



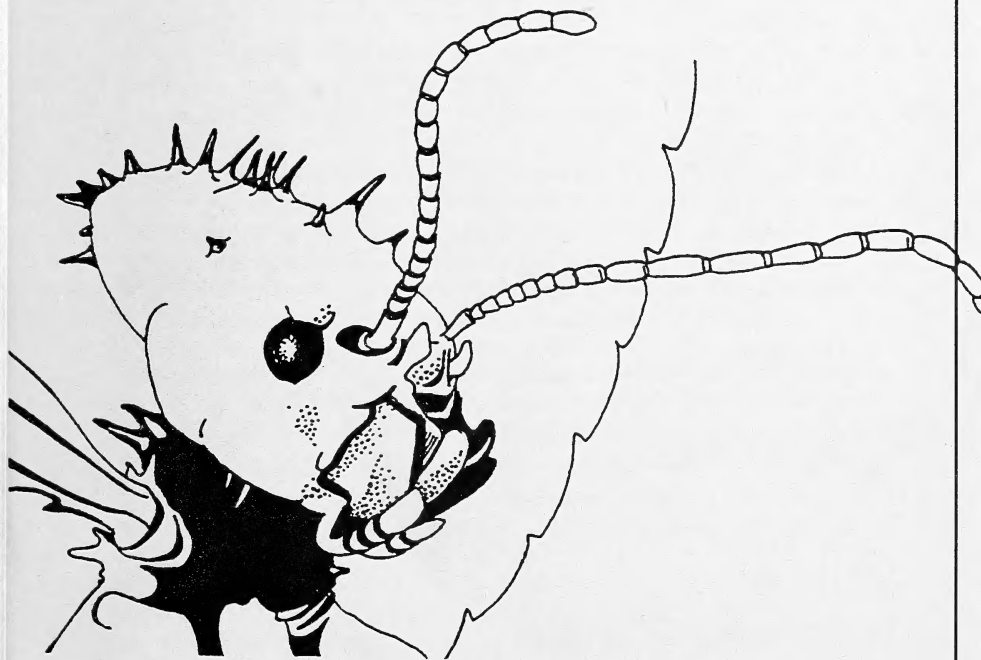
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INVERTEBRATE CONSERVATION NEWS



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INVERTEBRATE CONSERVATION NEWS



No. 15, October, 1994

EDITORIAL

Long before conservation was “invented”, a wealth of wildlife flourished on farmland and in managed forests. Many farmers and foresters believe that this proves that wildlife and human land use are essentially compatible. They argue that, given a favourable economic climate, they can afford to retain and enhance wildlife habitats on their land, and they point to many examples where this is being achieved. There are, on the other hand, conservationists who would argue that financial incentives for farming or forestry tend to encourage intensification of land use, with consequent damage to habitats. Can both these views be valid and, in any case, how can conservation in the commercially managed landscape be best encouraged?

Undoubtedly, there is considerable scope for habitat conservation in farmland and in commercial rainforests, particularly around the edges of planted areas, such as forest rides or field margins and hedgerows. Some farmers and foresters take pride in the wildlife that often thrives in areas like these and often express a gut feeling that conservation is an automatic consequence of “good” land management. However, good farming or forestry usually means maximising crop yields, whose share of limited raw materials – sunlight, water and mineral nutrients – decreases as the crop's share increases. Thus, taken to its logical extreme, economically good management is inimical to the existence of wild plants and animals.

Clearly, there is no logical basis in the cosy idea that “good” management has automatic benefits both for wildlife and for crops, even though they often co-exist in practice. There are two more satisfactory explanations for this co-existence, the first of which is that wildlife survives because the system of crop production is not entirely efficient; i.e. the crop is intercepting less than one hundred per-cent of the available resources. This may still be consistent with good farming or forestry practice, since there is often no economic benefit in squeezing the highest possible yield from the land. The second explanation is that land managers deliberately retain or even enhance wildlife habitats at the expense of some loss of yield because they value wild plants and animals. This concern may be partly altruistic, or it may reflect the “sporting” or recreational value of uncultivated areas.

Although farming and forestry have been lumped together so far in this discussion, they are viewed rather differently by naturalists. Thus, although forestry and agriculture can attract equal criticism over serried ranks of conifers in the one case and arable "deserts" in the other, there seems to be a consensus that forestry offers the greater potential for conservation. This may be why forestry has tended to attract relatively more complaints from amateur entomologists who have given up any hope of pursuing their interest in a barley field, but who still want to see woodlands full of butterflies or wood-boring beetles.

