Worcestershire Entomology Day Saturday 28th October 2006 Life in Aquatic Habitats

Mike Bloxham

The task of organizing this event fell to Mike Averill (Worcestershire and Midlands Regional Recorder – Odonata). His extensive experience enabled him to choose suitable speakers to tackle imaginatively several key aspects of this very large topic.

The weather for the day was good and a large gathering was present to see exhibits, exchange information and enjoy the talks.

Exhibits included a large biodiversity display by Worcestershire Biological Recorders, insect photographs plus specimens (Kevin McGee), Hymenoptera specimens (Geoff Trevis) and a collection of British Craneflies (Mike Bloxham). John Meiklejohn also brought specimens and Rosemary Winnall showed *Formicoxenus nitidulus* (a rare guest ant recorded from wood ant nests) re-discovered in Wyre by Brett Westwood. A microscope supplied by Malcolm Smart was kept busy as many different specimens were examined.

The morning session was introduced by Susan Limbrey whose rather precise time-keeping signals proved to be very effective and the afternoon speakers were introduced by Mike Averill.

Craneflies in Shropshire

Peter Boardman

Peter Boardman works for the Field Studies Council at Preston Montford near Shrewsbury as Biodiversity Training Project officer. He has been working on a provisional distribution atlas for Shropshire's tipulids for the last three years and has a general interest in Diptera.

Peter Boardman is presently engaged in long term study of Shropshire craneflies. Given that a part of Wyre lies in that county, his talk had plenty of interest for group members already busy with tipulids. His introductory comments touched on a difficulty - craneflies are not particularly popular with entomologists and a few conspicuous species tend to dominate interest, to the detriment of the remainder (there are actually around 340 species in the family).

In preparatory studies for his proposed atlas (based on 2x2 Km tetrads), he discovered some 4000 Shropshire records (there are about 75000 in the national database). At present 233 species are recorded for the county. It is apparent that around thirty recorders have provided records, the dominant historic recorder being Cyril Pugh.

In taking us further, Peter first drew our attention to the widespread distribution of many representatives - up to 80 species having been recorded from malaise traps on farms. He then moved on to discuss three groups of more specialized insects from different types of damp habitat. Shropshire is fortunate in possessing good ancient wetlands, Whixall Moss being a prime example. This exceptionally fine site was visited by Charles Colyer, Harold Britten, Alan Brindle (an expert on cranefly larvae) and Cyril Pugh, during the period from 1920 to 1940. More recent work has been done by Tom Mawdsley (Liverpool Museum) and John Kramer (Dipterists' Forum) in conjunction with Peter himself. They were able to study two species of great interest, not only because of their rarity but also because divergences in habitat preference enabled valuable conservation data to be amassed. *Idioptera linnei* and *I. pulchella* were discovered to have distinctive requirements and characteristics.

I. linnei does not like shady areas but *I. pulchella* does. *I.linnei* had a very restricted distribution on the moss, preferring sphagnum patches. *I. pulchella* survived well in transitional wet areas without sphagnum and had a wider distribution. This was of particular interest because (in contrast with *linnei*) its females have reduced powers of flight. General studies on the genus show that *I. pulchella* can be found at greater altitudes, Northern and Southern populations both being bivoltine. In contrast *I. linnei* is univoltine in its Northern population.

A very rare species *Phylidorea heterogyna* was discovered by Pugh on Whixall in 1936 but recent searches have not produced specimens - successful capture methods are likely to involve pitfall and water traps. More success has

attended work on *Prionocera pubescens* and *P. subsericornis* . These rather drab flies have distinct preferences, the former for small pools in the sphagnum, the latter for shaded ditches in organically enriched peat areas.

The final section of his talk took us to a genus which flourished in dingle woodlands and ditches where woody detritus has fallen into streams. *Lispothrix* species have some distinctive preferences here with *L. nigristigma* preferring more substantial fallen trunks (circa 60- 90 cm in diameter) whilst others such as *L. errans* were happy with smaller semi-submerged woody debris. He pointed out that *Lispothrix remota* might be easily found by the audience as it had been reported from diverse suitable shady stream and woodland areas throughout Britain.

