find was the pearl-bordered fritillary Boloria euphrosyne seen on 17 June near Glangwenlais (22/603164) on the limestone ridge at the edge of an ashwood. This species is now considered to be very rare in the county. Only one clouded yellow Colias croceus was noted, flying in from the sea at Cefn Sidan in early July. The much-publicised record of a swallowtail Papilio machaon at Gelli Aur was unexpected but it is perhaps best to assume that this individual was probably a release rather than a rare migrant.

Authentic migrants included several early July records of hummingbird hawkmoths Macroglossum stellatarum, including one at Pendine Cliffs and one inland at Pistyllgwyn, Brechfa (22/576330). The attractive scarlet tiger Callimorpha dominula was reported from four sites and the local forester Adscita statices was seen at Penygroes (22/595142) on 25 June. Little work has been done on the micro-lepidoptera of Carmarthenshire but a notable record was the finding of Adela cuprella at two locations in Pembrey Forest on 19 May.

DIPTERA

MISCELLANEOUS DIPTERA RECORDS, CEREDIGION 1986 - A P FOWLES

The **Conopidae**, despite their striking appearance, are a little known group of flies that are internal parasites of bees (particularly Bombus spp) and wasps. Their distribution nationally is poorly understood and in underworked counties like Ceredigion there is ample opportunity to make valuable and exciting observations. They are generally found at low densities in flower-rich grasslands, composites and umbellifers are favourite nectar sources for the adults. The British fauna contains twenty-four species and so far ten of these have been recorded in Ceredigion.

By far the commonest member of the family is Sicus ferrugineus, which was widely recorded, and four others are frequently encountered - Conops flavipes, C. quadrifasciatus, Physocephala rufipes and Myopa buccata. The remaining five species are all regarded as

nationally scarce and each of them have only been recorded from one locality in the county to date. Conops strigata was found on 31 August and 7 September in a neglected garden at Cymerau Hall, Eglwys-fach (22/695963). This site has several windblown pines riddled with the nests of solitary bees and five species of conopids were recorded here, including the only county record of Thecophora fulvipes on 12 September. Conops vesicularis was reported from Trawscoed by P M Miles on 29 April 1957 and I K Morgan took a Myopa testacea in the Soden valley (22/364580) on 23 June 1985.

The final species on the county list is Zodion notatum, a small grey fly that has been seen on very few occasions in Britain. It is regarded as a Red Data Book species but it is still not yet clear if it is just a colour form of the commoner Z. cinereum. A single specimen was taken at rest in a hay meadow near Llangeitho (22/623573) on 4 July.

Horse-flies **Tabanidae** are familiar insects to us all, especially the ubiquitous cleg Haematopota pluvialis which seems to do well each year whatever the weather. This year, however, was especially notable for the abundance of Tabanus sudeticus which was widely reported. Fortunately this monster, one of the largest British flies at more than 2 cm long, prefers cattle and horses to Man. Chrysops caecutiens is not so friendly, in marshes it can be a positive nuisance and it is fairly common in Ceredigion. Tabanus cordiger, Hybomitra distinguenda and Haematopota crassicornis were all recorded during the DIG field meeting to Gwaun Garthenor (22/635556) on 5 July.

Another group of distinctive but little-studied flies (at least in Dyfed) are the **Stratiomyidae**, or soldier-flies. The metallic and brightly coloured adults of Chloromyia formosa commonly occur in gardens as well as a variety of semi-natural habitats. They were frequently observed this year during casual observations of 'Strats' in Ceredigion in which eleven of the forty-eight British species were recorded. Included in this total were four nationally notable species. Oplodontha viridula was frequent on coastal marshes at Ynyslas (22/608921) on 25 June and 19 July whilst Chorisops nagotomi was found on scrub alongside Afon Aeron (22/577579) on 29 August. Oxycera rara, a small but beautifully marked black-and-yellow fly, was taken in a base-rich soligenous flush near Cardigan on 9 July. The same site, exact details of which are withheld until efforts to safeguard its future are finalised, also produced what must be regarded as the most exciting invertebrate discovery of the year. About twenty specimens of a black-and-green soldierfly known as Odontomyia hydroleon were flying in the same soligenous flush. This species was previously regarded as British on the basis of a single female in the J C Dale collection at BM(NH) labelled as having been taken in Berkshire around 1860. There have been no intervening records and the species has long been considered extinct or even "doubtfully British". The Ceredigion colony appears to be healthy and well-established and perhaps hydroleon will be found at additional sites in west Wales now that there is an indication of its habitat preference.

Although robber-flies **Asilidae** are not as colourful as dragonflies they occupy a similar niche as adults in that they actively hunt other insects on the wing. The most dramatic Welsh species is Asilus crabroniformis which in its size and golden-brown colouration lives up to its common name of hornet robber-fly. In southern England this Red Data Book insect inhabits heathland but its Dyfed colonies are largely based on unimproved, cattle-grazed pastures. A second colony was located in Ceredigion on 20 September (having previously been found near Llechryd in August 1983) near Newcastle Emlyn (22/319413). Another scarce species is Philonicus albiceps which occurs only on sand dunes and was recorded from both Gwbert and Ynyslas.

The welcome appearance of Ian McLean and Alan Stubbs at the DIG field meeting to Garthenor on 5 July meant that 129 species of diptera were recorded for the site from a wide range of families. Interesting records were the snail-killing-flies (**Sciomyzidae**) Pherbellia dorsata (on the mesotrophic flood plain of the Teifi) and Euthycera fumigata, the **Dolichopodid** Syntomon tarsatus (from a small boggy area with Menyanthes) and the

Empidid Rhamphomyia barbata (on sallow foliage beside a small stream). An impressive total of forty-two species of crane-flies **Tipulidae**, **Ptychopteridae** and **Anisopodidae** were found during the day - Pilaria meridiana, Limnophila abdominalis and Nephrotoma dorsalis were amongst the species considered to have a restricted distribution in Britain. Another rare crane-fly was found near Glandyfi (22/695963) on 21 June - this was Ctenophora atra, a large orange and black species whose larvae live in dead wood.

Also at Garthenor was the western bee-fly Bombylius canescens and it was recorded from another four sites in Ceredigion during the early summer. The only other member of the **Bombyliidae** known from the county is the larger B. major which was observed at three localities, hovering at primrose Primula vulgaris flowers in open woodland in May while it sipped nectar.

A SUMMARY OF DIPTERA RECORDS IN CARMARTHENSHIRE, 1986 - I K MORGAN

Eight species of **Conopidae** were recorded in Carmarthen during 1986. Conops quadrifasciatus and Sicus ferrugineus were commonly encountered whilst less frequent-though still quite widespread - were Physocephala rufipes and Conops flavipes. Conops strigata was much scarcer, two individuals were seen at ragwort Senecio flowers' at the edge of a willow carr at Pontnewydd (22/447073) on 5 September.

