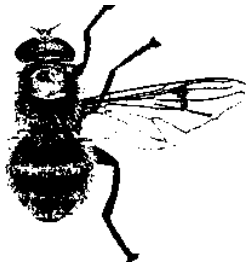
DYFED INVERTEBRATE GROUP



NEWSLETTER N°. 1 (March 1986)

This first issue of the DIG Newsletter heralds what we hope will be a new phase in the conservation of invertebrates in west Wales. We are all aware of how beautiful and varied Dyfed's countryside is and many of the richer sites have already been purchased by sympathetic bodies such as the West Wales Trust for Nature Conservation, Nature Conservancy Council, National Trust and Woodland Trust. These reserves, by and large, have been chosen as representative of the spectrum of natural and semi-natural habitats in the county - with an eye often kept open for scarce plants and birds. These priorities will no doubt remain but as public interest in, and hence knowledge of, invertebrates improves the requirements of a whole range of groups must be taken into account. Apart from broad generalisations of sound practice it has been difficult for conservation bodies to cater for invertebrates as, until recently, so little has been known about them in Dyfed. It is our hope that DIG will provide a voice for those thousands of unsung species and present the information and advice upon which management plans can be formulated.

The primary need is to collate data on the distribution and status of our invertebrate fauna in order that conservation priorities can be assessed. This is the main function of the Newsletter, to bring together the results of the efforts and expertise of naturalists surveying invertebrates in Dyfed. The Newsletter will appear as often as we can fill the pages - it is dependent upon the support of your contributions. We would like to ensure that all interesting records for Dyfed are published here, if you read of anything relevant elsewhere, or if you publish anything elsewhere, please send in a note of the significant points. If your observations in the field are casual or sustained, let us know of your findings. In the past, important records have been scattered through the national entomological journals - we also need to have a record of them here in Dyfed where they can be put to the most practical use. Let us also have your requests for information - through DIG we hope to put amateurs and experts alike in touch with one another in order to maximise our efforts. This will also be a feature of our field meetings, to share knowledge and learn from one another whilst carrying out major surveys of some of the county's best sites.

Finally, We Would like to thank Stephen Falk for permission to use his artwork for the group's emblem. It depicts the hoverfly Arctophila fulva, a nationally scarce but attractive fly which is not uncommon in Dyfed.

MECOPTERA
+
NEUROPTERA

SCORPION FLIES AND LACEWINGS IN WALES - M J MORGAN

The Mecoptera and Neuroptera are two Orders of insects which had not received much attention in Wales until recent years. Unlike Lepidoptera they cannot be easily identified by wing patterns and most of them need careful study under the microscope to determine the species. Quite enough to put off all but the dedicated enthusiast!

There are only three species of Scorpion flies (Mecoptera) in Britain and they can be identified with a good hand lens. Wing markings help to differentiate between them, but these blotches are variable and comparison of male genitalia is advisable for complete certainty. Over the last fifty years Panorpa cognata has only been found three times in Wales, two of these records being in North Wales. I K Morgan discovered the species in Dyfed in 1985 and it may well occur in other South Wales localities but appears to be much scarcer in general than the other two species.

The Scorpion flies are recognised by the marked elongation of the front of the head to form a beak-like rostrum and by the presence in the males of a swollen tip to the abdomen which is curved forward in the attitude of a scorpion. The abdomen of the female ends in a long ovipositor. Not a great deal seems to be known about the larvae, which live in the soil feeding mainly on plant material. The adults are found only in spring and early summer, chiefly on warm sunny days when they can be seen flying around hedgerows and lush vegetation.

There are about 60 species of Lacewings in Britain and so far 43 of these have been found in Wales. The green Chrysopa species are probably the most familiar and having more than one generation a year the adults can be found over a much longer period than the Scorpion flies. The common Chrysopa carnea is known for its habit of hibernating in houses, garages and other sheltered spots, sometimes in numbers. It loses its green colour over the winter and becomes a dirty pink - hence carnea.

Several small brown, blackish or very pale Lacewings are also quite common, all very delicately winged and fragile. Some of them are attracted to light and may be found in light traps, in fact a few species are so far only known in Wales from specimens taken in Rothamsted light traps. Both adults and larvae are carnivorous, feeding on aphids and other small soft-bodies insects. The larvae may be beaten from foliage. Adults may also be collected by beating and by sweeping vegetation. Some are restricted to conifers, eg Hemerobius stigma met with in forest areas, some prefer birch or other deciduous trees.

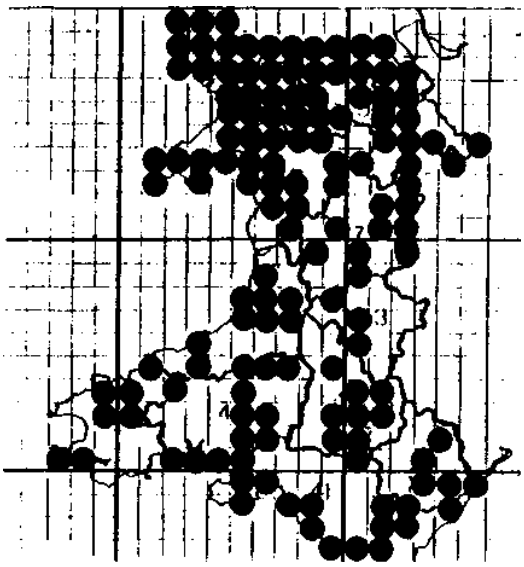
The Great Lacewing Osmylus fulvicephalus is not quite so scarce as was once thought and is to be found in numerous localities in Wales. A steep-sided wooded valley with a small stream at the bottom is a favourite haunt. Its size (up to 5 cm wing expanse) and unhurried, low flight makes it easy to spot. Small colonies of this insect on the wing near water are an unforgettable sight. Less than a third of its size, the three species of Sisyra may occasionally be swept from streamside vegetation. Their larvae feed on fresh-water sponges and their distribution, restricted by the occurrence of the sponges, appears to be sparse in Wales.