There are several reasons why forests, even if managed solely for timber production, may outpoint intensively managed agricultural land in the wildlife stakes. For example, in a young plantation many plants and animals can utilise the spaces between the trees until canopy closure occurs. Before any stems are marked for the first thinning, many trees will die from suppression and become a habitat for a limited range of deadwood invertebrates and fungi. For economic reasons, there is also generally less use of insecticides and fungicides in forests than on farms. These factors create built-in inefficiencies which reduce the yield below the theoretical maximum, even though the forester generally accepts them as normal. Corresponding inefficiencies are not usually tolerated by the modern farmer (who, for example, wouldn't dream of deliberately leaving part of his crop unharvested), although he has his marginal land, his hedgerows (perhaps!) and his field headlands – just as the forester has his woodland rides and his "unplantable" areas. We should note in passing, however, that woodland rides are needed for forest management, unlike many of the hedgerows which have been grubbed out on arable land.

Neither farmers nor foresters enjoy interference from conservationists when it involves statutory restrictions on their right to manage land however they might have wished. Compensation payments can sugar the pill, but they can also bring about abuse of the system. Nevertheless, today's farmer in the European Union is fairly resigned to the imposition of many laws and financial structures which limit his right to do as he pleases. Against this background of controls, some degree of coercion in the interests of conservation might not seem out of place. This could be exercised by making a conservation plan for each farm and forest. Any serious infringement could lead to the loss of grants, tax incentives and other financial privileges. This may sound Draconian, but such a scheme, unlike the Wildlife and Countryside Act (1981), would not criminalise defaulters.

SPECIAL NOTICE TO READERS

PUBLICATION OF INSECT (INVERTEBRATE) CONSERVATION NEWS

The longest gap ever between issues of *ICN* emphasises the difficulty of producing this newsletter on a spare-time basis. Also, the circulation of *ICN* has been far too small to justify the efforts involved in its production. Another problem was that the inherently poor quality of the duplication process that was used for issues 1-14 did not do justice to the content and quality of *ICN*. The AES Council has considered these problems and has decided that publication of *ICN* should continue, but with the wider circulation and better print quality that can be achieved by incorporating it within the main *AES Bulletin*. For the present, we hope to include an issue of *ICN* in every other issue of the *Bulletin*; i.e. thrice-yearly. At the same time, the name has been changed to *Invertebrate Conservation News* in line with the enlargement of the (now) Joint Committee for the Conservation of British Invertebrates to cover all non-marine invertebrates. The content will, of course, reflect the new title whenever there is an opportunity to range beyond insects.

The new publication system has brought about some important changes as far as our readers are concerned. The changes affecting each category of readers are as follows:

AES members will not need to pay any subscription for *ICN*, since they will now receive it as part of the main *Bulletin*. Members who paid in advance for *ICN* No. 15 or beyond and who require a refund should write to the *ICN* editor (address inside front cover of the *Bulletin*) before 1st May, 1995. Any members who wish to receive the separately bound version can, of course, subscribe to it as can non-AES readers.

Non-AES subscribers will continue to receive a separately bound version of *ICN*, for which there will be an annual fee, currently £3.50. Subscribers who have paid for issues in advance will be invited to renew their subscriptions when the balance of their payments has been used up.

Organisations which exchange their newsletters or magazines for *ICN* will continue to receive it as a separately bound item.

INVITATION TO CONTRIBUTORS

Articles, reports and "letters to the editor" on any aspect of invertebrate conservation are welcome. In this context, conservation can include almost anything that affects or could affect populations of invertebrates in the wild. Thus items dealing with damaging or beneficial activities or with field studies relevant to conservation will all be welcome. However, contributors should note that observations of year-to-year fluctuations in the abundance of species or the appearance of rare migrants should be sent to other outlets (including the main *AES Bulletin*); such events are often very interesting to field naturalists, but *ICN* is more concerned with the longer term status of invertebrate species.

There is no strict limit on the length of contributions but special arrangements may be needed in the case of long items (i.e. over 2500 words), which will sometimes have to be "held over" until there is sufficient space in an issue of the *AES Bulletin* to accommodate them. One big advantage of the new format is that monochrome photographs can now be accepted, in limited numbers, for inclusion in *ICN*. On some occasions, it may also be possible to include colour photographs. We hope that this, together with the generally improved appearance of the print quality, will encourage contributions!

Contributions should be sent to the *ICN* Editor, whose address appears inside the front cover in every issue of the *AES Bulletin*. They should be typed or clearly written, double line spaced and with a margin of at least one inch (2.5 cm) all around each sheet. Word-processed copy on floppy disks (3.5 inch, DOS-format) is also very welcome provided that the file format is either ASCII and/or WordPerfect (5.0 or 5.1). Return postage should be included with any disks which the author wishes to receive back. The editor reserves the right to edit or shorten contributions, but will usually seek the author's approval before publishing edited text. The deadline for receipt of items will generally be about ten weeks before publication of the next issue, but it may sometimes be possible to accept short items (e.g. notice of interesting events) about six weeks before publication.