Another nice find was the large and very local Conops vesicularis, three of which were feeding at flowers of rowan Sorbus aucuparia at Llwyn Teg, Llannon (22/550083) on 6 June. This species is believed to be parasitic on the bumble bee Bombus muscorum. A visit to a small, wooded 'cwm' at Torgoed-ganol (22/491147) on 5 June was productive in that several individuals of the local conopid Myopa testacea were seen, flying around sunlit patches of ramsons Allium ursinum.

Lastly, the diminutive - and hence easily overlooked - Thecophora atra was recorded on two occasions - on the limestone ridge at Garregwenlais (22/599163) by the British Diptera Group on 9 July, and at a flower-rich pasture on the coalfield at Nant Garenig (22/672123) by A P Fowles on 24 July.

The predatory robber-flies **Asilidae** are so far represented by five species in Carmarthenshire, and further recording is expected to reveal additional species.

The west-coast, sand dune speciality, Pamponerus germanicus is handsome fly, with reddish legs and white basal wing patches in the male. The species particularly favours the bare, sandy embryo dunes and is a late spring-early summer asilid. Pamponerus was noted at Pembrey and Tywyn Burrows (21/416993, 22/390010 and 22/359059), mostly in June and at Laugharne Burrows (22/280070) on 7 July.

Two other coastal species were recorded. The light grey and quite large Philonicus albiceps, again at Pembrey-Tywyn Burrows and the open parts of the intervening Pembrey Forest (22/393028 etc). It was also recorded at the small, relict area of dunes near the North Dock, Llanelli (21/497992) on 30 August. The other coastal species was Dymachus trigonus, noted on the coastal dune systems at Pembrey-Tywyn and Laugharne Burrows.

The most impressive of the county's asilids is undoubtedly the sturdy and yellow-abdomened Asilus crabroniformis, recorded near Garregwenlais (22/598166) on the Carboniferous Limestone ridge in late August. Lastly, the much smaller Machimus atricapillus was taken at a wooded clearing on Allt Rhyd-y-Groes NNR (22/763483) on 20 August.

Carmarthenshire, with many damp, unimproved meadows could justifiably be regarded

as good (or bad, depending on your viewpoint!) horsefly **Tabanidae** country. The well-known "cleg" Haematopota pluvialis is painfully ubiquitous, and its very close relative, H. crassicornis, will probably also prove to be widespread, especially on the hillier pastures, it was taken at Garnant (22/687125) in the Amman valley on 17 July. This fine site was also very productive for the impressive Tabanus sudeticus - about 15 individuals were seen (on 8 July) resting on bare, mossy areas on the Juncus-rich pastures. T. sudeticus was also recorded at seven other sites within the county during the summer.

A smaller, but still handsome, horsefly is the green-eyed Atylotus fulva, a mostly southern species in Britain, which was caught on the sizeable area of wet flushes at Pant Nantfforchog (22/692190) on the northern flanks of Mynydd Du on 8 July.

Another tabanid, Tabanus autumnalis, was recorded at a couple of sites - a sunning female on a glasshouse at Parc Gitto (21/537998) on 13 July and a 1985 record in Pembrey Forest (22/387043) 6/8/85, S J Falk. The smaller Hybomitra distinguenda was noted at Erw Las (21/536993), 17 July and an early autumn female caught resting besides a pathway used by fallow deer Dama dama at Gelli Aur (22/593199) on 11 September. An interesting find in Pembrey Forest (22/387042) on 26 July was the related but much scarcer H. muhlfeldi.

There are four species of the brightly-coloured tabanid genus, Chrysops of which three were recorded in the vice-county in 1986. Chrysops viduatus (- pictus), was noted at two coastal localities - the Machynys Ponds (21/512980), a male being caught on 13 July (C. relictus was also present) and a female, captured as it settled on a horse, at Parc Gitto (21/537998) on 6 July - and in the valley woodland of Nant Garenig (22/675120) on 24 July. C. relictus was also noted near Cydweli (22/410056) on 18 July and the third species, C. caecutiens, was recorded at several localities; all three species were found at Talley (22/632335) on 10 July by the British Diptera Group.

Seventeen species of soldier-flies **Stratiomyidae** have been taken in Carmarthenshire during the two recording seasons, 1985 and 1986. Chloromyia formosa and Sargus bipunctatus are probably widespread in the county, whilst Oplodontha viridula is frequently encountered near the coast. Of the rarer species, the beautiful Stratiomys potamida was noted at four sites in 1986 - Stradey Woods (22/488017); Dinefwr Park (22/612220); Machynys Ponds (21/512980); and Pembrey Forest (22/387042). The related Stratiomys furcata, which favours more brackish situations, was taken at two localities - Machynys Ponds on 13 July, and five days later one was swept from sea club-rush Scirpus maritimus near Commissioners' Bridge (22/410056).

Other notable species recorded are - Nemotelus nigrinus, N. notatus, Chorisops nagatomi, Oxycera trilineata, O. rara, and Vanoyia tenuicornis - the latter a rare species found at Laugharne Burrows (22/294075) on 7 July.

Many naturalists will be familiar with the common bee-fly Bombylius major **Bombyliidae**, an attractive, furry insect which can be seen hovering in front of early springtime flowers. Its emergence in 1986 was delayed by the cold spring weather and it was not until 25 April that the first was noted, characteristically at primrose Primula vulgaris and lesser celandine Ranunculus ficaria flowers, in Stradey Woods (22/494015). B. major was also seen at several other localities in the county during the course of the spring.

The smaller B. canescens is much more localised, being recorded at only four localities in 1986: Cencoed-uchaf (22/484033), 15 June; Carmel to Pentregwenlais (22/591163,-22/603165), abundant on the limestone ridge here, on 17 June; Garn (22/513144), 16 June and at, Pistyllgwyn (22/566330), 4 August.

The minute (4 mm) Phthiria pulicaria, one of the smallest bee-flies in the world, was encountered in early July on the Pembrey-Tywyn dune systems (21/415994 and 22/365044), and at Laugharne Burrows (22/292076).

Gasterophilus intestinalis, the parasitic bot-fly **Gasterophilidae**, was seen several times in July as it hovered low besides horses' legs at Parc Gitto, Llwynhendy (21/537990).

Xylophagus ater **Xylophagidae**, the British distribution of which is currently being investigated by Keith Alexander and Dave Clements, was noted for the first time in the county during 1986, the distinctive larvae were found at 3 sites. Dinefwr Park, Llandeilo (22/612220) on 19 June; Stradey Woods (22/488017) late June; and Nant Melyn, Rhandirmwyn (22/730466) 9 July. The species is reputed to be associated with sites that have had a long continuity of available mature and dead timber.

Many additional records of interesting species resulted from the visit of the British Diptera Group to Carmarthenshire in July. Results are still not yet to hand and hence a summary of the Group's findings will feature as an article in a future DIG Newsletter.

HOVERFLY RECORDING IN CEREDIGION, 1986 - A P FOWLES

Considerable effort was expended this year on the recording of hoverflies in the county and despite the poor weather there were sufficient spells of sunshine to enable most of the flight period to be sampled. A total of 115 species were recorded, almost half of the British fauna, including three Red Data Book species and a further fourteen regarded as nationally notable (occurring in less than 100 x 10 km squares in Britain and Ireland).