The Megaloptera includes three species of Alder-flies (Sialis) breeding in water, the slow flying adults can be found resting on nearby vegetation, fencing, etc. There

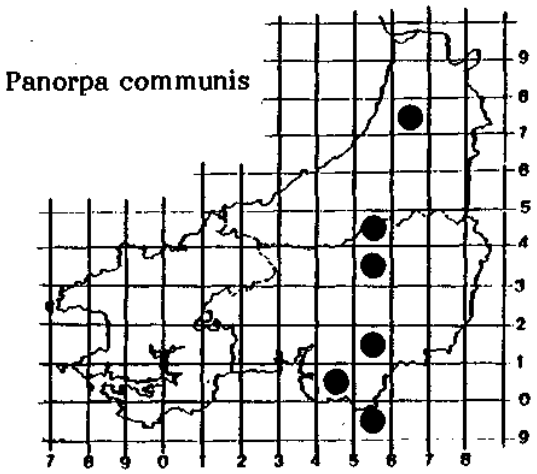
are few records of these in South Wales. Snake-flies (Rhaphidia) have only been noted twice in Wales, once in the north, once in the South. All four species are carnivorous, feeding as larvae on beetles and other insects in dead and rotting wood.

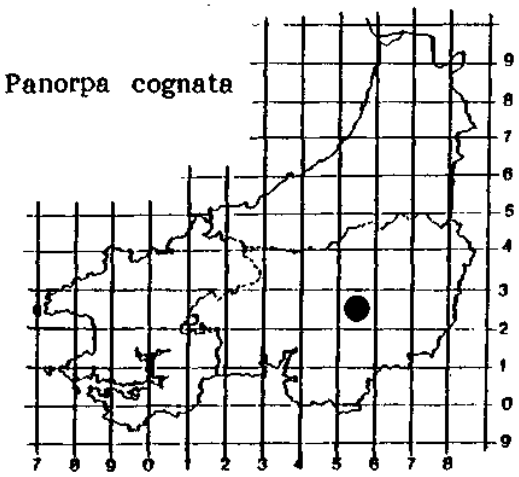
For over twenty years I have been collecting information on the occurrence and distribution of these fascinating groups of insects, previously scarcely recorded in Wales. The accompanying map indicates which 1O km squares are without records and also shows how my collecting radiates out from Bangor! Records from anywhere in Wales would be very welcome and especially from all those blank squares in the south. I shall be pleased to identify any specimens sent to me, either in alcohol or papered dry (as done With Lepidoptera). Don't worry if legs drop off, they are not needed in identification, but heads and abdomens are essential for most species. If you wish to have named specimens returned please make this clear, otherwise I shall just send a list of names for information. For each specimen please give the date and at least a four-figure grid ref. A note on the habitat (eg 'larch', 'nettles' etc) would be useful extra information for the records.

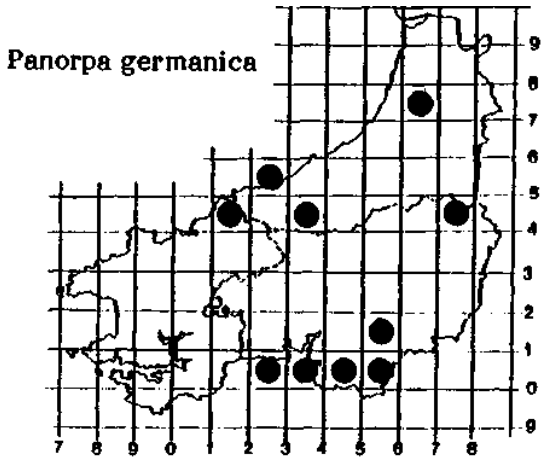
Mrs M J Morgan School of Animal Biology
University College of North Wales Bangor,
Gwynedd.



10 km squares in Wales from which Mecoptera and Neuroptera have been recorded







DISTRIBUTION OF SCORPION FLIES IN DYFED

DYFED SITE REPORT - Number One

MACHYNYS, CARMS (21/513979) - I K MORGAN

At first glance the Machynys area, south of Llanelli, does not look promising to the naturalist - numerous derelict industrial premises, a rubbish dump, an itinerant's illegal encampment and large areas of industrial slag covering many hectares, all set in a predominantly urban landscape. This is misleading, however, for southwards lie the bird-filled Burry Estuary, the Gower Peninsula and the broad vista of Carmarthen Bay. At Machynys, itself there are small semi-natural remnants of the once-large coastal marshes that presumably extended eastwards from the Machynys Peninsula to the Glamorgan boundary.

Early archive material gives us tantalising images of the habitats that once existed here, with names such as 'Y Morfa Mawr' (the Great Marsh) and 'The Warren' (perhaps referring to rabbit-frequented sand-dunes). Indeed, a map dating from the 183Os shows an area of dunes clothing a shallow, hook-shaped peninsula known as 'TheSker' (Davies 1985). Today the Morfa Mawr is drained pastoral land and, apart from the small fragments of residual dune-slack vegetation, the sand-dunes have long since gone. Elements of the freshwater flora and fauna still survive, however, in a small series of ponds and marshes - yet the Machynys ponds owe their origin to nineteenth century industrial activities and not, as was thought until recently, a flooded dune-slack area.