NEWS, VIEWS AND GENERAL INFORMATION

THE JOINT COMMITTEE FOR THE CONSERVATION OF BRITISH INVERTEBRATES

Most of our readers will be aware that, since 1965, the JCCBI has been the "umbrella" body for insect conservation in the UK. The "I" in its name now stands for "Invertebrates", following a decision to invite participation from groups whose interests lie with other terrestrial and freshwater invertebrates. Its current member bodies are as follows:

Member organisations

Amateur Entomologists' Society
Balfour Browne Club
British Arachnological Society
British Dragonfly Society
British Entomological and Natural History Society
British Isopoda Study Group
Butterfly Conservation
Conchological Society of Great Britain & Ireland
Joint Committee for the Conservation
of the Large blue
Department of Entomology, The Natural History
Museum
Royal Entomological Society

Observers

Biological Records Centre
Countryside Council for Wales
English Nature
The Forestry Authority
Joint Nature Conservation Committee
ADAS (Ministry of Agriculture Fisheries
and Food
Ministry of Defence
National Trust
Scottish Natural Heritage
(The JCCBI is itself a member of
Wildlife and Countryside Link)

The AES provides information and views on various issues which are referred to it via JCCBI for consultation. Some of these are policy matters, e.g. the quinquennial review of the list of species protected by law, the European Habitats Directive, the UK Biodiversity Action Plan and the future of state forestry in Britain. Others concern specific sites, like the proposed East London river crossing through Oxleas Wood, a proposed golf course extension on an important Isle of Man orthopteran habitat site and a proposed tourist centre in the Burren, Ireland. (We hope to publish details about some of these things in future issues of *ICN*.)

The JCCBI recently needed to seek support to enable it to continue, and this was eventually achieved in the form of secretarial assistance from the Royal Entomological Society. During the search for support, it was realised that the aims of the JCCBI needed to be updated and publicised, and so the following mission statement was prepared.

JCCBI MISSION STATEMENT (1993)

RATIONALE

Approximately 96% of known animal species in Britain are invertebrates, yet the 4% which are vertebrates attract the majority of conservation efforts. This imbalance must be addressed and the importance of invertebrate faunas must be recognised for conservation goals to be achieved.

MISSION

The mission of the JCCBI is to promote the conservation of terrestrial and freshwater invertebrates.

SCOPE

The Committee works primarily in Great Britain but offers its expertise worldwide.

COMPOSITION

The JCCBI is a committee of eleven national societies and organisations concerned with invertebrate conservation. Its membership of about thirty persons also includes observers from official organisations and specialist co-opted members.

OBJECTIVES AND THEIR ACHIEVEMENT

The Committee's objectives and corresponding activities include:

OBJECTIVE:— in all aspects of conservation, to give invertebrates the prominence that they merit on the basis of their ecological and intrinsic value.

ACTIVITY:— makes representation on important national and international issues through and with support of Wildlife & Countryside Link and other organisations.

OBJECTIVE:— to help to counteract the accelerating destruction, alteration and isolation of habitats; processes which are the chief causes of extinction and decline in invertebrate faunas.

ACTIVITIES:— through published codes and guidelines, emphasises that proper habitat protection and management are the key to invertebrate conservation, rather than the mere scheduling of species.

— draws attention to the need for adequate public funding for the protection of sites where valuable habitats occur.

— makes representations on issues concerning individual sites which may need protection, advising on the special needs of invertebrates.

— plans to set up a clearing house to facilitate contact between (a) those who seek to protect sites and (b) experts in the survey of particular invertebrate taxa.

OBJECTIVE:— to promote the satisfactory protection and management of habitats at sites which have been designated for wildlife conservation.

ACTIVITY:— provides guidance to site managers either directly or through its constituent societies.

OBJECTIVE:— to help to ensure the survival of populations of threatened species.

ACTIVITIES:— advises on the status of species under consideration for legal protection.

— arranges surveys of the status of species under possible threat, aiming to improve understanding of their habitat requirements so that their conservation can be enhanced.

OBJECTIVE:— to promote understanding and co-operation between conservation bodies and those who, by studying invertebrates as amateurs or professionals, have the ability to contribute towards wildlife conservation.

ACTIVITIES:— acts as a forum for discussion and for the formulation of common goals.

— produces codes of conduct for field biologists studying or wishing to conserve invertebrates.

OBJECTIVE:— to promote the quality and scope of survey, monitoring, research and education.

ACTIVITIES:— produces guidelines for survey standards, identifies research needs and channels educational advice through its constituent organisations.

