

Entomology Day 2009

COMPILED BY MIKE BLOXHAM

The Times They Are A' Changin' - Saturday 7th November, 9.30 am – 4.30 pm - Chairman for the day: Brett Westwood

Welcome and Introduction

by Brett Westwood

We were fortunate to have Brett Westwood as our Chairman for the day. He is a keen amateur naturalist active in Worcestershire, being a member of the Worcestershire Biological Records Committee and the Wyre Forest Study Group. With Harry Green he helped to write the Nature of Worcestershire. In his working life he is a radio producer and presenter with the BBC Natural History Unit and also writes the monthly Highlights section for BBC Wildlife magazine. Introducing the event with a warm welcome to all, he reminded us that the emphasis would be on 'things lost and things moving in'. Worcestershire was indeed well placed to record the extent of these phenomena. Its active recorders and observers had gathered a good deal of information of value on the subject and collaboration with adjacent counties ensured rapid exchange of information – the 'Asian super ant' *Lasius neglectus* - an invader attracted to electricity junction boxes being a case in point following its discovery at Hidcote Manor in Gloucestershire. Considerable data was also being accumulated on other conspicuous newcomers such as the Harlequin Ladybird, Pyraecantha and Horse Chestnut Leaf - miners (*Harmonia axyridis*, *Phyllonorycter leucographella* and *Cameraria ohridella* respectively). Observers would need also to be alert for unexpected creatures closely associated with insects. Spiders, including the Wasp Spider (*Argiope bruennichi*) may well soon appear in the County. The

meeting would undoubtedly hear more detail on many interesting and new species that had put in an appearance during recent times and also about insects that were possibly no longer with us.

Roesel's Bush Cricket (*Metrioptera roeselii*) and Long-winged Conehead (*Conocephalus discolor*)

by Harry Green

Harry Green is a dedicated naturalist and prolific writer on a variety of topics, with a leading role in many local wildlife recording and conservation initiatives. In recent years Harry has been plotting the changing distribution of various orthopteran species.

Grasshoppers and crickets have not generally had a high profile in entomological circles. Perhaps this is because they have not been particularly conspicuous (as are butterflies). The dawn of the new millennium suddenly provided some fresh publicity for them, when observers in a number of counties started to report the presence of the two species here as new to their areas. Originally a scattered population had been recorded in south or south-east England but suddenly there was territorial expansion. The speaker, on learning of their arrival in Worcestershire, decided to investigate their distribution in the county and unfolded this account of his methodology.

Both species are likely to be found in tall undisturbed grassland situations and we saw several pictures



Entomology Day Speakers 2009. L/R Mike Bloxham, Gary Famer, Mike Averill, Harry Green, Brett Westwood, Geoff Trevis, Mick Blythe

Rosemary Winnall



Roesel's Bush Cricket female, the first long-winged form seen

Ruben Poloni



Long-winged Conehead female

Kevin McGee



Typical habitat - rough grassy field

Harry Green

of these because recognition of typical habitat is important. Diagnostic pictures of the target insects showed that Roesel's Bush Cricket is quite dark in colour and can have some variation in wing length, but an obvious feature in the field is the inverted yellow horseshoe mark on the pronotum. It was first recorded in Redditch by Gary Farmer in 2005. Hard work done in the intervening years was reflected in county maps showing the heaviest concentration to be in the south east - probably mirroring the trend of national expansion illustrated in NBN distribution.

The Long-winged Conehead, which is much less conspicuous and merges well with its surroundings, notionally has a longer history in Worcestershire, being first discovered by John Meiklejohn in 2000. The series of county distribution maps again showed how much work had been done by the speaker and his associates in tracking down this insect since John's original

discovery and also suggested a higher population density in the South East sector from which the original invasion may have originated. Distribution maps had the usual weaknesses. Many places had received no visits – especially those to the west of the Severn.

The audience could well imagine that a sharp eye would be needed to see these insects in the field, but Harry Green stressed that sharp ears were the most useful asset because stridulation (characteristic of the Orthoptera) would reveal the presence of these two in the field. Unfortunately the ear alone was not necessarily enough. This was well illustrated when we heard recordings of the two species and had our attention drawn to the difference in stridulatory patterns. Even at the sound levels in the room it was difficult for some to hear the differences and then our speaker introduced the bat detector as the latest weapon to find them. The substantial clicking could lead one effectively to locate the quarry and car plus bat detector had been very useful indeed in enabling so much useful work to be done (there was some discussion on the possible reaction of the police to over-zealous use of a bat detector from a vehicle!).