Semi-submerged woody debris is an important habitat for Lispothrix and other species Peter Boardman

Peter concluded by stressing that habitat conservation was always of the greatest importance in conservation of craneflies and that a wide range of damp habitat types played an important part in retaining our traditional Tipulid fauna.

Biological sampling and its use in river classification

Lucy Morris

The Environment Agency carries out biological monitoring on the River Severn and its tributaries from source to estuary, including the Dowles Brook. Samples collected tell us a great deal about the health of our rivers. Lucy Morris is Ecological Appraisal Officer.

The importance of having improving water quality in our environment has never been greater than now and a wide range of measures are used to monitor this improvement. The audience would appreciate that, given the wide range of water bodies present, some basic choices had been necessary to provide core comparative data.

A key starting point in all assessment had to be the reason for monitoring because that would determine methodology used. Here it is useful to focus on the commonly used General Quality Assessment which concentrates on macroinvertebrates, macrophytes, diatoms & fish in a water body. A survey concentrating on living things visible to the naked eye might involve presence of fish, crayfish, dragonflies, mayflies, caddisflies, snails, shrimps, leeches and a variety of worms etc. The importance of surveying a set of animals is that they cannot move far and respond to everything in the river. On certain very special occasions they are very good indicators if pollution is difficult to detect by chemical & other methods.

An analysis of the effect of pollution has been important in the overall design of testing. Toxic pollution is recognized by its capacity to instantly kill flora & fauna. Organic pollution can kill directly by using oxygen or by encouraging other organisms which use oxygen to the detriment of the normal flora & fauna. Physical pollution may be particulate - when silt blocks the gills of fish. Detergents produce both adverse physical & toxic effects and, as the audience would therefore appreciate, sewage effluent was an agent capable of producing a combination of all these evils.

Sampling methods for running water were relatively simple. In streams a pond net is used to take a three minute sample and in larger rivers a dredge is employed. The stream survey (which might be familiar to the audience) normally involved zig zagging across a stream whilst kicking the bed material and collecting disturbed fauna in a pond net.

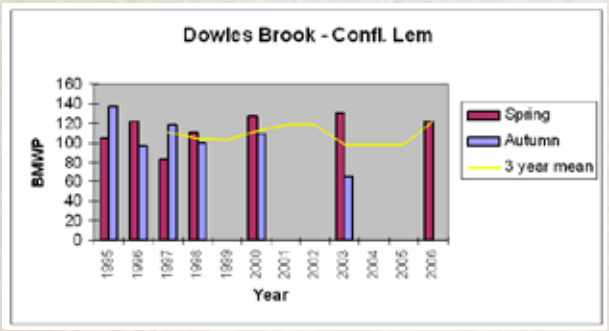
A good proportion of surveys is generated by incident reports. The normal practice is then to track upstream to find the source whilst sampling on a regular basis. The analysis that follows will be dependant on what appeared to be the immediate cause and effect.

In 1980 the Biological Monitoring Working Party (BMWP) formalized ways of expressing

degrees of pollution. A grading system of 1-10 was devised based on the relative sensitivity of a selected set of organisms to organic pollution. The total of the scores for a given sample provided the worker with a BMWP score. A further important refinement was the Average Sensitivity of Taxa (ASPT). This involved dividing the previous score by the number of different taxa found (ASPT= BMWP/number of taxa found). This standardization was valuable but familiar difficulties still remained. The scientific officers doing the work had to be adequately trained in taxonomy and the processing of results was not necessarily going to be quick!

The problems of interpretation have been progressively reduced because the evolution of the RIVPACS programme has enabled computerized comparison of water purity models with results from incoming field tests.

Our speaker showed us some BMWP information from Wyre that included the Dowles/Lem confluence scores shown here.



Lucy concluded by stressing that continuous research was essential if a holistic system of evaluating our waters was to emerge. Much remained to be discovered about flow categories of moving water in large and small streams. An index to evaluate the impact of low flows (Lotic Invertebrate Index for Flow Evaluation or LIFE) had been established. This is based on the sensitivity to and tolerance of, target invertebrates to low flows. Invertebrates are given water preference scores as follows: rapid (score 1), moderate (score 2), slow/sluggish (score 3), flowing/ standing (score 4), standing (score 5) and finally, drought resistant (score 6).