Unfortunately not all JCCBI's intended activities can be pursued at present since, under present financial constraints, it will have to concentrate almost exclusively on providing a forum for discussion and occasionally sending letters to governments and to other organisations. The Mission Statement was based on a decision, made in the early 1980s, that the JCCBI should seek to take on the functions of a national society for insect (now invertebrate) conservation. The other option then considered was that a new society should be formed, rather along the lines of the Xerces Society in America. This was rejected partly because the member-organisations of JCCBI felt that their shared aims in conservation should not be "hived off" in this way. However, it was perhaps not appreciated how difficult it is for an organisation like the JCCBI to progress very far beyond the talking-shop stage, and indeed some of its members are nowadays happy for it to be a talking shop, while their societies pursue their own particular aims.

As far as the AES is concerned, we now feel a little more free to go ahead with projects which we might previously have expected to be established under JCCBI auspices. The most important of these is our scheme for local representation, as mentioned below in the message from Martin Harvey. However, the Society is not in a position to take on all the roles of a body dedicated to the conservation of insects (let alone invertebrates), since conservation is only one of its aims. If any organisation is to play these roles, it must either be a better funded JCCBI or a newly constituted Society. The AES Conservation Committee needs to know what members of the Society think about the options for the future. One suggestion is that the JCCBI should hold a short conference in 1995, at which all interested parties can have their say. In the meantime, all views are welcome and should be sent to either of the Society's reps. on the JCCBI; Darren Mann or David Lonsdale.

THE AES CONSERVATION COMMITTEE

Since the last appearance of *ICN*, the membership of the Committee has changed and so we are listing the current members here. Their addresses can be found in the AES membership list and, in some cases, also in the "where to write" panel in the *AES Bulletin*. We must sadly note here the death of Peter Cribb, who served as our Committee's Chairman for many years and who did a tremendous amount to pioneer the cause of insect conservation. A full obituary appeared in the *AES Bulletin*.

The current membership of the Committee is: Colin Hart (Chairman), Martin Harvey (Habitat Conservation Officer), David Lonsdale and Darren Mann (JCCBI reps.), Reg Fry, Owen Lewis and Stephen Miles.

NEWS FROM THE AES HABITAT CONSERVATION OFFICER

Martin Harvey, 12 Cater Road, Lane End, High Wycombe, Buckinghamshire HP14 3JD.

As this is my first "formal" communication since becoming Habitat Conservation Officer (HCO) last year, perhaps I should introduce myself. As you might expect, I am an amateur entomologist with a keen interest in invertebrate conservation. I have been an AES member since about 1975, with my main interest in Lepidoptera, but with a general interest in many other groups. After ten years as a professional musician, I now work as Publications Officer for the Nature Conservation Bureau in Newbury, Berkshire. I see my main role as HCO to be that of co-ordinator, providing a link between members, professional entomologists and other organisations, so that invertebrate conservation issues can be addressed effectively by as many interested people as possible. I am always willing to discuss conservation matters, so please get in touch if there are any issues which concern you, or if you have any suggestions about what the AES Conservation Committee should be doing.

AES AREA CONSERVATION REPRESENTATIVES

In the 1980s, my predecessor, Clive Betts, set up a network of "Area Conservation Representatives" which successfully enabled the AES to become involved in a variety of conservation matters. In recent years, however, this initiative could not be sustained, due in large part to the energies of the Conservation Committee being taken up by producing the AES book on the conservation of insect habitats. We are now re-launching the area representative scheme.

Area reps are the main link between the AES Conservation Committee and local, specific conservation affairs. If the AES is to become involved in invertebrate conservation throughout the UK we need individuals who can act as local contact points, bringing local matters to the Committee's attention and doing whatever they can to promote the cause of invertebrate conservation. The following are the main activities which the Committee suggests each area rep should pursue.

1. Acting as a local "access point" for local groups and individuals who may wish to contact the AES to ask for advice.
2. Passing on information about local sites or issues to the AES, especially if these involve threats to the survival of any invertebrate species in the locality, thus enabling the Society to support site protection both by preparing data and by making representations where necessary.

3. Ensuring that, for sites of special value not currently recognised as such, details are sent to relevant local bodies such as the county Wildlife Trust, to national schemes, especially the Invertebrate Site Register, and also to the AES, so that the Society will be aware of any need to give advice or assistance when site designation is being considered.
4. Promoting invertebrate conservation as widely as possible within the local area, as far as the representative's time and enthusiasm allow. It may be particularly valuable for the representatives to ensure that invertebrate issues are raised with other local conservation groups with which she or he is involved.
5. Putting forward ideas for other things that area reps could usefully be doing!

Further (optional!) activities could include:

6. Organising field meetings of interest to invertebrate conservationists, on the joint behalf of the AES and one or more local or national organisations.
7. Making representations at Public Inquiries, on behalf of the AES and/or co-operating local bodies, if both the rep concerned and the Society agree that this would be appropriate

The main requirement for area reps will be that they must be enthusiastic! No expert knowledge is required, although obviously the experience of our reps will be a useful resource in itself. The Conservation Committee will provide as much back-up as possible, and is in contact with experts in many fields who can offer advice where necessary. If you are interested in becoming an area conservation representative, or simply wish to discuss conservation matters, please contact me, Martin Harvey, at the above address.