The talk, which had provided most valuable material for anyone wishing to go cricket hunting, concluded with a look into the future. The trend of invasion by species (especially from the south) was likely to be a continuing story. The agencies of introduction were also of much interest. A Great Green Bush Cricket (*Tettigonia viridissima*) has recently been recorded as arriving in Worcestershire by car!

Larger Shieldbugs in Worcestershire

by Gary Farmer

The speaker has a general interest in natural history but finds insects to be the most fascinating. He finds groups of insects that can be more readily identified in the field a really useful 'tool' for encouraging others to 'get the bug'. His talk was intended to get listeners involved in study of a neglected group of quite conspicuous insects.

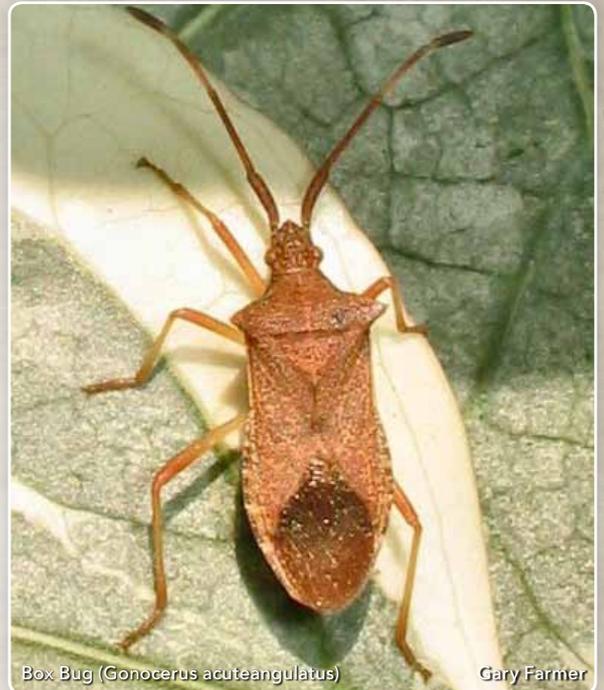
An initial review of literature showed the audience that the group could indeed be one for them. Several useful publications have emerged, including *Shieldbugs and Squashbugs of the British Isles* by Evans and Edmondson and the excellent *Shieldbugs of Surrey* by Roger Hawkins. Interpretation of the group is also made much easier after the advent of 'Het News' www.Hetnews.org.uk where information on all sorts of British bugs is exchanged.

The set of British bugs involved here is small, being around 33 species. Our current knowledge of the County fauna shows that we have so far discovered 22 of them here, but any distribution maps have to



Bishop's Mitre (*Aelia acuminata*)

Gary Farmer



Box Bug (*Gonocerus acuteangulatus*)

Gary Farmer

be regarded with caution given the current state of our survey. Early efforts show some signs of species spreading northwards.

The first bug introduced was the ubiquitous Green Shieldbug (*Palomena prasina*). Eggs are laid in spring or early summer on a variety of host plants and the following instars are very similar, culminating in an adult stage lasting from September until spring, with colour variation to darker brown shades during hibernation in the winter phase. The Forest Bug (*Pentatoma rufipes*), another large brownish bug with a yellow tip to the scutellum, was to be discovered on oak – the larval host plant. This species overwinters as a nymph. The third member of this larger and generally common set of bugs was the Hawthorn

Shieldbug (*Acanthosoma haemorrhoidale*). Whilst being frequent on hawthorn, nymphs were also to be discovered on other trees such as *Sorbus* spp. Considerable and characteristic reddish colouration on the bright green background assist the observer to become familiar with this bug.

Two more species likely to be seen are the Sloe Bug (*Dolycorusbaccarum*) and Gorse Shieldbug (*Piezodorus lituratus*). The former – a most beautiful bug – hairy and with purplish markings is found on *Prunus spinosa* and associated species. The latter is likely to be found whenever substantial stands of gorse and broom exist and larvae have occasionally been found on other plants such as clover. The late summer adult has similar general colouration to the Sloe Bug.