The Machynys peninsula is based on glacial morainic deposits that contain much clay, clay that was extracted from pits for brick-making at the end of the last century. These clay pits subsequently flooded and provided a safe snnctuary for the declining freshwater species. It is suspected that it was somewhere on these coastal marshes that the pioneer Carmarthenshire botanist, James Motley, discovered many notable freshwater plants, most of which have not been refound. This reduction in botanical diversity, presumably caused by extensive drainage and industrial activity, has probably been accompanied by a corresponding effect on the invertebrate fauna and it is likely that we have, without any past documentation, lost sensitive or host-specific species from this area.

Given this historical background, what do the Machynys ponds still hold today? It was only in 1983, after botanical surveys on this neglected site in the previous year had revealed some scarce plants, that attention was first given to the invertebrates. It was quickly realised that the Machynys Ponds represented a quality site, unmatched on the Carms coast east of Llanelli. Surveys showed that a minimum of twelve species of Odonata (dragonflies) were present, including such scarce species as Brachytron pratense, Aeshna mixta, Anax imperator, Sympetrum sanguineum and, possibly, Coenagrion pulchellum. Twelve species at a Dyfed site constitutes, in NCC criteria, an "outstanding assemblage", making the Machynys Ponds worthy of serious consideration for some form of conservation status.

The site is composed of three main ponded areas, the largest to the west at 21/511980 and two smaller ponds at 21/513979 and 21/514980, all connected by areas of Juncus/Sparganium marsh, Salix scrub etc ..... The largest pond is of the least entomological interest, the two smaller ones, containing the only known populations in Carms of Lemna trisulca, and a shallow, flooded slack at 21/512981 being the most important. This slack dries out in very hot summers, it is dominated by Hippuris vulgaris, Chara sp and Berula erecta.

Recording of hoverflies (Syrphidae), mainly in 1985 by I K Morgan and S J Falk resulted in the following list:-

Epistrophe elegans
Pyrophaena granditarsa
Syrphus ribesii
S vitripennis
Xanthogramma pedissequum
Anasimyia lineata
A transfuga
Eristalinus sepulchralis
Eristalis arbustorum
E intricarius
E tenax
E pertinax
Helophilus pendulus
Lejogaster metallina
L splendida (*)
Neoascia dispar
Parhelophilus frutetorum (*)
P versicolor
Pipiza austriaca
Pipizella varipes
Rhyngia campestris
Chrysogaster solstitialis
Paragus haemorrhous
Sphaerophoria menthastri
S philanthus

(Asterisked species are regarded as nationally notable.)

Earlier Diptera recording by the author resulted in the notable southern stratiomyid Stratiomys potamida being taken. The scarce moth Bembecia scopigera six-belted clearwing was caught whilst sweeping for Diptera on 7/8/1985, the first vice-county record of the species.

The flooded dune slack to the north-east of the main pond holds abundant Asellus aquaticus (an aquatic woodlouse) whilst at Machynys Point, south of the ponds, the local terrestrial woodlice Cylisticus convexus and Trichoniscoides pygmaeus occur under rubble. Ligia oceanica is found at or below the high tide mark.

Brief sampling of the non-marine molluscs showed that Candidula intersecta and Vallonia excentrica were amongst the species found on dry ground and a typical wetland assemblage of Deroceras laeve, Succinea putris and Zonitoides nitidus occurs. A couple of common freshwater species have been recorded, along with the minute freshwater bivalve Pisidium casertanum.

Recording at this site will continue in 1986 and any readers wishing to visit are welcome to attend the Botanical Society of the British Isles field meeting on 16 August (meet at ll.00 am beside the main pond). Although this is strictly a botanical meeting opportunities will arise for some invertebrate recording.

Unfortunately, the future of this fine site is not secure as Llanelli Borough Council have extensive plans to develop the Machynys peninsula for tourism. Perhaps the educational value of such a site, so close to a large urban area, coupled with its visual and ecological value may hopefully result in its retention and safeguarding.

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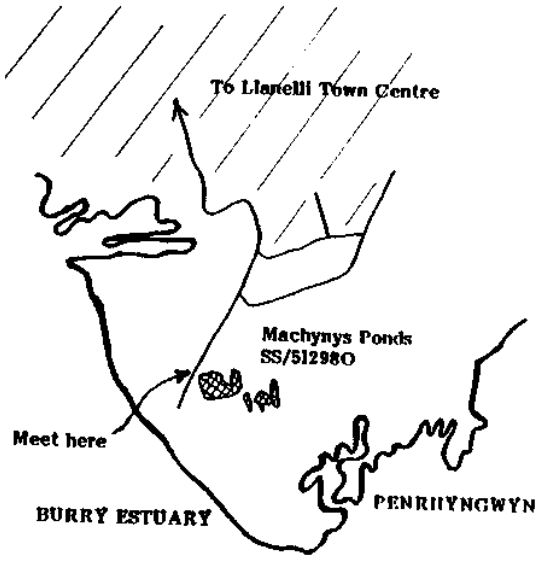

ORTHOPTERA

CRICKETS AND GRASSHOPPERS IN DYFED - A P FOWLES

Of the thirty species of Orthoptera resident in Britain seventeen have been recorded in Dyfed. Until recently their distribution here was poorly known as many naturalists had ignored the group despite their conspicuousness and charm, however, in the past four or five years there has been an upsurge of interest which has contributed significantly to an understanding of their status and local ecology. The picture is still far from complete and many questions remain to be answered about distribution, habitat preference, life-style etc ..... There is also every likelihood that new species could be found in the county, though realistically there are only two likely candidates - the Lesser Marsh Grasshopper Chorthippus albomarginatus (possible on upper saltmarshes in the southern estuaries) and the Greenhouse Camel-cricket Tachyncines asynamorus (an Asian intruder occurring only in heated greenhouses). As with many other insect groups, southern England has a greater diversity of Orthoptera than can be found in Dyfed but nonetheless we have several interesting species which deserve greater popularity amongst local naturalists. It is surprising that the Orthoptera have been neglected as they are relatively large, colourful insects whose identification is aided by their distinctive songs, or stridulation. The recent publication of an excellent and inexpensive guide (Brown 1983) should bring the recognition they deserve whilst Ragge's (1965) book, sadly out of print, currently remains the only comprehensive account of their life-history.