There was still much routine seasonal work to be done to discover the nature of life in our streams at different times of the year. The consequences of water abstraction policies appeared to be profound and this issue would have to be addressed as data accumulated, as would the impact of global warming. The ongoing development of reliable systems for monitoring change in our waters on an increasingly frequent basis was imperative.

This report concludes with a most valuable table supplied by our speaker which may enable readers to have a go at some analysis of their own.

Appendix 1 The taxa which must be identified for BMWP/LIFE analyses

Planariidae	5	4	Siphlonuridae	10	4	Hallplidae	5	4
-Dugesiidae	5	4	Baetidae	4	2	Hygrobiidae	5	5
Dendrocoelidae	5	4	Heptageniidae	10	1	Dytiscidae	5	4
			Leptophlebiidae	10	2	-Noteridae	5	4
Nemtidae	6	2	Potamanthidae	10	3	Gyrinidae	5	4
Viviparidae	6	3	Ephemeridae	10	2	Hydrophilidae	5	4
Valvatidae	3	4	Ephemerellidae	10	2	-Hydraenidae	5	4
Hydrobiidae	3	4	Caenidae	7	4	Scirtidae	5	4
-Bithyniidae	3	4				Dryopidae	5	4
Physidae	3	4	Taeniopterygidae	10	2	Elmidae	5	2
Lymnaeidae	3	4	Nemouridae	7	4			
Planorbidae	3	4	Leuctridae	10	2	Sialidae	4	4
Ancylidae	6	2	Capniidae	10	1	Osmylidae	-	2
-Acroloxidae	6	4	Perlodidae	10	1	Sisyridae	-	4
			Perlidae	10	1			
Margaritiferidae	-	2	Chloroperlidae	10	1			
Unionidae	6	4				Rhyacophilidae	7	1
Sphaeriidae	3	4	Platycnemididae	6	4	-Glossosomatidae	7	2
Dreissenidae		4	Coenagriidae	6	4	Hydroptilidae	6	4
			Lestidae	8	4	Philopotamidae	8	1
Oligochaeta	1	-	Calopterygidae	8	3	Ptychomyiidae	8	2
			Gomphidae	8	3	Econmidae	8	3
Piscicolidae	4	2	Cordulegasteridae	8	2	Polycentropodidae	7	4
Glossiphoniidae	3	4	Aeshnidae	8	4	Hydropsychidae	5	2
Hirudinidae	3	4	Corduliidae	8	4	Rhyacophilidae	10	4
Erpobdellidae	3	4	Libellulidae	8	4	Brachycentridae	10	2
						Lepidostomatidae	10	2
Agelenidae *	-	5	Mesoveliidae	5	5	Limnephilidae	7	4
			Hebridae	-	4	Goeridae	10	1
Artemiidae	-	6	Hydrometridae	5	4	Beraeidae	10	2
Chirocephalidae	-	6	Veliidae	-	4	Sericostomatidae	10	2
Triopsidae	-	6	Gerridae	5	4	Odontoceridae	10	1
Asellidae	8	2	Nepidae	5	5	Molannidae	10	4
Mysidae	-	5	Naucoridae	5	4	Leptoceridae	10	4
Astacidae	3	4	Aphelocheiridae	10	2			
Corophiidae	6	3	Notonectidae	5	4	Tipulidae	5	4
Talitridae	-	6	Pleidae	5	4	-Limoniidae	5	2
Gammaridae	6	2	Corixidae	5	4	-Pediciidae	5	2
-Crangonyctidae	6	4				-Cylindrotomidae	5	-
-Niphargidae	6	-				Ptychopteridae		2
						Chaoboridae	-	5
						Culicidae	-	5
						Simuliidae	5	2
						Chironomidae	2	-
						Syrphidae	-	5

Taxon = BMWP scoring taxon which may also score for LIFE
-Taxon = BMWP equivalent taxon which may also score for LIFE
Taxon = LIFE scoring taxon only
* Agelenidae will change to Cybaeidae with the taxon dictionary update mid-2006

Dragonflies of Wyre in a Regional Context

Mike Averill

Mike Averill has been interested in dragonflies for over twenty years and is both Worcestershire and Midlands regional recorder for Odonata.