(By the time you read this, I should have contacted those people who were previously area reps to see if they would be willing to carry on. If you were a rep, but have not yet heard from me, please get in touch in case I do not have your details on file.)

SITES AND SPECIES OF SPECIAL INTEREST

PORTON DOWN MOTH PROJECT

In 1993 Sarah Miles, a member of the Moth sub-Group of the Porton Down Conservation Group, carried out a comprehensive survey of the area's moths, gathering data on the abundance of the species present at different times of year. Writing in the Ministry of Defence conservation magazine *Sanctuary* (No. 23: 1994), she points out that no such survey had previously been done for moths at the Porton Down military ranges, although she was able to draw upon the results of two smaller-scale studies done in 1970 and 1984.

Using a Robinson mercury vapour trap, together with other equipment including a mercury vapour lamp suspended over a white sheet, Sarah Miles recorded 157 macro-moths, of which 71 were new records for the area. This brought the total list to 219, including species recorded in earlier studies. As far as micro-moths were concerned, 75 species have so far been recorded, of which 53 were new additions to the Porton Ranges list, including a new record for the county of Wiltshire; *Depressaria badiella* which feeds on various Compositae and often uses gorse or juniper for resting as an adult. Among these micro-moths was also a thriving population of a Red Data Book (RDB) Category 2 species, the Auriferous pearl (*Mecyna flavalis*), whose foodplants include members of three different plant families. Another rare find among the micro-moths, classified as "Notable A" in the national status report of the Joint Nature Conservation Committee was *Microstega pandalis*, whose larvae form webs and cases on wood sage, marjoram and golden-rod.

None of the macro-moths recorded was a RDB species, but there were scarce or local ones such as the Balsam carpet (*Xanthorhoe biriviata*), Reddish light arches (*Apamea sublustris*), Ear moth (*Amphipoea oculea*), Flounced rustic (*Luperina testacea*), Peacock (*Semiothisa notata*) and Thyme pug (*Eupithecia distinctaria*).

These findings help to emphasise the ecological value of Porton Down which, as many readers know, is already noted for the plants, birds, butterflies and spiders which occur on its 4,500 acres (1,820 ha) of undisturbed and rabbit-grazed chalk downland – the largest such area in England. Sarah Miles comments that, along with the Breck and Roche Court Down, Porton provides a "vital time-capsule" in which species can survive without intrusion or disturbance. A zone of 3,033 acres (1,227 ha) is designated as a SSSI (Site of Special Scientific Interest) and a SPA (Special Protection Area).

The value of many MoD sites for wildlife is well known to many naturalists, and some of them have joined local groups which work with the MoD to provide survey information to assist site management, and whose findings are reported in *Sanctuary*, the MoD's excellent wildlife magazine. However, there has been concern in recent years that defence cutbacks are leading to disposal of land for uses which will not allow wildlife to flourish. Conversely, there are concerns about intensification of defence training in other areas, as training grounds in Germany become unavailable. Training is generally far less harmful to wildlife than urban developments or intensive agriculture, but it can harm some kinds of habitat, quite apart from the problem of reduced access for walkers and naturalists in the areas affected.

PEAK DISTRICT QUARRIES: REQUEST FOR INFORMATION

Dan Jagucki, a student at Manchester Metropolitan University, has written to ask if we can supply any information on the invertebrate fauna of disused limestone quarries in the Peak District. He is doing a project on the colonisation of these sites in relation to their age and their stage of vegetational succession. Anyone who can help should write to Dan at: 105 Otley Old Road, Leeds LS16 6HH.

MOTH SURVEYS IN GREAT BRITAIN

Many of our readers will be aware of the projects that Dr Paul Waring, past AES President, has been organising in recent years. He has kindly kept us up-to-date with all this work but, just when all this interesting news was beginning to reach us in the late 1980s, *ICN* went into the decline that has only now been reversed. In future issues, we will be highlighting some of the achievements of these survey schemes. For the time being, here is some more general information that may interest readers who would like to take part. Under the old NCC, there was a Moth Conservation Project which focused on the Barberry carpet (*Pareulype berberata*), Reddish buff (*Ascometia caliginosa*), Essex emerald (*Thetidia smaragdaria maritima*), Viper's bugloss moth (*Hadena irregularis*), New forest burnet (*Zygaena viciae*) and Black-veined moth (*Siona lineata*). Under the JNCC, which took on the NCC's national core activities, a "National Review of the Recordings and Conservation of the Rarer Moths" was developed with the help of a network of recorders. Surveys of species in addition to those listed above have been organised, including the Striped lychnis moth (*Cucullia lychnitis*).