Dyfed's Grasshoppers are widespread throughout the county, indeed three of them probably occur in every 1O km square. They begin to appear as nymphs in May and the earliest reach adulthood and begin to sing in mid-June and can be seen in their favoured open grassland habitats until October. The **COMMON FIELD GRASSHOPPER** Chorthippus brunneus prefers dry soils and is the species most likely to be encountered in urban environments such as waste ground. It is one of the few Orthopterans which occur on our offshore islands and is generally common in lowland Dyfed although it becomes much scarcer above about 3OO m asl. In contrast, the **MEADOW GRASSHOPPER** Chorthippus parallelus is most abundant in damp pastures though also occurs on well-drained soils with luxuriant vegetation. It lacks the ability to fly and this probably accounts for its absence from our islands, its colonisation of Britain following the last glaciation was probably too slow to enable it to reach West Wales before the islands were cut off from the mainland. The **MOTTLED GRASSHOPPER** Myrmeleotettix maculatus is a charming insect with clubbed antennae (the other grasshoppers in Dyfed have antennae which taper gradually) and an astonishing variety of colour morphs. It is to be found only on the driest soils, particularly along the coast, where mature dunes and cliff scree can have large populations, but also inland on the spoil of abandoned mines and in some localities on the limestone slopes of Carmarthenshire. Our other widespread species, the **COMMON GREEN GRASSHOPPER** Omocestus viridulus, is almost ubiquitous - its "ticking* song a feature of summer walks throughout the county. This is the first of our grasshoppers to mature each year and it can be found in lush vegetation from coastal dunes to the mountain tops, where it is invariably the only species present. It has also been recorded from Skokholm and Skomer Islands. [A fifth species, the **WOODLAND GRASSHOPPER** Omocestes rufipes, has been reported from southern Carms but this is the only Welsh record and is believed to be erroneous.]

The Groundhoppers are only about one centimetre long and resemble miniature, stocky grasshoppers. They are usually some shade of brown, though more colourful forms do exist, and as such are easily over-looked. However, there is the advantage that they over-winter in the adult stage and are therefore active from the first mild days of spring until the onset of winter. The chief foodplants are mosses and

algae. The **COMMON GROUNDHOPPER** Tetrix undulata is found throughout Dyfed but it is certainly under-recorded at present. It can tolerate drier conditions than its two relatives and is frequently seen along rides or footpaths through woodland; heaths and sand-dunes are also favoured. Records currently indicate a lowland distribution in Dyfed, up to about 25O m asl, although this may rather be due to a lack of survey work on higher ground. The **SLENDER GROUNDHOPPER** Tetrix subulata inhabits damper localities, especially the muddy margins of ponds, and also occurs on wet pastures and in freshwater marshes. It is presently known only from a handful of sites in Carms and South Pembs but is probably more widely distributed and could potentially occur anywhere in lowland Dyfed. The only other British representative of the Tettigidae is **CEPERO'S GROUNDHOPPER** Tetrix ceperoi which is very similar in appearance to subulata. This is a very local insect of southern Britain and was first recorded in Dyfed in 1984 when specimens were collected from two localities on the Carms coast. These colonies, above the saltmarsh at Tywyn Point and alongside Witchett Pool in Laugharne Burrows, are the most northerly in Britain for the species.

Eight Bush crickets occur in Dyfed, they generally inhabit areas of taller, more scrubby vegetation than the grasshoppers and none can be regarded as common throughout the county. Many of them stridulate loudly, and this can be the easiest way to locate them as they tend to be comparatively elusive, although some species have a high-pitched song which eludes all but the keenest ears. They reach the adult stage in July and last through until the first frosts in October but are often most conspicuous as early-instar nymphs (which are easily identifiable in most species) in May and June. The **SHORT-WINGED CONEHEAD** Conocephalus dorsalis frequents marshy areas near the coast where it is usually found amongst tall stands of rushes and sedges, Scirpus maritimus in particular. The eggs, laid within plant stems, can withstand prolonged immersion in brackish water and as such the species is a regular inhabitat of saltmarshes. It is scarce in Ceredigion, where it is known only from the Dyfi Estuary, but much more widespread in the other two districts. The **BOG BUSH CRICKET** Metrioptera brachyptera is one of our rarest species, apparently confined to just two sites in the county - Cors Fochno (Borth Bog) in Ceredigion and Cors Goch, Llanllwch in Carms. Here it occurs in some abundance amongst sparse Myrica bushes, usually where there is a lush growth of Molinia but also in more open areas with Erica tetralix. Several other suitable localities in Dyfed have been searched without success but the discovery of one or two new colonies may be anticipated. A similar species is **ROESEL'S BUSH CRICKET** Metrioptera roeselii although it is readily distinguishable by the bright yellow margin to the pronotal side-flaps. Its occurrence in Dyfed (and Wales) is limited to the Dyfi Estuary Where it was first discovered in 197O. At the time it was known only from the south and east coasts of England and it was speculated that the Dyfi population had been accidentally introduced. This possibility still exists though the recent discovery of the species in southern Ireland perhaps suggests a natural origin. It is locally common around the fringe of the inner estuary where it inhabits rushes which are subject to occasional spring-tide flooding.