During the course of his studies, Mike Averill has taken a particular interest in the Odonata of Wyre and its immediate surrounds. He found it convenient to subdivide the main dragonfly habitats as still water, small streams, tributary streams and the Severn itself.

He summarised the British fauna as presently consisting of some 53 species, 40 of these breed regularly. Unfortunately three have

become extinct here since 1950. The presence of species from the continent is a factor likely to increasingly influence the picture in the future as some 11 of these have been noted in the British Isles recently. The midland region has 28 breeding species, eleven being damselflies (Zygoptera) and the others dragonflies (Anisoptera). In Wyre fourteen species breed regularly out of the 21 species recorded.

The talk unfolded with pictures of the insects (often in their typical habitat) accompanied by commentary on national and Worcestershire distribution data and some general information on the life histories and characteristics of each species. As a general example of excellent dragonfly habitat, we were shown the fire pool near Uncllys Farm. This is moderately large and has a good open aspect, plus a nice balance of floating and emergent vegetation.

A familiar and nationally common insect, the Southern Hawker *(Aeshna cyanea)* which favours still water such as the pool previously mentioned, was chosen as the first dragonfly for discussion. A few hints on recognition were provided. A damselfly fond of similar habitat, the Large Red Damselfly *(Pyrrhosoma nymphula)* which was first recorded in the district in 1975, was next on the agenda, together with the familiar Azure Damselfly *(Coenagrion puella)*. These are frequently seen together on good quality pools. The unmistakable Blue-tailed Damselfly *(Ischnura elegans)*, also noted as being abundant in these situations, was of special interest as one of the insects most tolerant of polluted waters and one of the few damselflies that might turn up in any type of aquatic habitat. Ponds containing fallen trees, or floating logs are attractive to the Brown Hawker *(Aeshna grandis)*. The females oviposit in soft wood and plant tissue, so if you would like to attract the insect to the garden pond, a floating log may well do the trick for you. This dragonfly (which we regard as commonplace in our region) has quite a limited distribution in Scotland, Wales and Cornwall.

The Common Darter *(Sympetrum striolatum)* is often abundant on larger pools and will station itself on all sorts of prominent objects. Fences are popular and an inspection of these in high summer should enable the observer to find and recognize the insect which has characteristic lighter parts to its thorax. The Common Blue Damselfly *(Enallagma cyathigerum)* is less common in Wyre than elsewhere in the region, probably because it favours larger ponds. The Broad-bodied Chaser *(Libellula depressa)* is a dragonfly that may be attracted to very small pools such as garden ponds. Common in Wyre and in the midlands, it has a distinct Southern distribution, being rare north of the Mersey/ Humber Line.

The Migrant Hawker *(Aeshna mixta)* usually favours well-vegetated pools. This insect arrived in Britain in the 1920's and was first recorded from Wyre in 1984. Whilst it has flight and behaviour characteristics which often provide clues to its identity, a problem may arise because of the possible arrival of a similar newcomer *Aeshna affinis*. The body of this insect is much more heavily marked with blue. The large Emperor Dragonfly *(Aeshna imperator)*, fairly common in Wyre, fast flying and powerful, is a mixed blessing in a good dragonfly habitat because it will attack other Odonata without hesitation.

Heavily rush-covered pools and grassy ditches have their own particular Odonata fauna. The Emerald Damselfly *(Lestes sponsa)* may well be nationally under recorded because it is extremely hard to spot in this habitat. The Ruddy Darter *(Sympetrum sanguineum)* is the opposite. Males are very red, with a definite but slight clubbing of the abdomen. The insect is somewhat unpredictable in occurrence, being apparently absent for considerable periods and then has periods when frequent (first recorded from Wyre in 1991). Females have been observed laying eggs on damp grass and larvae of both this insect and the Emerald Damselfly can survive in fugitive pools where drought is a regular factor.