More recently Butterfly Conservation has extended its interest to the larger moths, and Paul Waring is running the National Moth Conservation Project under its auspices. One of his current projects is a survey of the Goat moth (*Cossus cossus*), and some of our readers have already responded to his requests for information on its occurrence in Britain.

RECENT PUBLICATIONS ON INVERTEBRATE CONSERVATION

an overview by Martin Harvey

Invertebrate conservation may still receive little attention in comparison to bird or plant conservation, but it has gained much more recognition in recent years, and this is indicated by the growing number of books on the subject. This is a "round-up" of currently available titles, and we hope to keep you up-to-date with new publications in future issues of *ICN*.

Most AES members should by now be aware of the very successful *Habitat Conservation for Insects – a Neglected Green Issue*, edited by Reg Fry and David Lonsdale (AES 1991). The first comprehensive guide to

practical conservation of insect habitats, it has sold well and a second edition is planned. It was followed by another good general guide, *Habitat Management for Invertebrates: a Practical Handbook* by Peter Kirby (RSPB 1992). Although less comprehensive than the AES book, it is clearly laid out with essential points picked out in bold type. These two books should be essential reading for anyone involved in habitat management. They are complemented by the AES pamphlet *Legislation to Conserve Insects in Europe* compiled by Mark Collins (AES 1987).

One particular habitat resource, dead wood, has received much attention, partly because of its importance for many invertebrates and also because it has become scarce in areas where managers have not realised how important it is. *Dead Wood Matters: the Ecology and Conservation of Saproxylic insects in Britain*, edited by K.J. Kirby and C.M. Drake (English Nature 1993) should go some way towards addressing this problem; the papers it contains cover a variety of subjects including evidence from fossil insects, management guidelines and a most useful account of the "threat" that dead wood poses to commercial forestry (in the vast majority of cases, this threat is small or non-existent).

Many of the most threatened of our invertebrates have been given "Red Data Book" status by the Joint Nature Conservation Committee (JNCC, formerly part of NCC). Details of these are published by JNCC in *British Red Data Books*; 2. *Insects* (Shirt 1987), and 3. *Invertebrates other than Insects* (Bratton 1991). Following on from these books, JNCC has published a series of *Reviews of Scarce and Threatened (Insects) of Great Britain*. Currently available are reviews of: pyralid moths (Parson 1993), Hemiptera (Kirby 1992), Coleoptera part 1 (Hyman and Parsons 1992), Trichoptera (Wallace 1991), Neuroptera (Kirby 1991), bees, wasps and ants (Falk 1991), flies part 1 (Falk 1991) and Ephemeroptera and Plecoptera (Bratton 1990). These reviews list Red Data Book and Nationally Notable species, giving distribution details and management suggestions where these are available.

Of the other invertebrate groups to have been studied from a conservation point of view, butterflies have received most attention. One of the publications on this group is another useful contribution from the former NCC: *The Management of Chalk Grasslands for Butterflies* (Butterflies under Threat Team 1986). Also, *The Butterflies of Britain and Ireland* by Jeremy Thomas and Richard Lewington (Dorling & Kindersley 1991) gives much information on habitats and on conservation issues, as well as being a good general butterfly book. *Butterfly Conservation* by Tim New (Oxford University Press 1991) gives a general account of worldwide conservation issues.

Chapman and Hall publish a variety of books on conservation, many of which are scientific reference works. A particularly readable example is *Monitoring Butterflies for Ecology and Conservation* by Ernest Pollard and Tina Yates (1993). This is a fascinating account of the information that has resulted from the national Butterfly Monitoring Scheme, much of it shedding new light on conservation problems. Most of the excellent publications from Harley Books (such as the multi-volume *Moths and Butterflies of Great Britain and Ireland*) give consideration to conservation matters, as do many of Richmond Publishing's *Naturalists' Handbooks*.

Another very encouraging trend in recent insect publications has been that an increasing number of local atlases have included conservation information. Two examples are Colin Plant's *Larger Moths of the London Area* (London Natural History Society 1993), which, though having no separate conservation chapter, is quite obviously written from a conservationist's points of view, and Jim Asher's *Butterflies of Berkshire, Buckinghamshire and Oxfordshire* (Pisces Publications, see *AES Bulletin* for review) which includes much information on habitat requirements and local threats.

Of course, many of the journals specialising in invertebrates also carry information of interest to conservationists. *British Wildlife* magazine covers conservation generally, but usually has a strong invertebrate content, including reports from several of the national recording schemes.



We intend to include a regular letters section and book reviews not already covered in the *Bulletin* in future issues of *ICN*. This was not possible in this issue due to lack of space. Any letters concerning conservation issues are welcomed by the editor.