Green Shield Bug (*Palomena prasina*)

Gary Farmer



Juniper Shieldbugs (*Cyphostethus tristriatus*)

Gary Farmer



Wyre Forest Study Group

The Pied Shieldbug (*Trigomegas bicolor*) is almost always found on white dead nettle (*Lamium album*) and the county distribution maps of the plant and the bug fairly well demonstrate that relationship. Studies suggest that the bug prefers sandy lighter soils and avoids plants in very damp situations.

One of the more overlooked bugs seems to have been the Woundwort Shieldbug (*Eysacoris fabricii*). This is usually associated with the named foodplant (*Stachys sylvatica*). Recently it seems to have been recorded more frequently. A dull bug at first glance, it has an attractive magenta hue when seen under magnification.

Care of the young is most remarkably demonstrated by the appropriately named Parent Bug (*Elasmucha grisea*). Nymphs feed on birches (*Betula*) and from the time when eggs are laid, until well into development, the female looks after them. Nymphs will follow the female on the foodplant where she continues to demonstrate protective behaviour. The same foodplant also hosts *Elasmostethus interstinctus* (Birch Shieldbug). Occasionally Hawthorn is used and then a close similarity to the Hawthorn Shieldbug is evident.

Juniper Shieldbugs (*Cyphostethus tristriatus*) are very easily identified by distinctive corium markings. Originally associated with Juniper (*Juniperus communis*) where larvae feed on ripe berries, the bug has become more frequent because it is now recorded from Lawson Cypress (*Chamaecyparis lawsoniana*). The sale of this species from garden centres may well be a major factor here. There are a number of widely scattered records for Worcestershire.

Whilst many shieldbugs are readily discovered and conspicuous on their foodplants, there are others that are usually discovered by sweeping. The Bishop's Mitre (*Aelia acuminata*) whose nymphs feed on ripening grass seeds, blends extraordinarily well with the foodplant background. It may however be readily swept from unmanaged verge grassland and allied habitats.

A number of bugs are omnivorous, *Troilus luridus* being an example. It may be captured during observation or by sweeping in a variety of situations. The nymphs feed on plants when young but then turn their attention to larvae of Lepidoptera or Coleoptera. Predation of beetle larvae is also characteristic of the handsome Blue Bug *Zicrona caerulea*. Its nymphs have a preference for the immature stages of the familiar blue willowherb beetles (*Altica* spp.). It is readily recognizable in the field but is not large, being probably under-recorded in the county.

A large conspicuous bug *Picromerus bidens* is well named because of the sharp pronotal extensions. The young are almost entirely carnivorous preying on

a range of other insects especially lepidopterous and sawfly larvae. The adults may often be found basking in warm sunny spots.

The 'Squashbugs' are a distinctive group with a smaller scutellum. A conspicuous representative is the large *Coreus marginatus*. The immatures are associated with the dock family (Polygonaceae) where they feed on leaves and ripening seeds. Brownish in colouration, this insect is almost certainly under-recorded.

Our speaker concluded his talk by mentioning some incoming species. The Box Bug (*Gonocerus acuteangulatus*) was traditionally associated with Box (*Buxus sempervirens*) and had a very limited southern distribution. It is highly likely that it utilizes a range of other plants also, because specimens are beginning to appear in a variety of places. It is now on the Worcestershire list. We have quite sparse information on a number of bugs that appear to be establishing themselves in the county and this talk ended with an appeal for entomologists to arm themselves with the new literature and direct some recording effort towards this important but still widely neglected group of insects.

Dragonflies, a Changing Scene

by Mike Averill

Mike Averill has been interested in dragonflies for over twenty five years. In his role as Worcestershire recorder for Odonata, he is regularly documenting changes in their status and distribution. Very much involved with the British Dragonfly Society, he currently organises their national field meetings, serves on the UK Dragonfly Conservation Group and mentors the two BDS staff. Locally Mike is presently Chairman of the Wyre Forest Study Group and also oversees the indoor meetings for the local group of the Worcestershire Wildlife Trust. His contribution sees him convincingly put forward the case for dragonflies being valuable primary indicators of climate change.