The commonest member of the Tettigonidae in Dyfed is the **DARK BUSH CRICKET** Pholidoptera griseoaptera which fills the evening air with shrill chirps at many sites in the south of the county. Its favoured haunts are bramble thickets in hedgerows and coastal valleys, there are rather few inland records. The south coast has strong populations but north of the Teifi valley there are only three reported sightings. Another of our rarities is the **GREY BUSH CRICKET** Platycleis denticulata, recorded from a few sites on the Pembs coastline where it inhabits scrub in sheltered situations. Colonies are known from Dale and Marloes and there is an old record from St David's Peninsula. Colonies are often small and localised and the species could be easily overlooked, further sites in Pembs and the adjacent Carms coast should be surveyed.

Our only tree-living Orthopteran is the **OAK BUSH CRICKET** Meconema thalassinum which is carnivorous and not restricted to Oak woodland. The species has been recorded from few localities in Dyfed but is probably widely distributed, even occurring on garden trees as in Aberystwyth. It is a nocturnal insect, often turning up at moth-traps and houselights in the autumn, and the best way to see it is to search the lower boughs of old deciduous trees by torchlight. The **SPECKLED BUSH CRICKET** Leptophyes punctatissima is another elusive species, beautifully camouflaged in its chosen tangles of bramble and nettles. It is not uncommon in Dyfed, particularly in the south, but has rarely been seen away from the vicinity of the coast where sheltered valleys are favoured. Searching for the more abundant and confiding nymphs in June can be the easiest way to locate them. Last, but far from least, is the **GREAT GREEN BUSH CRICKET** Tettigonia viridissima, an impressive insect with a far-carrying song that can be heard up to two hundred metres away on a still summer's evening. Apart from a recent sighting in Carms the species is restricted to coastal localities of southern Pembs where it is quite widespread. It inhabits a variety of shrubby situations where there is warmth and shelter, the males often climbing to the top of a bush to sing.

Two types of Cricket have been recorded in the county, although one of these has not been recorded for fifty years. The **HOUSE CRICKET** Acheta domestica is not native to Britain, having become widely established nfter the sixteenth century following its introduction from Asia. However, it never seems to have been common in Dyfed and now appears to be confined to Carms. It is widespread in Cydweli old town and in hot summers its shrill song bursts forth from cracks in many garden walls. Other localities are Llangadog Creamery and the rubbish tip at Llanllwch. There are old records from Aberystwyth and Blaenannerch in Ceredigion. Finally, there is the **MOLE CRICKET** Gryllotalpa gryllotalpa, an extraordinary creature that is extremely rare in Britain as a whole - there are two records for Dyfed. Edward Llwyd wrote to John Ray in 1693 that he had observed them that year near Cydweli, Carms "in the sealands that are covered every tide" and there is a specimen in the National Museum of Wales which was collected at Haverfordwest, Pembs in 1936. The adults live in burrows in moist soil, water-meadows and flood-plains are ideal habitats. The species is elusive and there are many suitable localities in Dyfed but it is doubtful that it is still a resident here.

The Mole Cricket might have gone from our meadows but can we be certain? It was once common enough in Wales to be given the name "Rhing y Les", and perhaps still sings in isolated riverside pastures. Our knowledge of the distribution of so many of our Orthopterans is based on the fieldwork of a few observers and large areas of the county have only been briefly surveyed. Much remains to be done and many interesting discoveries are still to be made; with improved and inexpensive guides local naturalists have much to contribute to our knowledge of this diverse group of insects.

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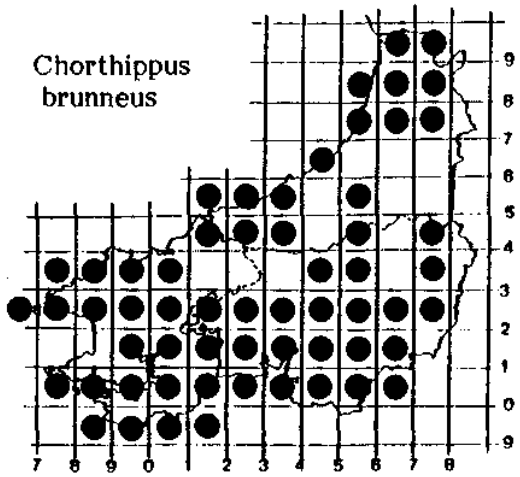
Chorthippus brunneus



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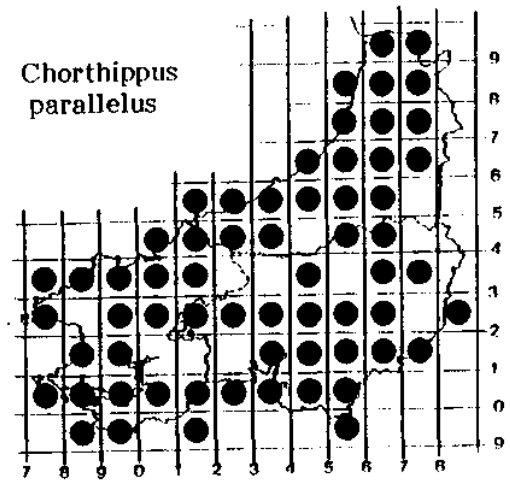

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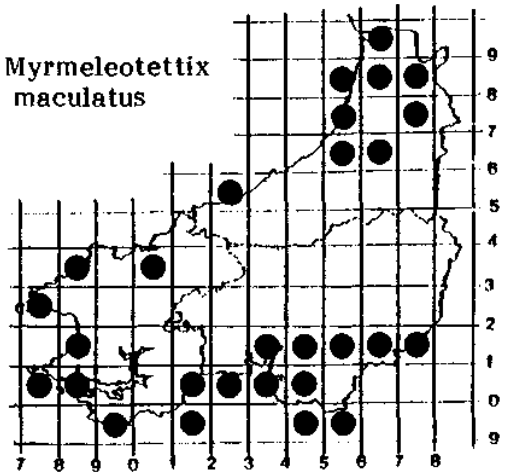