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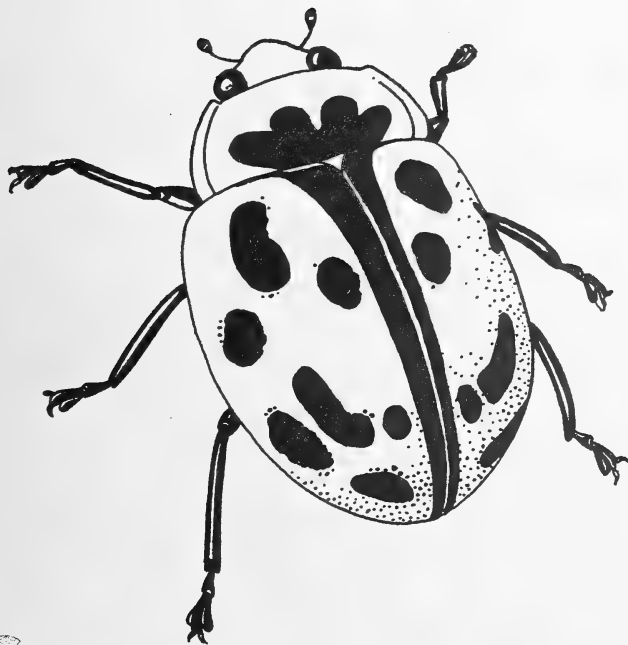
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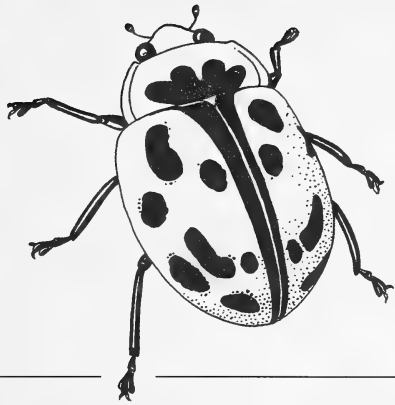
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INVERTEBRATE CONSERVATION NEWS



No. 16, February, 1995

Editorial

It is just over a quarter of a century since *ICN* first appeared under its original title as the *AES Conservation Group Bulletin*, and the next few editorials will ask how much success has there been in tackling the problems that were then being highlighted. Then, as now, we were pointing out that habitat destruction was the main problem causing the decline and extinction of invertebrate populations. We also tried to discourage unscrupulous activities by a minority of field naturalists, in particular "over-collecting". Both messages were – and remain – valid, but experience now proves that governments and international agencies find it much easier to target unscrupulous naturalists than to control habitat destruction.

The criminal law can certainly help to conserve populations of many vertebrates, on which collecting or hunting can have a major impact. For terrestrial invertebrates, however, collecting usually involves a very much smaller proportion of their populations, which consist of relatively large numbers of individuals with high rates of both fecundity and mortality. Even so, for species brought to the brink of extinction through habitat destruction and isolation, the precautionary principle suggests that there must be situations where collecting could be the last straw. There is no scientific evidence to support the arguments of those who think that legal protection of invertebrate species ought to be as wide-ranging, for example, as that applying to birds in the UK. Nevertheless, the laws in some other countries are applied to many invertebrates for which collecting is not a credible threat; for example Mark Collins revealed in *AES Pamphlet No. 13 (1987)* that it is an offence to collect any species of ladybird in the Flemish region of Belgium.

It would be hard to prove whether the criminalisation of collecting endangered species has helped their populations "on the ground", but it has been accepted by a wide range of entomologists who would not in any case wish to collect such species. In Britain, the voluntary code for collectors, published by the Joint Committee for the Conservation of British Invertebrates (JCCBI), is widely respected by naturalists. However, most serious field entomologists seem firmly against the idea of legal protection for long lists of species, not only because collecting is necessary for the study and identification of most taxa, but also because they value their personal freedom. Even in Britain, however, the current law raises anxieties over the possession or sale of legally acquired specimens of scheduled species, since possessors of fully protected species can be found guilty unless they can prove otherwise.

The increasing attention paid to invertebrate conservation in nature is a very welcome development, but it is also becoming a source of disagreement over the need for legal restrictions on the individual. Those who have responsibility for reserves have a very understandable desire to control things that happen "on their patch". More seriously, unauthorised activities can interfere with specific conservation management objectives. The JCCBI has recently discussed these issues, and one suggestion that it considered – and rejected – was that collecting any invertebrate on a nature reserve without authorisation should be made punishable by law. This discussion took place within the context of the JCCBI's drafting of a policy document on the role of law in invertebrate conservation. This document, now finalised, sets out clear criteria for deciding when a species could qualify for full legal protection. This document will be published in a later issue of *ICN*, once the list of signatories has been announced.