Examples of two dragonflies which seem to have declined in numbers are the Common Hawker *(Aeshna juncea)* and the Four- spotted Chaser *(Libellula quadrimaculata)*. The latter has only 2 Wyre records although it can appear in small numbers at a few locations in Worcestershire. A Wyre rarity and a scarce British species, the Hairy Dragonfly *(Brachytron pratense)* may be overlooked because it is flying in April and May. It is at home in fenland ditches, but has one record locally from the Baveney Brook area in the year 2000.

There is a small but highly distinctive group of Dragonflies where larvae require running water as a habitat. The most conspicuous is the Banded Demoiselle *(Calopteryx splendens)* which can be seen along the Severn in numbers. It is present along many British rivers. A much scarcer insect, although reasonably frequent along the Severn, is the White-legged Damselfly *(Platycnemis pennipes)*. Quite easily recognized with large flattened white areas on the legs, it prefers Southern Britain. Also closely associated with the Severn and tributary streams (provided that they are silty as required by the larvae) is the Club-tailed Dragonfly *(Gomphus vulgatissimus)*. Emergent females may often be found on bracken in the riverside reaches of Wyre where the males will descend from the treetops to dance with them. First recorded locally in 1950, this dragonfly has been regularly studied by the speaker.

Female Club-tailed Dragonfly *Mike Averill*

The most recent visitor to Wyre has been the Scarce Chaser *(Libellula fulva)*, when this year a lone female was seen near the old Severn railway bridge at Bewdley. This would be remarkable considering the patchy national distribution except that there is a new colony recently established on the Avon around Eckington.

A limited set of dragonflies has a partiality for small brooks. The Beautiful Demoiselle *(Calopteryx virgo)* haunts the Western streams and tributaries of the Severn. Recorded from Dowles brook, the earliest record for Wyre dates from 1895, the insect has a Western British distribution. The second dragonfly in this category, the Golden-ringed Dragonfly *(Cordulegaster boltonii)* was also recorded by Victorian naturalists of Wyre in 1895. It gave the speaker great pleasure to report that it continues to be a stalwart resident with proof of breeding from many localities in the Forest.

The Birds of Dowles Brook, 16 years and counting

Michael Harrison

Michael Harrison has been the BTO observer for Dowles Brook since the early 1990s. His interest in wildlife generally and birds in particular was nurtured during his school days in the New Forest.

Michael has now been studying the birds of the brook for some 16 years. Following his retirement 17 years ago he wished to make as much use of his spare time as possible and from being a regular visitor to Wyre, he gradually transformed himself to become almost an integral part of Dowles Brook and its surrounds as he embarked on a long term bird survey following consultations with the British Trust for Ornithology's Midland representative Jim Winsper.

Dowles might be classified as intermediate in size with some upland characteristics but essentially a lowland stream. One of its salient features is that the woodland canopy envelopes much of its course and can make identification of birds flying away from you in bad or dappled light, a regular difficulty.

Michael's beat consisted of the four and a half kilometres stretch from the bridge upstream of the Wyre Experimental pool to the junction with the river Severn. The lower reach is characterized by considerable back flooding from the Severn, producing banks which are heavily scoured and muddy. On following the course upstream, the going can be difficult because of falling trees and associated vegetation. These can have considerable effect on the stream by obstruction and diversion of the flow. As a consequence, Dowles is ever changing and presents new challenges to any observer wishing to follow consistent recording routines. Needless to say the birds are the first to take advantage of any newly created habitat on offer.

Given that the ornithological focus was on species most frequently associated with Dowles,

This article is an extract from the Wyre Forest Study Group annual Review 2006

especially those breeding there, Michael used a series of separate species sheet maps that enabled him to work out and define territories as records accumulated. He has also been able to give good estimates of numbers involved and possible reasons for any perceived fluctuations in these, for instance dipper territory is likely to be dependant on food availability. The statistics for certain characteristic species of Dowles show that kingfisher numbers have remained fairly constant for the last 16 years, as have grey wagtails at five to seven pairs, against a background of an overall 75% increase nationally. Dipper numbers fluctuate between three and five pairs (only three in 2006). They are well established at the railway bridge but further upstream a favourite site was inadvertently destroyed by extensive 'improvement' work on the brickwork. We heard that moorhen remained a regular resident as did mute swan at the confluence. A surprise saw mandarin breeding for the first time in 2006.