Despite the mobility of adult hoverflies a characteristic fauna can be assigned to many habitat formations. Of course, this varies with the provision of suitable ecological niches but a few generalisations can already be drawn from the results of this survey. About twenty-five species are sufficiently catholic in their habitat preferences to be almost ubiquitous, occurring wherever there is a suitable nectar source to attract the adults. This includes six members of the Eristalis genus, the familiar droneflies, which are perhaps the most noticeable of all our **Syrphidae**. Equally common, though not usually as abundant, are Rhingia campestris and Helophilus pendulus - the adults wandering freely away from their breeding sites in search of nectar. The wasp mimics - Episyrphus balteatus, Meliscaeva cinctella, Syphus ribesii and S. vitripennis - are also widespread in flower-rich sites. There are several species which are probably to be found in most localities but which are easily overlooked because of their small size and dull colouration. These include the Melanostoma spp, Platycheirus albimanus, P. clypeatus and Neoascia podagrica. Much more conspicuous are the striking adults of Sericomyia silentis and Xylota segnis the former inhabiting peatlands and the latter usually to be found near woods and scrub.

Typical woodland species include the slender Baccha spp and Sphegina clunipes with Myathropa florea and Xylota sylvarum. Specialists recorded so far are Portevinia maculata (whose larvae feed inside ramsons Allium ursinum) and Rhingia rostrata (an RDB species apparently dependent upon woodland carrion). Other nationally scarce species, usually associated with mature deciduous woods, are Criorhina berberina, C. floccosa and Didea fasciata. Conifer plantations have not received much attention to date but the impressive Eriozona syrphoides has certainly colonised Ceredigion; Parasyrphus lineolus and P. punctulatus are other aphidophagous species closely linked with conifers which were recorded this year.

Wetlands have a vast and varied fauna, the lush vegetation seemingly favourable to many species. Along with Rhingia campestris, Helophilus pendulus and Sericomyia silentis, Lejogaster metallina and Pyrophaena granditarsa are invariably present. Arctophila fulva must be one of the most handsome species and is locally distributed on 'rhos' pastures, especially where there is adjacent scrub or woodland. Anasimyia lunulata is another nationally scarce hoverfly which seems to be not uncommon on our peatlands, but perhaps the most interesting inhabitant is Microdon mutabilis. This dumpy fly has been found twice on wet heath in the centre of the county, where the larvae spend all of their lives inside ant-nests. It is more difficult to describe a typical assemblage of dry grassland species, certainly many hoverflies occur in the floriferous sites, but there seem to be few species restricted to this habitat type. Cheilosia berganstammi seems at present to be the most characteristic, the larvae feeding inside the stems of ragwort Senecio jacobaea, and Dasysyrphus venustus is also most frequently encountered in dry, open sites.

Coastal habitats are wide-ranging and hence wetland species will be found in dune slacks, woodland species in dingles, and dry grassland species on cliff-tops, dunes, etc.. There are, however, distinctive elements of the fauna not found away from the coastal belt. Breeding in rotten seaweed, Eristalinus aenus is the most restricted member of this group. Moving slightly further inland, Cheilosia cynocephala has been found on the shingle ridge at Llanrhystyd and should be looked for at Tanybwlech where musk thistle Carduus nutans, a suspected foodplant, is common. Coastal marshes have Tropidia scita, and Anasimyia contracta and Parhelophilus versicolor are found in association with stands of bulrush Typha latifolia.

Notable records:

<u>Cheilosia cynocephala</u> (RDB 3)	22/523689	Llanrhystyd	240786
<u>Microdon mutabilis</u> (RDB 2)	22/622573	Bron-yr-helem	020786
	22/634556	Garthenor	050786
<u>Rhingia rostrata</u> (RDB 2)	22/202431	Llechryd	030986
<u>Anasimyia contracta</u>	22/608921	Ynyslas	250686
<u>Anasimyia lunulata</u>	22/415498	Llawr-cwrt	050686
	22/411500	Llawr-cwrt	140686
	22/638558	Llanio-isaf	050786
	22/201488	Penparc	090786
	22/596500	Falcondale	170786
<u>Arctophila fulva</u>	22/594599	Coed Gwenffrwd	020986
	22/202431	Llechryd	030986
	22/695963	Cymerau	150986
<u>Chrysogaster virescens</u>	22/680941	Llwyn-gwyn	060786
<u>Criorhina berberina</u>	22/680941	Llwyn-gwyn	280586
	22/644878	Tal-y-bont	120686
	22/622834	Bow Street	070786
<u>Criorhina floccosa</u>	22/595858	Wallog	180586
	22/622834	Bow Street	070786
<u>Didea fasciata</u>	22/695963	Cymerau	12-210986
<u>Eriozona syrphoides</u>	22/695963	Cymerau	180986-041086
<u>Eristalis rupium</u>	22/714972	Llyfnant	100886
	22/695963	Cymerau	190986
<u>Megasyrphus annulipes</u>	22/695963	Cymerau	100986-111086
<u>Platycheirus scambus</u>	22/635555	Garthenor	050786
<u>Tropidia scita</u>	22/691967	Glandyfi	140686
	22/608936	Ynyslas	150686
	22/608918	Afon Led	250686
	22/185455	Pentood	260686
	22/667942	Afon Ddu	170886
<u>Xylota coeruleiventris</u>	22/703835	Cwmsymlog	120886
<u>Xylota florum</u>	22/622834	Bow Street	070786

Acknowledgements:

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HOVERFLIES IN CARMARTHEN, VC44, 1986 - I K MORGAN

Recording work on hoverflies **Syrphidae** continued in 1986 with a total of 119 species noted in the vice-county by the end of the season. An account of the highlights is given below; dates are given thus -1/6 = 1 June etc ...

The early spring was rather cold and, apart from a few stalwarts, the number and variety of hoverflies was rather disappointing. In May the season began to pick up and several good records were made, such as the local Neoascia meticulosa at Glynea (21/554989) on 11/5 and Helophilus hybridus at several coastal localities. On 22/5 and several subsequent dates, the uncommon Portevinia maculata was located at several wooded sites on the Carboniferous Limestone outcrop; the larvae feed on Allium ursinum which is common on the limestone though scattered elsewhere. At one of the Portevinia localities Llawr Cwrt (22/515145) -the local Platycheirus tarsalis was also seen in late May. The Typha beds at Glynea later proved productive for Parhelophilus frutetorum, P. versicolor and Anasimyia lineata.

The end of May saw the emergence of the specialised old timber species Chalcosyrphus nemorum, sunning itself and showing the characteristic jerky movements (like a solitary wasp) of its tribe, on large beech logs in Stradey Woods (22/489017); at this latter site, the infrequent Ferdinanda cuprea was to be seen, basking on sunlit leaves. The flowers of king-cups Caltha palustris at the edge of alder carr on the WWTNC Reserve at Cors Goch, Llanllwch (22/370186), yielded two very handsome flies on 30/5 - the foxy-haired Criorhina floccosa and the large Helophilus trivittatus; both species were seen later in the season at a handful of other sites in the county.