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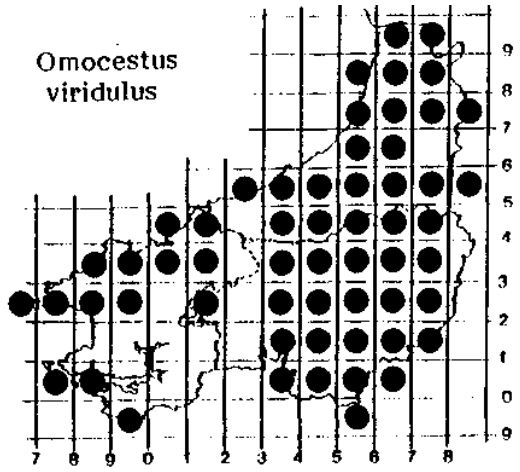

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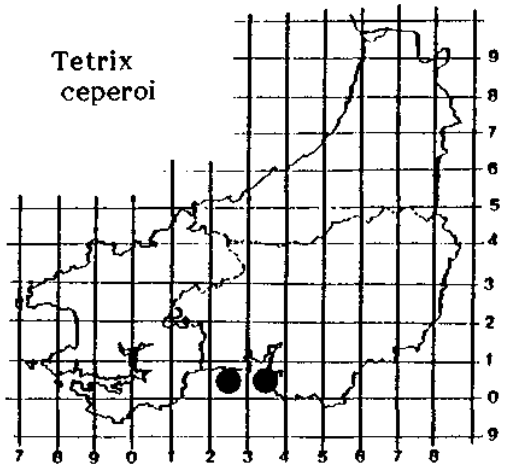

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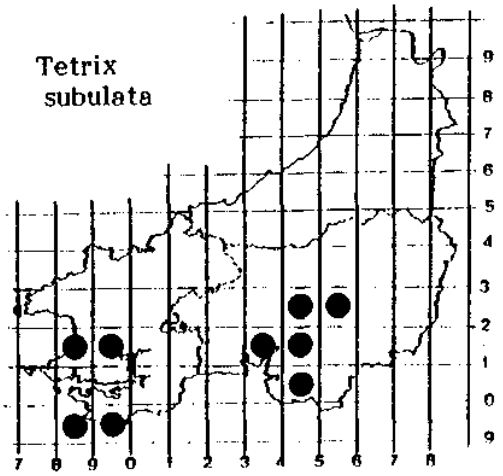

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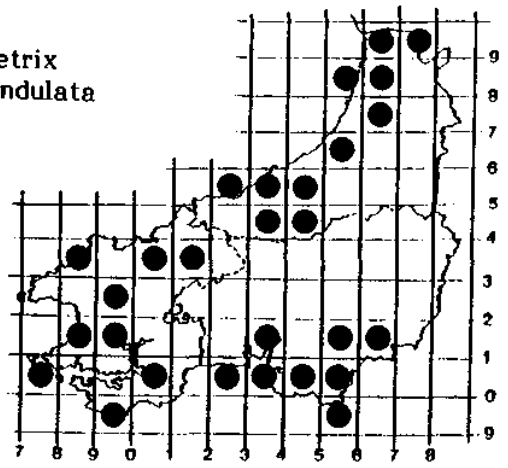

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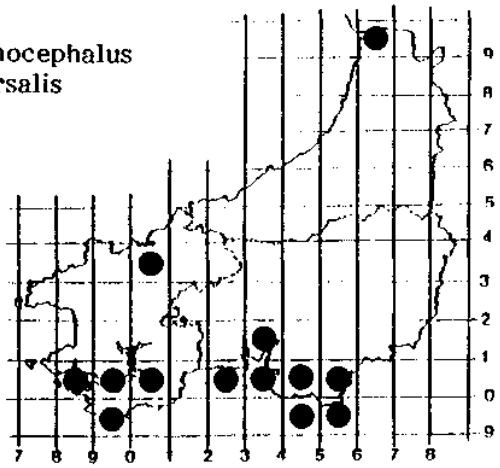
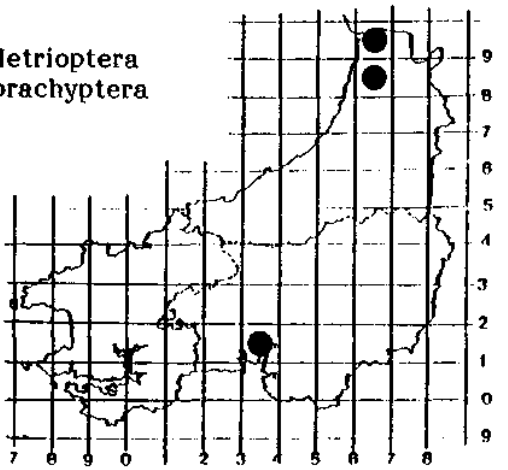