Dipper *Steve Robinson*

The speaker had also undertaken a woodland bird survey over 500m stretches of his 'beat'. This has turned out to be difficult because songs are often the best seasonal clue during summer and streams are quite noisy; streams in spate can make it very difficult for the listener. Nonetheless the survey has enabled him to discover extra detail about his residents including the kingfisher, which showed great flexibility in nesting in spite of bank collapses. He had located nests of a number of familiar species such as grey and pied wagtail. An instructive talk ended with the valuable advice that the observer ought, when using binoculars, to focus on the most distant part of the target area and then focus down to nearer areas. This lessened the chance of 'missing out' on observations.

Macro invertebrate relationships with stream flow type

Graham Hill

Graham Hill is a Research Assistant and PhD Student at the University of Worcester, where he is involved in research into river habitat complexity and is aiming to develop the possibility of using water surface 'flow types' as an ecologically relevant method of mapping river habitats.

Graham Hill is studying for a PhD at Worcester University, where his research is using aquatic macroinvertebrates to establish the biological relevance of using water surface flow patterns in river habitat mapping. Although his six study sites are spread across the midlands, one site at Knowles Meadow on Dowles Brook is in the Wyre Forest.

He explained that rivers have been heavily impacted by man's activities, yet everyone expects them to be able to cope with this and provide clean water and pleasant places, not to mention statutory requirements to improve river quality. This presents a headache for those responsible for river management, and the ability to monitor rivers is important. Benthic macroinvertebrates have been used to monitor water quality for many years, and more recently interest in habitat matrices has increased, with several river habitat mapping systems being developed to assist river managers in the task of restoration and rehabilitation of degraded rivers.

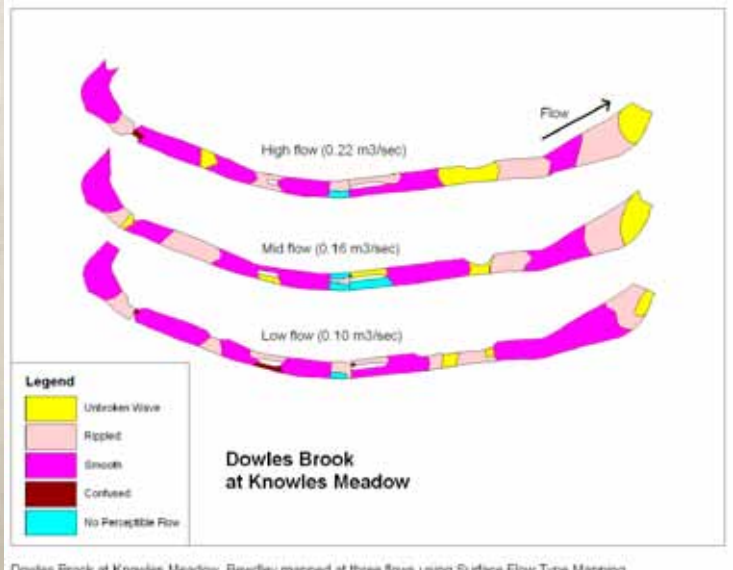
Patterns on the river surface - Surface Flow Types - are caused by the interaction of river flow and geomorphology and have been used by some researchers to identify river habitats, although little is known about their biological relevance. Therefore if surface flow types (SFT) can be shown to have distinct physical characteristics, and the macroinvertebrate communities within them are biological relevant, then SFTs could provide a rapid way to map rivers, with possible remote sensing applications.

Pictures of the SFTs encountered in the research – no perceptible flow, smooth, rippled, unbroken and broken standing wave and upwelling were shown, followed by an example of how these SFTs appear in a river and how they change over a relatively short time as the river rises and falls.