In his presentation, Dragonflies a Changing Scene, Mike extolled the remarkable abilities of this striking group of insects, saying that they have great powers of flight, are capable of reacting extremely quickly to changing circumstances and have the potential to rapidly colonise newly discovered habitats. They are easy to recognize, have well known ecological requirements and so are well placed to indicate any changes to their environment. Changes to habitat can be due to losses or degradation but improvements such as new gravel workings or development of fishing pools can have a positive effect. One factor that can induce huge responses in Dragonflies is the somewhat controversial one of climate change. Using quotes from the press and scientific papers Mike described what was being said about climate change.



Emperor Dragonfly (*Anax imperator*)

Mike Averill

A book by Jurgen Ott (*Monitoring Climate Change with Dragonflies*) has described how, since 1980, 34 of 37 British species of dragonfly have expanded their range northwards by an average of 74km. This evidence can be paralleled with the evidence that the UK's climate is growing warmer.

In the Scientific American, "Mediterranean dragonflies and damselflies disappearing with region's freshwater" the point was made that an assessment of 163 Mediterranean dragonflies and damselflies shows that five species are Critically Endangered, 13 are Endangered and 13 are Vulnerable under the IUCN's Red List of Threatened Species.

Researchers in Sweden working on dragonfly communities in Boreal Forest lakes (Insect Conservation & Diversity 2008) found that dragonflies reacted quickly to climate change over a 25 year period and that this was not due to forestry changes.

Mike went on to display some Met Office graphs showing how the long term average temperatures have increased over the period 1772-2004 and particularly in the last 20 years compared to the 1961-90 average. In the SE of England and the Midlands the average temperature has increased by 0.84 degrees since 1914 and is expected to increase by a further 2.0 degrees by 2050.

Mike reminded the audience that dragonflies are most numerous in warmer climates so it makes a ready comparison to look at newcomers and assume that they are taking advantage of warmer temperatures. There are many species that make a regular appearance in this country and whilst there are many larger and readily recorded species there are also less conspicuous (but no less interesting) members where change may be overlooked. The Emerald Damselflies fall into this category and we must now be alert for the Willow Emerald (*Chalcolestes viridis*) which was identified in Essex from a larva in 1992, and the Southern Emerald (*Lestes barbarus*) seen first of all in Norfolk in 2002.

The darters are a very familiar group but no one should make any assumptions when noting them. It is quite possible that watchers next year may see the Scarlet Darter (*Crocothemis erythraea*) or even the Banded Darter (*Sympetrum pedemontanum*) - several specimens of the latter were seen in Monmouthshire in 1995.

Recent years have seen a cluster of species suddenly appearing. Of the emperors, the Lesser Emperor (*Anax parthenope*) has been sighted in Worcestershire three times adding to a growing scatter of British records. Less reliable is the Vagrant Emperor Dragonfly *Hemianax ephippiger* which has not been seen in the UK for some years but is such a long range traveller that it could appear at any time. The Winter Damselfly (*Sympecma fusca*) was first seen in 1996 but most interestingly there was one found in a kitchen in South Wales last December, reminding us that it can overwinter as an adult. Perhaps most amazing was the influx of a small number of the American Green Darners (*Anax junius*) which were seen in Cornwall in 1998. A new phenomenon has been the arrival of the Small Red-eyed Damselfly (*Erythromma viridulum*) in Essex during 1999. This insect seems to have set records for the fastest colonization ever and distribution maps currently show a considerable population below the Severn/Wash line.

The talk moved on to look at some specific species in England, comparing their distribution in 1985 and 2008. The Southern Hawker (*Aeshna cyanea*), a readily recognized species, has made steady progress northwards from 1985 to 2009, now being recorded in Northern Scotland. The Emperor (*Anax imperator*), equally conspicuous, is now very widely recorded and has extended its range northwards into Scotland whilst information on the Migrant Hawker (*Aeshna mixta*) also demonstrates not only a much more complete general colonization but a significant infilling of records in the counties of Northern England. All these species as well as the Ruddy Darter (*Sympetrum sanguineum*) have shown quite dramatic moves northwards in just 23



Vagrant Emperor Dragonfly (*Hemianax ephippiger*)