Two other scarce hoverflies were recorded on 6/6, at Llwyn-Teg, Llannon (22/550083) -the small wasp-mimic Chrysotoxum arcuatum (here at its most southerly British locality) and Didea fasciata caught at blossom of rowan Sorbus aucuparia within a spruce plantation. More members of the genus Chrysotoxum (cautum and festivum) were seen the next day at Tywyn Burrows (22/3604 etc), when additionally Eumerus strigatus and Helophilus trivittatus were present.

On a sunny afternoon in mid-June (13/6), a brief visit to Stradey Woods (22/488017) was amply rewarded by the capture of Xylota florum and X. sylvorum, both together at the same sunlit grove of beeches besides the Afon Dulais. Two other relatives, the common X. segnis and Chalcosyrphus nemorum, were also present. Also in mid-June there was a marked influx of Scaeva pyrastris during a period of hot weather and southerly winds when other immigrant insects were recorded.

Still with the Xylotini, a trip to record the old timber Coleoptera of the magnificent Dinefwr Deer Park and Castle Woods, Llandeilo (22/612217 etc) on 19/6 was made additionally interesting by the discovery of the scarce woodland hoverfly Brachypalpoidea lenta, the only other record for this species in the county was that made a few weeks later by A P Fowles at Garnant in the Amman valley (22/688125). It was at Dinefwr Castle Woods that in August Graham Hopkins made the remarkable discovery of two very rare hoverflies -Rhingia rostrata (5 individuals seen on 8 and 11/8 at 22/610218) and Callicera aenea (one at a small wood-edge pond (22/612216) on 14/8).

South-eastwards, in the Llanelli area, Criorhina berberina was at Stradey Woods on 20/6, and the markedly-orange Platycheirus fulviventris was frequent on a choked ditch at Ddol-fawr, Llwynhendy (21/542993) on 22/6. Nearby, at Penybryn (21/541985) a few days later, the coastal Tropidia scita (also noted at 3 other sites), Eristalis abusivus, Helophilus trivittatus (10+ individuals), much Chrysogaster chalybeata and several other common species were buzzing around the abundance of Oenanthe crocata umbels. Alan Stubbs et al, on the Dipterists visit of early July, added two more species of Chrysogaster to the county list - macquarti near the Witchett Pool (22/282076) on 7/7 and virescens at Pant Nant-fforchog, Mynydd Du (22/962190) on 9/7. At Black Scar (22/315108) on the mouth of the Taf Estuary AES recorded the saltmarsh species Platycheirus immarginatus, this restricted hoverfly was also caught in appropriate habitat, by the author, later in the month at Commissioner's Bridge, Cydweli (22/412055). The dipterists' visit to the mossy slacks of Tywyn Burrows (22/3605) on 6/7 was also fruitful, for the very scarce and unusual hoverfly Microdon mutabilis was netted at this site; a few days later at Abergorlech (22/5833) all three British species of Sphegina were recorded by the group.

After searching for Eristalinus aenus in suitable habitat for much of the season, it was pleasant to discover a couple of individuals at bramble blossom behind the pebble beach at Gilman Point, Pendine (22/226075) on 14/8; the larvae of this coastal species are said to feed on

seaweed. The end of August (27/8) saw the emergence of the handsome Arctophila fulva at Waunuchaf (22/438306) and this species, characteristic of floristically-rich heathy meadows, was later seen at other sites - often at Succisa pratensis (sometimes Centaurea nigra or Knautia arvensis) - in company with other 'end of season' species like various Eristalis, Leucozona glauca and the wasp-like Sericomyia silentis.

Finally, one of the later records of 1986, made on 5/9 at an area of acidic heath at Rhydcymerau (22/575385) by Adrian Fowles, was of great interest - a single Eristalis rupium was taken, a handsome hoverfly with distinctive dark wing-patches, and here at the southern-most edge of its British range.

PEMBROKESHIRE HOVERFLIES, 1986 - S & A COKER

A total of some 108 species have so far been identified from material collected. A complete analysis of these records has yet to be completed but a few records of interest are given below.

Most recording effort was given to coastal (cliff) grassland and the marshland adjacent to the upper reaches of the Milford Haven waterway - of particular interest was the Red Data Book species Eumerus sabulonum at Nolton Haven. During the latter part of the season an attempt to map the range of Arctophila fulva was made. In Pembrokeshire the species seems to be associated with grassland/scrub with abundant devil's-bit scabious Succisa pratensis and is currently known from ten 10 km squares.

ODONATA

CEREDIGION DRAGONFLIES, 1986 - F EVANS

The 1986 summer was cooler, cloudier, and with higher precipitation, than average for Wales. After a very cold start, and a short burst of sunny weather from mid-June to early July, the cool wet weather set in until the Indian summer months of September and October. The success of Odonata species reflected the pattern of the summer, the hot sunny autumnal weather unfortunately arriving too late for the bulk of our dragonflies, although Sympetrum striolatum, S. danae, and Aeshna spp appeared to benefit. The largely wet and cool July and August of 1986 perhaps explains the general scarcity of dragonfly sightings in Ceredigion this year. Ceriagrion tenellum records were particularly few, although this is possibly due to under-recording rather than a reflection of population decline.

On a more positive note, the 1986 dragonfly season in Ceredigion was notable for the number of sightings of Orthetrum coerulescens and Ischnura pumilio. O. coerulescens was recorded from six new sites this year, including a stream with poor fen vegetation as well as more typical habitats such as shallow peaty flushes in valley mires. I. pumilio was well recorded with three new sites being discovered - the peripheral drainage ditches of Cors Pen-pegws (22/6-2774) basin mire; the floodplain ditches of Gwaun Llanio-isaf (22/636556); and a recently excavated decoy pond at Hendrehaidd (22/628734).

I would like to thank all of the readers who contributed their sightings this year, and to appeal to readers to continue to record dragonflies in 1987.

DRAGONFLY RECORDING IN PEMBROKESHIRE AND CARMARTHENSHIRE, 1986 -S J COKER

The lack of warm sunny days coupled with continuous high winds has restricted dragonfly recording this season. No new species have been recorded. The most interesting records are given below:

Ischnura pumilio - Several new sites in Pembs and one record from a new site in Carm. s.

Coenagrion mercuriale - Richard Evans reports that the recently-discovered Clegyr-boyn (12/72) site has thrived this year.

Gomphus vulgatissimus - The very late emergence of this species in 1986 restricted the amount of useful recording and no new records outside its known range in Carm. s. were made.

Aeshna mixta - Both in 1985 and 1986 many emerging individuals were seen at the dune slack in Mere Pool Valley (11/99) - over sixty exuviae were collected in 1985.

A major effort was made this year by Richard Evans to record the dragonflies of the farm irrigation reservoirs on the St Davids peninsula (12/72) - about thirty ponds were visited throughout the season.