Graham described how mapping the SFTs from the river bank onto large-scale plans was followed by collection of depth, velocity, bed material, overhead cover and other data within the SFT units. This was followed by an explanation of the method used to collect three one-minute kick samples from the river bed with a standard 'D' kick net, with collection of further physical data from the kick sample location. Macroinvertebrates were later identified and counted, generally to family level, in the laboratory. Although the research is in its early stages, initial results are encouraging, not least that SFT units do appear to have individual physical characteristics, and some macroinvertebrates seem to prefer some SFT units over others. Comparison of SFTs maps of the same river reach at different flows has shown that SFT mapping is able to identify the spatial changes that take place. This is in line with other mapping methods and expected response. Sorting the macroinvertebrate samples has yet to be completed, however it is clear that spire shell snails (Valvatidae) are associated with both no perceptible flow and unbroken wave flow, whilst worms (Oligochaeta) are found in slow and deep water. Fresh water shrimp (Gammaridae), an abundant inhabitant of Dowles Brook, is found only in flowing water, and as a strong swimmer it is prefers faster flowing SFTs.

Few benthic macroinvertebrates have common names associated with a river habitat; Riffle Beetles (Elmidae) are an exception. Riffles are associated with unbroken standing wave flow type and it would be expected, perhaps, that this is where the beetles would be found. Not so, they turn up in every flow type, although they prefer faster flowing water, and so far have been most abundant in broken wave flow – rapids. Perhaps the common name reflects more of where biologists were collecting samples than where the beetle lives!

Graham concluded by saying that results to date were encouraging, but that there was a great deal more to do before the research could be presented, he remained hopeful that a positive association would be found and that Surface Flow Type Mapping would be a useful tool in the future. Furthermore, the data from Dowles Brook (Knowles Meadow) would have played its part in the development process.



Dowles Brook at Knowles Meadow, Bewdley mapped at three flows using Surface Flow Type Mapping

The contribution of Beetle data to knowledge of aquatic habitats since the Holocene

Dr. David Smith

Dr. David Smith is a palaeoentomologist specialising in the identification and interpretation of beetle remains from new deposits and archaeological sites.

This paper dealt with changes in the sub-fossil water beetle fauna of the major river systems of the British Isles during the last 10,000 years. It appears that the Elmid 'riffle' beetles were much more common in lowland catchments in the past than they are today. This is particularly the case for Macrhonychus quadrituberculatus and Stenelmis caniculata. It was suggested that the decline of these species was probably due to the onset of alluviation and clay deposition from around 1000 BC onwards. This deposition of clay has been linked to climatic change but is more probably the result of expansion of farming by prehistoric peoples at this time. Though this decline in Elmids and other insect species associated with clear and fast flowing waters is generally thought to be the case for most lowland river systems, the Trent seems to have retained mobile areas of sands and gravels, and therefore these species, almost up to modern times. This probably is related to the rather 'one sided' nature of the Trent's catchment and the fact that many of its larger tributaries all join in a relatively short section of its middle reaches.

Access to the Gorham and Girling beetle collections can be arranged easily by either ringing 0121 414 6542 or emailing d.n.smith@bham.ac.uk

Entomology Day concluding comments

The Study Group Chairman thanked all the speakers for their diverse and most valuable contributions to this third Worcestershire Entomology Day. Mention was made of all those who helped in the organization of the event, most notably Mike Averill as creator of the programme and joint chair for the day, together with Professor Susan Limbrey who assisted him and managed the finances. Mention was made of Rosemary Winnall (Study Group Secretary) who then took the floor in offering thanks to all who had helped prepare the hall, Sylvia Sheldon and assistants for the refreshments and those who had brought exhibits.

Footnote

With regard to writing this report, my thanks go to Mike Averill for general assistance in checking the accuracy of the content with the speakers. Separate thanks go to Graham Hill and Dr David Smith who kindly provided their own summaries of their ongoing research as given in their talks. We welcome any correction of errors or receipt of additional information that those in attendance see fit to send us and offer apologies for any omissions.

This article is an extract from the Wyre Forest Study Group annual Review 2006