Mike Averill



Wyre Forest Study Group

years. 2004 saw the arrival of another new species the Scarce Chaser (*Libellula fulva*) in Worcestershire and it soon consolidated its hold along the River Avon. This was a surprise appearance as it had been a relatively sedentary species prior to that and found only in southern counties. One of the most rapid spreads in recent years has been the Small red-eyed Damselfly (*Erythromma viridulum*) which has made a remarkable spread across the UK first appearing in Essex in 1999 and now having reached Worcestershire. Some darters have also enjoyed good times in recent years. The Ruddy Darter (*Sympetrum sanguineum*) now seems very well established in most English counties – with a greatly increased presence in several northern ones. The Red-veined Darter (*Sympetrum fonscolombii*) has also strengthened its hold in a number of counties during the past decade and it is a Worcestershire regular at Kemerton and Pirton. There is an ever increasing possibility that such sites may host elusive species such as the Vagrant Darter (*Sympetrum vulgatum*). Some species like the Southern Migrant Hawker (*Aeshna affinis*), have not yet reached Worcestershire but need watching out for.

In summary, Worcestershire currently hosts 18 Dragonflies and 10 Damselflies, seven of which have arrived in the last 15 years. Successful observers will need to be alert and never overlook the unusual.

Expect the unexpected! Recent times have seen the apparent extinction of the Spotted Emerald (*Oxygastra curtisii*) in the British Isles, could it be still be rediscovered somewhere and could the Hairy Dragonfly (*Brachytron pratense*) only recorded four times in Worcestershire in the early 1980's near Ankerdine, still be out there? Those present in the hall might ponder on an attempt to re-discover it.

With regard to more scarce or exotic species, listeners should become familiar with the Red-eyed Damselfly (*Erythromma najas*) so they can tell it from its recently arrived congener. They should also be alert for Keeled Skimmer (*Orthetrum coerulescens*) when on heath land with good water bodies. If on holiday on the Channel Islands, they should look out for the Southern Skimmer (*Orthetrum brunneum*), it may well be at a pool near you!

Bees

by Geoff Trevis

The speaker has been identifying and recording aculeate hymenoptera for some years and has recently broadened the scope of his studies to include sawflies. He is a member of the Bees, Wasps and Ants Recording Society and regularly collates and sends Worcestershire records for inclusion in the national

database. He has recently extended his involvement at a national level and is therefore able to view factors such as range extension from a broader perspective. It is fitting therefore that we are able to read his report in full.

Before looking at species which have shown changes in distribution nationally and locally we considered the possible underlying causes of change. We should not automatically assign climate change as the driver. Climate may affect species directly or it may affect habitat, predators, prey, parasites or pathogens which have secondary impacts on the species under consideration. Equally important may be the impact of human activities on habitats. To illustrate this we looked at three closely related species of bumblebee, *Bombus pascuorum*, *B. muscorum* and *B. sylvarum* all of which have been recorded in Worcestershire. The first of these, *B. pascuorum*, utilises a wide range of habitats and flower species. It is ubiquitous and though the county distribution map shows a wide but scattered distribution in fact there can be few if any monads in which it cannot be found. *B. muscorum* is more characteristic of cool, damp grasslands and in recent years it has declined and is now concentrated at coastal sites and in north-west Scotland. As apparently suitable habitat is still fairly widespread the retreat of this species from inland sites is probably climate driven. *B. sylvarum* on the other hand requires large areas of warm, flower rich grassland. It has shown a very marked reduction in population and is now common only in areas such as the Thames estuary and MoD training areas e.g. Salisbury Plain. Here the loss from most of the country is probably due to changes in agricultural practice.

We then went on to look at species which have arrived in Worcestershire relatively recently or have shown changes in population size. The first example was the common hornet, *Vespa crabro* which has been very common in Worcestershire recently. In the 1960s it was thinly though widely distributed from East Anglia across the Midlands to the south-west and absent from the extreme south-east in Sussex and Kent. However, the NBN Gateway now shows it to be far more common with strong populations in Kent and Sussex though it has shown little extension of range northwards. It would appear that climate change may have resulted in more favourable conditions in southern England but the change has not yet impacted sufficiently beyond the north Midlands.