COLEOPTERA

CASUAL BEETLE RECORDS, CEREDIGION 1986 - A P FOWLES

In the quiet winter months, when many insects are inactive, there is no need for the entomologist to go into hibernation as a high proportion of ground beetles **Carabidae** are still abroad. Turning over (and subsequently replacing) stones and logs can reveal a fascinating world of invertebrates in which carabids feature prominently. Some thirty-five species were recorded in this manner although there are likely to be about 150 species in the county. The slightly warmer days of spring brought three records of considerable interest. On 3 April a *Pterostichus aethiops* was found under a stone in the valley oakwoods of Cwm Clettwr (22/665920) at 90 m asl. This species is normally associated with upland moors but Keith Alexander (1986) has also found it in woodlands in the winter and suspects there may be a local migration down from the hills in autumn to escape the worst of the weather. *Agonum ericeti*, a brilliant metallic diurnal species, was common on the central dome of Cors Fochno (22/635917) on 26 April. It is a frequent inhabitant of bogs in northern England and Scotland but there are very few records elsewhere. The other interesting record concerns an invader which is rapidly colonising Britain from southern England (Key 1986) - a single male *Leistus rufomarginatus* was found under a log in the dingle woodland of Cwm Mawr, Llanddeiniol (22/558723) on 3 May.

Glow-worms *Lampyris noctiluca* (Lampyridae) seem to be scarce in west Wales but perhaps they are somewhat overlooked. I was previously only aware of one Ceredigion colony, on the bracken-clad slopes of Foel Fawr (22/687951), but this autumn the conspicuous larvae were found at two new localities. On 9 September they were seen amongst cliff-top grassland at Mwnt (22/201521) and on the sand-dunes at Gwbart (22/163486). Further records of this local species in Dyfed would be welcomed for a future article on its status in the three vice-counties.

Dead-wood beetles provided some interesting records this summer. The longhorns **Cerambycidae** include several unmistakable insects and amongst the widespread *Strangalia maculata* observed was a single *S. quadrifasciata*. There are relatively few Welsh sightings (summarised in Miles 1977) for this large black and yellow beetle which is associated with old willows. One was found on umbels on the banks of the Afon Teifi (22/193435) on 3 September. Another nationally scarce longhorn is *Judolia cerambyciformis* which is whitish with black spots. It appears to be fairly frequent in Dyfed and was recorded from seven sites in Ceredigion this year, usually in clusters on the flowerheads of hogweed *Heracleum sphondylium* or angelica *Angelica sylvestris* in woodland edge habitats. Other dead-wood breeders included the beautiful bee chafer *Trichius fasciatus* (**Scarabaeidae**) near Eglwys-fach (22/695963) on 6 July (Miles 1982 summarises the Welsh records for this species) and the soft-bodied *Melandrya caraboides* (**Melandryidae**) at Glandyfi (22/695970) on 15 June.

There were three other local species recorded this year - Cantharis thoracica, a soldier-beetle **Cantharidae**, was taken on poor fen alongside Nant Bryn-maen (22/636562) on 10 July; Phyllobrotica quadrimaculata, a leaf beetle **Chrysomelidae**, on skullcap Scutellaria galericulata on the banks of Afon Clettwr at Talgarreg (22/420495), 23 July; and Cassida murraea, a rare tortoiseshell beetle **Chrysomelidae** normally found in south-east England, found on fleabane Pulicaria dysenterica in soligenous flushes near Penparc, Cardigan (22/201488) on 9 July.

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DINEFWR DEER PARK, CARMARTHENSHIRE (22/612217) - THE BEST DYFED SITE FOR DEAD WOOD INVERTEBRATES? - K ALEXANDER

Dinefwr Park and Woods is one of only six pasture-woodland areas in Wales listed by Harding and Rose (In Press) as being of high value for the conservation of wildlife. So, when I first heard of the possibility of the National Trust acquiring the Park, I immediately made my interest known to the Trust's Regional Director for South Wales. A visit was eventually possible on 19 June 1986, and Ian Morgan and Adrian Fowles were able to join me and show me around the site. I was specifically looking for the specialist "old timber" beetle fauna listed in Harding and Rose, and by the end of the day had found five of the species in question: Pediacus dermestoides, Ctesias serra, Stenagostus villosus, Orchesia undulata and Sinodendron cylindricum. Nothing wildly exciting, but a reasonable list for a brief visit, and probably the longest for any Dyfed site so far!

A good range of other deadwood inhabiting invertebrates were also found. The beetles Abraeus globosus, Cerylon ferrugineum and C. histeroides are probably also confined to "old timber" sites in western Britain. Other beetles included Stenocorus meridianus, Dasytes aeratus, Scaphidium quadrimaculatum, Pyrochroa serraticornis and Denticollis linearis, and also present were larvae of the fly Xylophagus ater (new to Dyfed and another "old timber" special) and a larva of a snakefly Raphidia sp.

Later in the summer I K Morgan recorded another scarce deadwood beetle at Dinefwr - Thymalus limbatus.

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CARMARTHENSHIRE BEETLES, 1986 - I K MORGAN

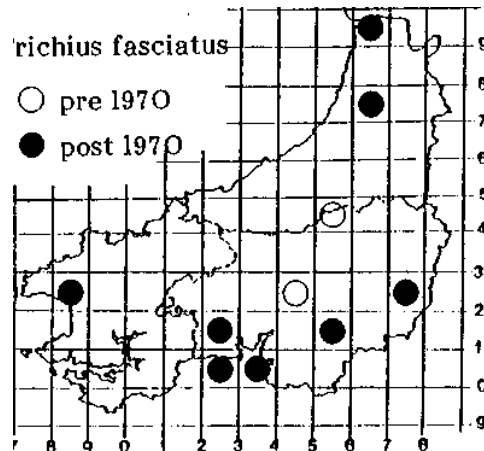
The limited amount of work done on Coleoptera in previous years was expanded upon in 1986 and several species of note were recorded. The **Cerambycidae** or longhorns, for example, are now better known and nine species were encountered, including Strangalia quadrifasciata at two sites - Gilfach Wen (22/259297) and Pembrey Forest (22/387042); Judolia cerambyciformis at three localities; and the impressive tanner beetle Prionus coriarius recorded at Dinefwr Deer Park (22/610225) by Tim Davies on 17 August.

A different assemblage of beetles was recorded at the marshes, wet meadows and woodland of Ynys-uchaf (22/490150) near Porthrhyd. Here, in July the brilliantly-coloured **Chrysomelid** Pilemostoma (- Chrysolina) fastuosa was noted and Blethisa multipunctata, a ground beetle that has decreased quite markedly because of land drainage, was also taken. The distinctive Phyllobrotica quadrimaculata was frequently seen on its foodplant skullcap Scutellaria galericulata - it was also recorded at Laugharne Burrows (22/275085) on 7 July and at Pistyllgwyn (22/567330) on 4 August.