Metrioptera brachyptera



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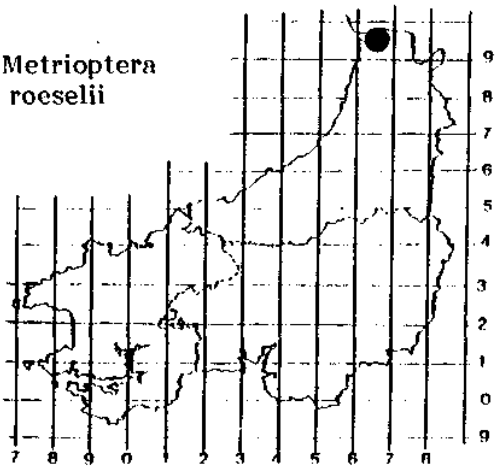
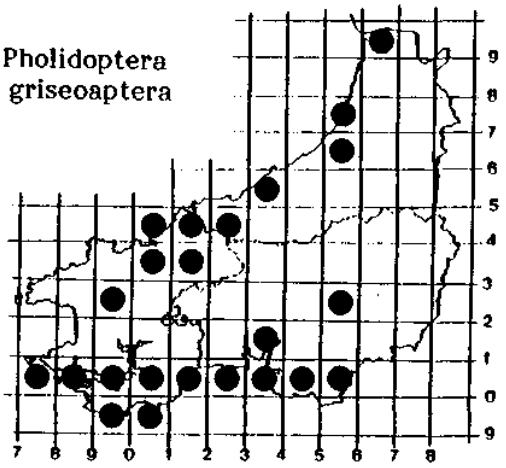
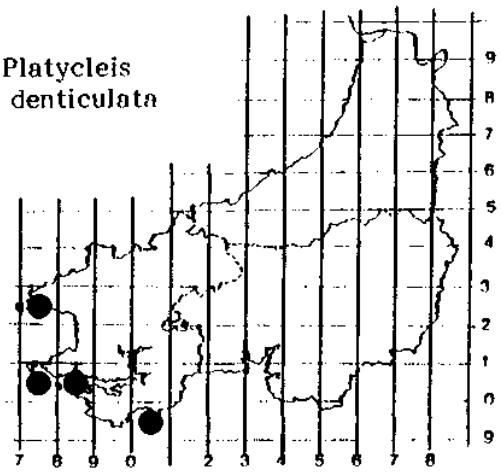