By contrast the tree bumblebee, *Bombus hypnorum*, which was first recorded in England in Hampshire in 2001 has, after a short period of consolidation, spread rapidly north and in 2009 was recorded in Northumberland near the Scottish border. It is very

catholic in its choice of habitat, demonstrates a broad pollen forage spectrum and is bivoltine. It is unlikely, therefore, to be constrained by habitat and the spread is undoubtedly due to climate change. Interestingly, it has shown little tendency to spread westwards putting Worcestershire right on the edge of its current range and making our county a key area for monitoring.

A couple of species confined to sandy heath have also been recently recorded and may be increasing in numbers. These are the Bee Wolf *Philanthus triangulum* and a mining bee *Dasygaster hirtipes*. *P. triangulum* was until recently regarded as a very rare species and accorded red data book status. In fact, it was in the process of colonisation and is now relatively common in suitable habitats in southern England and its status needs revision. It has been found on the heaths and sandy sites in north-west Worcestershire and at Kemerton Lake in the south and it undoubtedly still under recorded. *D. hirtipes* appears to be restricted to the heaths at Burlish Top, Devil's Spittleful, Blackstone Country Park and Hartlebury Common. Due to their habitat needs it is not likely that these species will spread further in our county.

Another recent arrival, this time in the south-east of the county, is *Osmia bicolor*. This attractive and distinctive little bee nests in empty snail shells and is, for obvious reasons, found mainly at base-rich sites where snails are common. In Worcestershire it has been recorded at Kemerton Lake and Beckford Gravel Pit. It may yet spread more widely.

Two species of social wasp, *Dolichovespula media* and *D. saxonica* were both first recorded in Worcestershire in the 1980's. They now show a wide distribution and are probably under-recorded due to the difficulty in identification in the field. However, *D. media* has a very dark, melanistic form which can be readily identified. The cause of the northward spread of these wasps is uncertain

and experts are reluctant to point the finger at climate change. Both are tree nesting species and the large nests may be found hanging in trees and shrubs anywhere sheltered from long periods of strong sunshine.

The final part of the talk looked at species which have not yet been seen in Worcestershire but may arrive in the next few years. The most likely are the mining bee *Colletes hederæ* and the violet carpenter bee *Xylocopa violacea*. *C. hederæ* was first recorded in Britain on the Dorset coast and has shown slow but steady spread east and north. It is now found in all the south coast counties as far as Kent and north to Surrey and Somerset. It is a distinctive brightly banded species whose main period of activity is in autumn when it will be found nectaring on ivy flowers. Unlike *C. hederæ*, the spectacular *X. violacea* has been recorded annually from sites across England and a short lived breeding colony is believed to have been established in Leicestershire. There appears to be no obvious pattern to its distribution and as it has been recorded in Warwickshire it may well appear in Worcestershire. It is a large, violet species with very dark wings and cannot be confused with other species.

One species of social wasp, *Polistes dominulus*, has been established in the London area for a few years. It has shown no ability to spread beyond the very limited number of current sites but perhaps climate change will induce it to do so. *Polistes* is a genus widely distributed and common on the continent but is new to Britain. A second species, *Polistes nimpha*, has been spreading north across Europe and is now poised at the Channel coast ready for invasion. Also on the Channel coast there is a spectacular solitary wasp, *Tachysphex panzeri*, whose male sports huge, bright green eyes. This last is rather speculative as an immigrant but perhaps it will get here soon.

The talk was completed by returning to the subject of bumblebees. These insects are now well studied and their varying habitat and forage plant requirements make them an ideal subject for monitoring the effects of climate change. With a little effort, most can be identified in the field with use of a hand lens and there is no need to collect and kill specimens for identification. All entomologists were, therefore, asked to record bumblebees whenever they are out and about, whatever their speciality may be, in order to fill the gaps in our knowledge of the species in Worcestershire.

Thanks were due to Jeremy Early, Kevin McGee, Brett Westwood and Rosemary Winnall for permission to use their photographs and also to Stuart Roberts of the University of Reading for slides illustrating the spread of *Bombus hypnorum*.



Bee Wolf (*Philanthus triangulus*)

Rosemary Winnall

Recent Changes in Worcestershire Diptera

by Mick Blythe

Mick Blythe was a bug-hunter in his youth. On retirement he moved to Worcestershire, joined the WWT and was persuaded to take up recording. He was at first amazed and confused by the changes which had occurred over the years, not only in dipterology but in the growth of the conservation industry, with its BAPs and Red Data Books. Mick specialises in flies, and currently has a particular love of midges (fungus gnats, biting midges and hairy moth flies), small black dung flies and soggy patches in the Wyre Forest.