The coastal sand-dunes at Tywyn Burrows were also productive for Coleoptera in 1986. The large strandline **Carabid** Eurynebria complanata, a species with a limited global distribution, was taken at Cefn Sidan (22/362047) on 24 August; the individual captured was resting under driftwood with Brosicus cephalotes and marine talitrids, sandhoppers, its principal prey. Another notable **Carabid** noted at Tywyn Point (22/359062) was Cicindela maritima, a tiger beetle that occurs locally on bare dunes; its much commoner relative C. campestris was noted at several localities, mostly in the south of the county. Two other notable species seen at Tywyn Burrows were Chrysomela populi (often on creeping willow Salix repens) and Cryptocephalus aureolus, both **Chrysomelids**.

Several visits were made to the acidic, heathy pastures at Garnant (22/687125) in the Amman valley where, in mid-June, the large rove-beetle Ontholestes tessellatus was recorded. Also present was the mainly upland and attractively-coloured click-beetle Ctenicera cuprea. Another localised click-beetle, Ampedus balteatus was taken at Llwyn Teg, Llanon (22/550083) on 6 June.

Of the reasonable number of **Cantharids** (soldier-beetles) recorded Ancistronycha abdominalis, noted by A P Fowles at Cwm Clydach (22/740194) on 19 June, was probably the best find. Several additional records were made of the **Scarabid** Trichius fasciatus, a large and very attractive beetle with furry, bee-like, wing-cases. It requires dead wood for breeding and is typically seen, in Carmarthenshire at least, along sunny, flower-rich wood edges in early July. This year two specimens were reported by the British Diptera Group - at Laugharne Burrows (22/305073) and Cwm Sawdde (22/721251) on 7 and 9 July respectively.



MOLLUSCA

RECENT LAND MOLLUSC RECORDING IN CEREDIGION - A O CHATER

In the absence of any general account of Ceredigion, VC46, land molluscs it is difficult to put particular records into context, and in this note I will rather comment on the general state of recording and mention some of the more interesting features of distribution, especially in relation to new records for the vice county. Until 1983 Ceredigion had been rather poorly covered by recorders and was notable chiefly for two records of rarities. Firstly L. maculatus (= L. pseudoflavus, L. grossui), a mottled yellowish-grey slug widespread in Ireland, was recorded for the first time in Britain from a wood near Mydroilyn by S P Dance in 1969. There are still very few records of it in Britain, and it has been found only once more in Ceredigion, a juvenile on waste ground in Pontsian village in March 1986. Secondly, Helicodiscus singleyanus, a minute alien subterranean snail, usually introduced via greenhouses, was found in a litter sample from the grounds of Ynys-hir Hall Hotel, Eglwys-fach, in 1975, only its second site in Britain (Chatfield 1977). It has not been refound in Ceredigion and is still known from only a handful of sites in Britain.

Since 1983 recording, by the author and A P Fowles in particular, has added some 637 10 km square dots to the 676 already in Ceredigion in the Atlas of 1976 (Kerney 1976). The number of tetrad records accumulated during these last three years (the commonest and probably ubiquitous species, Discus rotundatus, being now recorded from 193 out of the 529 tetrads) suggests that we may be able to produce significant tetrad maps within a few years. Numerous litter and moss samples have been sieved and sorted, covering over 130 sites in all but three of the 10 km squares, mostly from woodland and wetland sites, providing a useful back-up to more casual recording.

The greatest diversity of land molluscs is usually in areas of calcareous rock, and in ancient woodland and old, undisturbed wetland (Kerney & Stubbs, 1980). Ceredigion predictably lacks a number of calcicole species, but proves to be rich in ancient woodland and wetland indicators (some of these species are in fact so widespread in obviously secondary and disturbed habitats that their value as indicators in west Wales must be called into question). Probably the most reliable ancient woodland indicator, the small plated snail Spermodea lamellata, is now known from 11 tetrads, including most of the best woodland sites in the district such as Coed Rheidol NNR and the Llyfnant, Clettwr, Arth and Gwenffrwd dingles. The minute operculate snail, Acicula fusca, not recorded for Ceredigion until 1984, is now known from 7 tetrads, but as well as ancient woodlands it occurs on mountain rock ledges at 310 m at Craig y Pistyll and in flushes on the sea cliffs at Mwnt. Of the indicator slugs, Limax tenellus, a small, lemon-yellow slug with a very short keel, is known only from ancient woodlands in the Gwenffrwd dingle, where it was found in 1985; and L. cinereoniger, the largest British slug, is known from 11 tetrads although several of its sites are in secondary woodland. Another traditional ancient woodland indicator, Zenobiella subrufescens, a medium-sized snail with a thin, flexible shell, is known from 46 tetrads, and though the sites are chiefly in woodland many are in secondary woodland and several are in unwooded places. Finally Leiostyla anglica, known from 17 tetrads, is similarly by no means confined to ancient woodland. In general, however, the woodlands that are richest in species, and that contain the most indicator species, are those considered to be the richest ancient woodlands on botanical evidence. Some of our woodland sites are indeed very rich in land mollusc species, Coedmor for example having 40, and the Gwenffrwd 41.

The old, undisturbed wetland indicators include three of the minute Vertigo species. V. substriata is now recorded from 37 tetrads, V. antivertigo from 18, and V. lilljeborgi from 4. This last is the most interesting new species to have been recorded from Ceredigion in recent years. Considered to be a late glacial relic, previously known from no further south than Snowdonia, V. lilljeborgi was found in 1984 in a kettle-hole basin-mire at Llanybi (Chater 1985). Since then it has been found in abundance on flood-plain mire by the Teifi at Gwaun Llanio-isaf, and in marshy ox-bows of the Teifi at Highmead (as well as at Cil-y-blaidd in Carmarthenshire). It is a significant addition to the list of rare and interesting invertebrates of the Teifi wetlands.

Two other snails of more or less wild, native habitats, new for the vice-county, provide an interesting geographical contrast - Ashfordia granulata is a western species virtually confined to the British Isles, and since its discovery in Ceredigion in 1983 has been recorded from 15 tetrads, mostly coastal and in the south-west. It occurs in damp sites, including coastal flushes and damp woodland. Trichia plebeia occurs in central Europe and central England and since its discovery in Ceredigion in 1984 has been recorded from 8 tetrads. The sites are all in damp woodland but none are coastal, although they are the westernmost localities for the species in Britain. (This group of species in Trichia is, however, currently being revised and T. plebeia may well prove not to be a distinct species as it is now recognised.)

Most of the other new records for Ceredigion since 1983 are of species probably not truly native here. Monacha cantiana, the Kentish snail, is in Britain largely confined and native to the south-east of a line from the Severn to the Tees. There is a large colony at Aberystwyth, stretching along the north bank of the Rheidol from just above Trefechan Bridge to Pont Saint-Brieuc, on waste ground, allotments and scrub. It was doubtless introduced from the railway. One juvenile has also been found in Llanbadarn Trefeglwys churchyard. (There is a small colony in the part of Ceredigion that is in VC45, on the bank between the road and the saltmarsh 150 m north-west of the Webley Hotel, Poppit.) The somewhat calcicole species Ena obscura, known in Wales mostly only from the limestone areas, was found in 1986 on the railway embankment along the Dyfi estuary, and on a wall in Llangwryfon old churchyard.