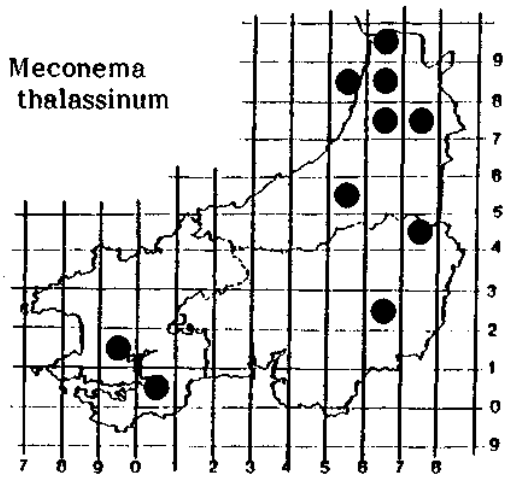
Pholidoptera griseoaptera



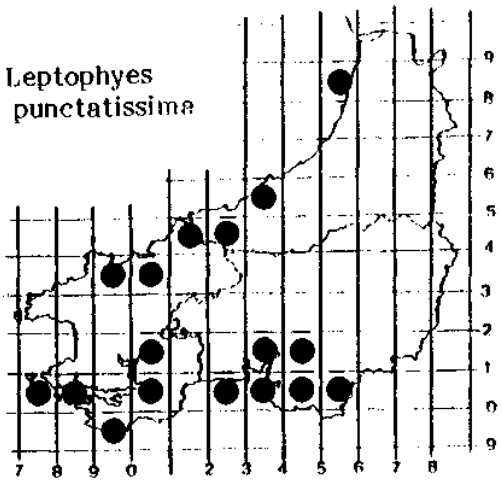
Platycleis denticulata



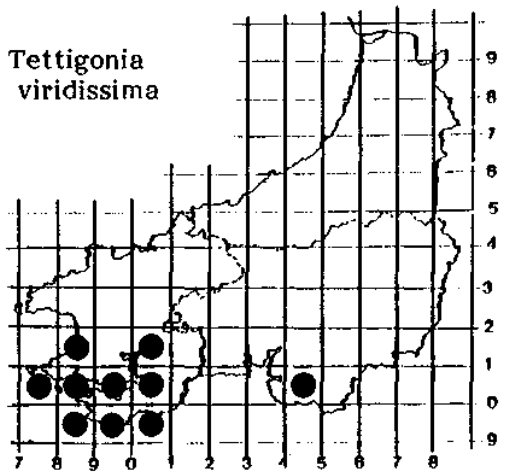
Meconema thalassinum



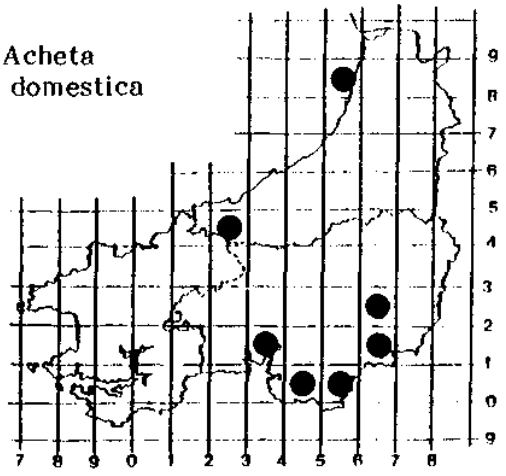
Leptophyes punctatissima



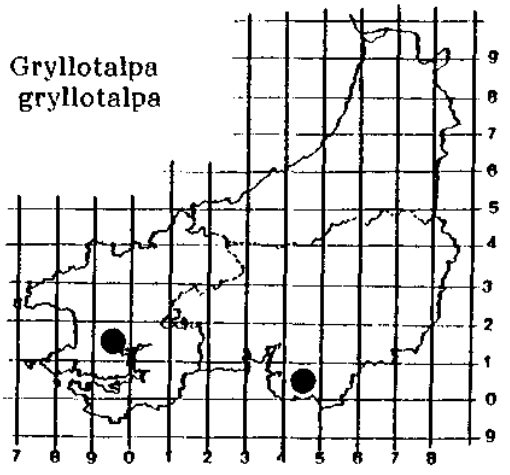
Tettigonia viridissima



Acheta domestica



Gryllotalpa gryllotalpa



ODONATA

DYFED ODONATA - S COKER

1986 will see the completion of the national recording scheme. Bob Merritt, the organiser, hopes to produce an atlas to be published by ITE in the Autumn. Many people have contributed to the records of sites in Dyfed and these records (up to 1985) are all given in 'West Wales Dragonflies' by Coker and Fox. A total of 26 species have been recorded in recent years. Two species **Aeshna grandis** and **Platycnemis pennipes** are reported in the literature as Dyfed species but have not been seen during the current recording period, 1977-1985.

The outstanding member of Dyfed's fauna is **Coenagrion mercuriale.** This has quite large populations on the soligenous mires of the Pembrokeshire wet heaths. Fiona Evans is at present on contract with the NCC studying this habitat with a view to improving our understanding of the sites and formulating management proposals. The contract includes research into the larval requirements of **C mercuriale** and it is hoped that much of interest will result from this.

Although, nationally, much wetland has been lost due to agricultural drainage, in Dyfed the construction of irrigation reservoirs, has enabled agriculture to make a positive contribution to wetland habitat. The bulk of these reservoirs have been constructed in the south west of Dyfed. Terry Martin has now spent two seasons recording from these sites and has, I think, established their importance for Odonata. Presumably they may be equally important for other invertebrates.

The aim of recording in the 1986 season must be to 'fill in the blanks' for the national recording scheme. Although this may seem rather pointless, similar surveying in the past has discovered several sites of interest. The extent of **Gomphus vulgatissimus** on the Afon Tywi needs further study. No records of mature adults, their territorial and breeding habits or the location of their preferred breeding sites have been made in Dyfed. Does it exist on any other of Dyfed's rivers? **Coenagrion pulchellum** occurs in numbers in West Glamorgan, what is its status in Carmarthenshire?

All records, no matter how common the species, are required for the recording scheme. If you have any records please forward them to the relevant county recorder.

INVERTEBRATE RECORDING IN DYFED

Listed below are the names of the vice-county recorders for invertebrate groups where a recording scheme is already in operation - please support them by sending in your information on a regular basis. Records of invertebrates in groups not listed can be passed on to DIG at Plas Gogerddan, Aberystwyth and we will forward them to the relevant national organisers and retain a copy on file for future local use. We would be pleased to hear of any other schemes in the region.

Carms

ODONATA - S Coker, Mountain, Clarebeston Road, Haverfordwest, Dyfed.

ORTHOPTERA, MYRIAPODS, WOODLICE, MOLLUSCS & HOVERFLIES - I K Morgan, 1O7 Denham Avenue, Llanelli, Dyfed.
BUTTERFLIES - D Poulter, Ty Isaf, Pentrepoeth, Idole, Carmarthen, Dyfed SA32 8DH.

Ceredigion

WOODLICE & LAND MOLLUSCS - A O Chater, Department Botany, British Museum (Natural History), London SW7 5BD.
LEPIDOPTERA, ORTHOPTERA, HOVERFLIES - A P Fowles, Nature Conservancy Council, Plas Gogerddan, Aberystwyth, Dyfed SY23 SEE.
ODONATA - F Evans, Cae'r-berllan, Eglwys-fach, Machynlleth, Powys.

Pembs

ODONATA, HOVERFLIES - S Coker, Mountain, Clarebeston Road, Haverfordwest, Dyfed.
BUTTERFLIES - R Elliot, 1O Flemish Court, Lamphey, Dyfed.
MICRO-MOTHS - N Lowe, Firs Grove, Church Road, Roch, Dyfed.
FLEAS - Miss B Williams, Wuthering Heights, Welsh Hook, Wolfcastle, Haverfordwest, Dyfed.

FIELD MEETINGS 1986

Three meetings will take place this summer, one in each district at a site which is likely to have an interesting and varied fauna representative of as wide a range of invertebrate groups as possible. The primary intention will be to investigate the species present and draw up management recommendations for the conservation or enhancement of the invertebrate interest of the site. It is also anticipated that members will be able to share knowledge about sampling techniques and the identification of certain groups but this will be dependent on the expertise present. Please attempt to attend at least one meeting - and don't feel afraid to cross "county" boundaries, attend all three if possible.

7 June 1986 - TYWYN BURROWS, CARMS. (Upper saltmarsh grading into a mature dune system with seasonally-flooded slacks.) Meet at the Butcher's Arms PH, Pembrey (SN 418021) at ll.00 am. This site is MOD property so please ensure prompt arrival.

5 July 1986 - GWAUN GARTHENOR, CEREDIGION. (Extensive flood-plain mire with well-developed Willow and Alder carrs, poor-fen, wet heath and basin mire.) Meet at the lay-by on the A485 in Olmarch (SN 623550) at ll.00 am.

9 August 1986 - PENGELLI FOREST, PEMBS. (Ancient woodland with mixed oak, birch, ash and alder; many small streams.) Meet in the reserve car park (SN 122395) at ll.00 am.

DYFED INVERTEBRATE GROUP

District Representatives;

CARMS - I K Morgan, 1O7 Denham Avenue, Llanelli, Dyfed SA15 4DD.
CEREDIGION - A P Fowles, c/o Nature Conservancy Council, Plas Gogerddan, Aberystwyth, Dyfed SY23 SEE.
PEMBS - S Coker, Mountain, Clarebeston Road, Haverfordwest, Dyfed SA63 4SG.