See the following article for Mick's write-up of his talk on page 63.

The Amateur Entomologist in Today's World

by Mike Bloxham

The speaker has spent many years enjoying the company of fellow entomologists and studying their habits. He has watched new methodology develop and seen subtle changes in the way entomology enmeshes itself with other scientific disciplines.

A start was made with review of some aspects of entomology as we first understood it. Our predecessors knew the value of making and maintaining a collection with a written record of discoveries and the methodology used in gathering specimens were fairly consistent for a considerable period of time. Some items (such as nets, containers and trowels) still play a key part in the task, although the development of modern materials has enabled a wide range of choice in this area. Other components in a field bag are entirely new and have been included because technological advances have been very kind to us. The tape recorder became very small and

portable. The advent of the Global Positioning System (GPS) has meant that locations can be pinpointed with ever increasing accuracy to the benefit of anyone interested in micro-management of habitat areas. The entomologists' field equipment is ever changing with favourite items retained together with new gadgets enabling them to add value to field work.

Currently, design of mobile phones is advancing so rapidly that they have a multitude of roles. Pictures taken using them are already useful and many entomologists continue to buy digital cameras of increasing sophistication and other light detecting and emitting devices, enabling advances in perception of detail in the structure and lives of insects. Other mechanical devices such as hand-held hoovers have supplemented the malaise and pitfall trap in enabling a wide range of insect species to be sampled.

Today's world of technological advances and immediate communication has indeed been of untold value to amateur entomologists. It is much easier for the curious to come upon an entomological site whilst browsing through websites – it has certainly brought many newcomers to their ranks because the digital world has enabled exchange of accurate data on a growing number of common insects, assisting the national recording databases to accumulate data of increasingly important statistical significance. It is possible that within the next ten years valuable predictions concerning the ecology of some insects may be possible. The same digital world has facilitated literature searches and the advent of the National Biodiversity Network has enabled us to quickly review data on many assorted 'bugs' collected during a day in the field.

With regard to work in the field, some things have changed little - encounters with animals and landowners still take place, but now the entomologist is equally likely to encounter the problems of vandalism and land abuse, because visits to a variety of unexpected places are far more frequent! The traditional forays to areas of special interest still take place, but with much contemporary focus on inner city wildlife and Biodiversity Action Plans, the fringes of housing estates have become much more typical areas of engagement for many insect hunters.

Collaboration has usually been a feature of entomological life, but is becoming increasingly essential. Agencies may now call upon a varied team of specialists to survey areas for planning purposes. This approach has the great advantage of ensuring that fewer aspects of the ecology are overlooked. Entomologists most definitely add value to findings. They may find vulnerable aculeate species on very



Today's Amateur Entomologists still carry an assortment of equipment!

Mike Bloxham

Wyre Forest Study Group

uncommon habitat such as soft eroding sandstone cliffs which appear to hold little of value to others and are a ready target for landfill operations.

The talk concluded on an optimistic note. Technological advances have presented today's entomologists with increasing opportunities to make significant progress in many areas of their activities. There is also encouragement for those in the audience who still make or retain collections. Some voucher specimens will always be necessary and whilst the practice of killing any insect is rightly regarded as regrettable save in certain circumstances, contemporary advances in DNA technology with its 'molecular laboratories' mean that a leg taken from a specimen in their collection may at some time in the future provide vital information to assist the progress of tomorrow's science.



Soft sandstone cliffs endangered by possible landfill M. Bloxham

Concluding the day

After question time, Brett thanked all who had contributed to another excellent day, including the Wyre Forest Study Group committee and helpers for their planning and work on the day and to Linda Averill for providing an impressive range of cakes in the shape of insects, one for each of us!



The Wednesday Group in Euphorbia clearing, New Parks, 3rd June 2009. From left Dave Scott, David Antrobus, Susan Limbrey, Janet Antrobus, Tony Simpson, Jane Scott, Richard Greenwood, Mike Williams, Mick Blythe

Rosemary Winnall