The minute, needle-like, subterranean, blind snail, Cecilioides acicula, was found in Llechryd and Mwnt churchyards, and at a ruined cottage site on Pendinas, Aberystwyth. Another predominantly south-eastern and calcicole species, it is one of a number of snails characteristic of dry, usually calcareous sites that did not reach Britain until well into the post-glacial period. In Ceredigion these species are largely confined to the coastal fringe, and besides Cecilioides include Candidula intersecta, Cochlicella acuta and Ceruella virgata. The last two reach their greatest densities at Mwnt and Gwbart. At Mwnt, too, a single subfossil shell of Pomatias elegans was found in a molehill by A P Fowles in 1986. This quite large, operculate species is strictly confined to friable, dry calcareous soil into which it can burrow, and in Wales is known only from the limestone along the north and south coasts. Whether, as seems most likely, there was once a native or accidentally introduced population at Mwnt, or whether it was an isolated introduction, is uncertain, and several searches have failed to reveal more specimens.

Among slugs recently recorded new for Ceredigion is Boettgerilla pallens, the worm slug, first recorded in Britain in 1972 and spreading a good deal faster than the Collared Dove, is now known from 12 tetrads in Ceredigion and has been found in most parts of England and Wales. It is native of south-east Europe, and the reason for its sudden expansion of range is unknown.

Acknowledgements: I am especially grateful to A P Fowles and Dr M P Kerney for providing records and information.

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LAND SNAILS IN CARMARTHENSHIRE IN 1986 - I K MORGAN

Mollusc recording underwent its customary lull during the summer months when attention was diverted to other invertebrate groups but in spite of this there were several notable records. The ancient woodland indicator slug Limax cinereoniger was found at three sites - a cwm near Pont Aber (22/738225), Dinefwr Castle Woods (22/613217) and in a limestone ashwood near Garregwenlais (22/602165). The arboreal snail Balea perversa was noted at Dinefwr Deer Park (22/614225) on 19 June when several were found under the peeling bark of an ageing sycamore Acer pseudoplatanus.

Recent fieldwork by A P Fowles turned up two interesting records - Vertigo pygmaea at Craig Ddu (22/325101) on 26 November (only the third vice-county record) and the very important occurrence, on 1 December, of Spermodea lamellata at Nant Cwm-hagr (22/395289), a tributary valley of the Cwm Duad complex of woodlands. At Nant Cwm-hagr Spermodea was found in some quantity in a base-rich flush with dog's mercury Mercurialis perennis, hart's-tongue Phyllitis scolopendrium etc ... A week later Spermodea was again found, in similar flushed situations, at Nant Alus, east of Coed Weddus (22/745276). These two discoveries represent a significant extension of range for this ecologically-restricted species.

ONISCIDAE

WOODLOUSE RECORDING IN CEREDIGION, 1986 - A O CHATER

The known status of woodlice in Ceredigion up to mid 1986 was summarised in a paper in DIG Newsletter No 2. The more interesting records for the early part of the year were included there, notably those by A P Fowles of Armadillidium album at Ynyslas and Gwbert. This Red Data Book category 3 species (rare, at risk) is clearly doing well in Ceredigion. The other small species of Armadillidium in the district, A. pulchellum, was found in two more coastal cliff slope sites and in a synanthropic dry-stone wall inland site, its two familiar habitats in Ceredigion, but in August one specimen (identified by D T Richardson) was found in an NCC pitfall trap on wet heath at Rhos Pennar-fawr (22/370533) at 180 m asl and 4 km inland. This is a rarely recorded habitat for A. pulchellum, and it will be interesting to see whether more records emerge from the pitfall samples being taken at other such sites in Ceredigion and Pembrokeshire.

Porcellionides pruinosus, an easily recognisable species rather like the common Porcellio scaber but smoother and purplish-brown with a blue-grey bloom and conspicuous, rather long whitish legs with which it runs rapidly, was found during the summer in two more manure heap sites, one at the north end of the district at Glandyfi, the other at Llanllyr in the Aeron valley. It would be interesting to know more about the populations of this species. Vast numbers can build up in old manure heaps, only to be dispersed over surrounding pastures when the manure is spread. How many individuals survive and breed in these pastures? Small populations clearly survive in farmyards or cowsheds or on the sites of dispersed manure heaps in the corners of fields and thus inoculate new heaps.

Ants, in whose nests the blind, white Platyarthrus hoffmannseggi have been found in an Aberystwyth garden, have now been identified as Myrmica rubra, and on coastal grassland at Borth and Ynys-las as Lasius niger, (Chris Hames, Department of Pure and Applied Zoology, University of Reading, is investigating the association of ants and woodlice and would welcome samples of both, as found in association, in 70% alcohol, fully labelled with site details.)

General recording and tetrad mapping, unfortunately still largely by the author and A P Fowles, is continuing and the commonest species, Oniscus asellus, has now been recorded from 207 of the 529 tetrads.

The woodlice of Pembrokeshire are at present much less well known than those of the other districts of Dyfed. An interesting record of Androniscus dentiger, a small, distinctive rose - or flesh-pink species with eyes each of a single black ocellus, by T Martin from his garden at Neyland is the first for Pembrokeshire of this species, although as it is recorded from 34 tetrads in Ceredigion it may well prove to be equally widespread there.

WOODLICE IN CARMARTHENSHIRE, 1986 - I K MORGAN

The number of woodlouse species recorded in the vice-county now stands at eighteen, three species being added in 1986.

In late March, Arthur Chater made a very important find by discovering Metatrichoniscoides celticus in an old, disused limestone quarry at Capel Dyddgen (22/468123) near Crwbin. Hitherto, the world range of this species was only a couple of sites on the Glamorgan coast. The Crwbin specimens were confirmed by Alison Trew of NMW who, together with P G Oliver, first described the species as new to science in 1981. Apart from its extreme scarcity, the finding of M. celticus at Crwbin has shown that the species is not confined to the supralit-toral zone as was previously thought.

Another new county record was Porcellionides (= Metoponorthus) cingendus, found 6 May, in thick, grassy leaf litter on the limestone cliffs at Dolwen Point (22/233078), just west of Pendine. This species has a markedly south-western distribution in the British Isles, and has been quite frequently recorded elsewhere on the Pembrokeshire and Ceredigion coast, so its occurrence in VC44 was not unexpected; there are also old records for Gower (VC41). The latest addition to the county list is Porcellio spinicornis which was found in some abundance on the perimeter wall of Llandeilo church (22/632225) on 10 December. Mortared walls are a favoured habitat in west Wales and the association with ecclesiastical buildings has frequently been noticed.

The considerable deposits of saltmarsh debris laid down along the strandline at Pembrey Burrows (22/435002) yielded two localised species on 1 April. Armadillidium album was abundant in the less-compacted upper layers of the litter, whilst lower down, where it was finer, darker and more humus-rich, the diminutive Haplophthalmus mengei was likewise common. A. album was also noted, on several occasions, at Tywyn Point (22/358063). At Glyn Deri, Cwm Garenig (22/667127) on 25 July a small colony of Cylisticus convexus was found on the mortared walls of a disused coalmine building. This appears to be the first inland record of the species in Wales, where it is scarce in coastal sites, although it is frequently synanthropic in England.

References:

CHATER, A O (1986) - Recent Woodlouse Records from Dyfed. British Isopod Study Group Newsletter, 21 (Sept 1986): 4-5.

MORGAN, I K (1985) - Woodlice of Carmarthenshire - An Introduction. Llanelli Nats Newsletter (Sept 1985): 5-6.

BRITISH MYRIAPOD GROUP - BRITISH ISOPODA STUDY GROUP FIELD MEETING : MENDIPS : BRISTOL CHANNEL : WILTSHIRE - AN INVITATION

The BMG/BISG are holding their Spring 1987 residential meeting at the University of Bristol's School of Veterinary Science at Lower Langford some 12 miles SW of Bristol, Thursday 23 to Sunday 26 April 1987. Access to a variety of coastal and inland sites is being arranged.

Field work is carried out during the day and in the evening identification of specimens, short talks, slide shows and time set aside for socialising. If you would like to come along, learn more about isopods and myriapods, get to know those involved in the work on a national and international scale, amateur and professional, please write to Mr D T Richardson, 5 Calton Terrace, Skipton, North Yorkshire BD23 2AY enclosing a SAE. Participants may book for the whole or part of the period.

ARANAEA

SPIDERS IN CEREDIGION - K CATLEY

This year has seen some interesting finds in the spider fauna of Ceredigion with several species new to Wales having been recorded. The group as a whole, however, is still extremely badly served and there is a great deal of work still to be done. Wetland sites, such as Cors Caron and Cors Fochno, have been reasonably well studied this year but much needs to be done especially in woodland and saltmarsh habitats. The setting up of a spider recording scheme by the British Arachnological Society in conjunction with the Biological Records Centre will hopefully encourage some other naturalists to take up the spidering habit. This scheme will be launched early in the New Year. I will be the Area Organiser for Dyfed/Powys and would be extremely pleased to advise and help anyone with even a passing interest in this fascinating group of animals.

During four visits in May and early June, I was able to look briefly at the spiders of Ynyslas, and although collecting was done by hand on the mature and foredunes only, some interesting species were found. Male and female Zelotes electus were found in moss on the older dunes. This ground-living hunting spider has only previously been found in Anglesey and Glamorgan and appears to be confined to coastal dune sites. The crab spider Xysticus kochi provided a single male, taken in marram Ammophila arenaria and although this is widely distributed over England, the Welsh distribution is limited to the south. Marpissa nivoyi is an interesting jumping spider **Salticidae** whose habit of running backwards up Marram stems is quite endearing. It is a southern species not found further north than Yorkshire, and its only other Welsh site is Glamorgan.

It was encouraging to find the beautifully marked **Lycosid** Zerolycosa miniata in great profusion on the open sand of the older dune systems. Also in the same habitat Arctosa perita, sits motionless on the sand, impossible to see until it moves. This strikingly camouflaged spider - black, yellow, red and brown, with clearly annulated legs - constructs a burrow in the sand from where it dashes to attack prey. On two visits I saw the spider being hunted and attacked by the wasp Pompilis plumbeus. The wasp can somehow detect the spider underground and after breaking into its burrow paralyses the spider and reburies it as food for her offspring.

Whilst searching the roots of Marram I was lucky enough to find the rare **Linyphiid** Mecopistes peusi, one female and some immatures. This tiny spider (1.3 mm) has only been found in five other sites in Britain, including the New Forest and Newborough Warren on Anglesey. I searched in vain for the **Salticid** ant mimic Synageles venator which has been found in similar habitats in Glamorgan, but there is always next year!

Before we leave the coastal habitat, a word about Cei Bach beach (22/441459). While searching amongst stones on the high tide mark I came across a single immature Zelotes species which I did not recognise; after keeping her for a number of weeks she moulted out to adulthood and was then identified as Drassyllus lutetianus. This was the first Welsh record and in fact this rare spider has only previously been found in a very few sites in SE England, Ireland and West Scotland.

Throughout the summer I have been examining the spiders caught in a pitfall trapping exercise on Cors Fochno; this has increased the small species list to some forty-plus spiders and turned up some interesting finds. Agroeca striata a groundliving hunting spider of the family **Liocranidae** seems to be particularly abundant and was found in traps covering the whole transect in June, July and August; both sexes being taken but males more frequently during July. Previously only known from marshy sites in South East England and the east of Ireland this is the first Welsh record. D. lutetianus was also found in the traps; it is interesting to note that this spider has only ever been found on beaches or marshy sites, a good example of a diplostenocious species.

While sweeping bog myrtle Myrica gale in June on Cors Fochno I took a single female of Hypsosinga albovittata. This member of the family **Araneidae** (the orb web spinners), has a widespread but very local distribution, mainly on southern heathland and has not been previously found in Wales. It builds its web quite close to the ground, under 20 cm, and obviously finds Myrica most admirable for this purpose.

Before leaving Cors Fochno, a word about Dolomedes fimbriatus. In October, Adrian Fowles was kind enough to show me the spot where he had discovered the spider in 1983. Many sub-adult females were found sitting on the lower leaves of young birch trees on the eastern edge of the bog. This delightful spider, measuring some 20 mm, catches prey by darting across water and can often be seen with her front legs resting on the surface to detect prey. On Cors Fochno she appears to inhabit the ditches which are always wet and frequently flooded.

Hand collecting on Cors Caron during the summer produced an interesting member of the **Theridiidae** Theonoe minutissima in Sphagnum on the Teifi flood plain; this easily overlooked spider measures only a millimetre and constructs its tangled web in Sphagnum and detritus. It has only previously been found in North Wales. Euryopis flavomaculata, an ant-feeding **Theridiid**, has also been found in pitfall traps on the crown of the West Bog; this rather rare spider has not previously been found in Wales. Finally, Singa hamata is still flourishing on Cors Caron but as yet has not turned up anywhere else in Wales. This very local spider has been searched for in vain on Cors Fochno, but seems confined to Tregaron.

Recent years have seen the publication of 'The Country Life Guide to Spiders of Britain and Northern Europe' by Dick Jones and the excellent but expensive volumes by Mike Roberts on the 'Spiders of Great Britain and Ireland' (Harley Books). These together with the standard text of 'British Spiders' Vol I, II and III by Lockett, Millidge and Merritt (Ray Society) should provide any keen naturalist with the necessary ammunition to "have a go" at any of the commoner species of spiders. There is a great deal of work to do on the distribution of spiders in this part of the world and it can be most rewarding, so again I repeat my offer of advice and can be contacted on my new telephone number of Lampeter 423446.