The JCCBI document on legislation also deals with the control of introductions or re-introductions. The document states that:

"Introductions or re-introductions should normally be controlled by law only when they involve species or genetic forms not native to the state concerned. Exceptions may be necessary for economic reasons as well as in the interests of wildlife conservation."

Perhaps with this last point in mind, Butterfly Conservation is now arguing for legal controls on the release of any of the rarer British butterfly species, since such releases can undermine conservation management objectives. This could be done by adding these species to Schedule 9 of the Wildlife and Countryside Act, as explained by Alan Stubbs on behalf of Butterfly Conservation in this issue of *ICN*. The proposal deserves

careful consideration, since field naturalists should not condone activities which threaten valid conservation programmes. However, as in all activities not directly harming other human beings or their property, the criminal law should be invoked only with good reason.

News, Views and General Information

Quinquennial review of 1981 Wildlife & Countryside Act

In Britain, the lists of legally protected plant and animal species are reviewed every five years. We learned in November that proposed changes in the next review were to be sent to the Joint Committee for Nature Conservation by mid-February, but this gave no chance to invite suggested proposals via *ICN*. However, we hope that *ICN* readers will have an opportunity to comment on any proposals that are made; this might help to prevent any unsuitable proposals being “given the nod” by those of us who sit on committees. We do not yet know of any proposed additions of invertebrate species to Schedule 5, which relates to collecting, disturbance and trade. However, there will be a proposal from Butterfly Conservation that certain butterflies should be added to Schedule 9, which relates to the release of species into the wild.

The proposal, drafted by Alan Stubbs, reads as follows:-

Proposal

All British Red Data Book and Notable Butterflies should be added to Schedule 9, making it illegal to release these species except under licence.

Notable = Nationally Scarce = Pink Species (species currently occurring in no more than one hundred 10km squares in Great Britain).

At present, these butterflies are listed under Schedule 5. Some species are fully protected; the rest require a licence for trading of wild-caught specimens (under Section 9[5]).

Schedule 9, Part 1, is subject to Section 14. It is 14 (1) which controls release of non-native “kinds” of animal, even those not listed in the Act [14 (1) (a)]. However, there is also provision to list species which are established or otherwise resident [14 (1) (b)]. This reads:-

14. – (1) Subject to the provisions of this Part, if any person releases or allows to escape into the wild any animal which –

(a) is of a kind which is not normally resident in and is not a regular visitor to Great Britain in a wild state;

or

(b) is included in Part 1 of Schedule 9, he shall be guilty of an offence.

History of Proposal

The concept and its reasons were floated at the 58th meeting of the JCCBI held on 20th October 1994, allowing some discussion of the implications. On 30th October the Conservation Committee of Butterfly Conservation (BC) further reviewed the implications and decided that the proposal was necessary and should be forwarded to the Joint Nature Conservation Committee (JNCC), the government agency handling the Quinquennial Review consultation. The JNCC observer at that meeting considered that Schedule 9 was an appropriate means of achieving the objective. At the JCCBI Executive Committee meeting on 12th December, the proposal was discussed, and a statement from BC was requested by representatives of two of the national entomological societies (BENHS and AES).

No-one welcomes having to use legal measures. However, if there are problems that can be best resolved using legislation provided by Parliament, then that is the route that has to be faced.

In making this proposal, BC is aware that it is a sensitive issue, both for those who oppose controls and those who support them, but BC feels that action must be taken in the best interests of conservation.

Proposals have to be received by JNCC by mid-February 1995. JNCC will be issuing a consultation document incorporating all submissions, thus giving societies and other interested parties a chance to comment. It is open to anyone to counter this proposal. However, it will need to be shown that the problem does not exist or – if it does exist – that the reasoning is wrong and that alternative equally effective measures can be adopted.

Reasons for the proposal

1. There is widespread concern that butterflies are being released surreptitiously, rather than with consultation and co-operation with the conservation bodies.
2. The voluntary principle does not work; indeed there are strong adherents of private release who are unlikely to relinquish their freedom of action.
3. The JCCBI has published a code of practice, *Insect Re-establishment – a Code of Conservation Practice*, which is widely ignored. Procedures to encourage people to submit notice of releases, let alone seek consultation over proposed releases, have met with almost zero co-operation from the general fraternity of those who are effecting private releases.
4. Now the conservation movement has taken butterfly conservation on board, increasingly treating butterflies as high profile flagship species, there is little excuse for individuals to act alone. Entomologists should be able to achieve far more for butterflies by encouraging the conservation bodies by working with them, rather than against them.

5. Increasingly, the future of butterflies depends on a more detailed understanding of their ecology and response to management. Surreptitious or other unofficial releases can be disruptive and lead to the wrong measures being adopted by the conservation bodies.
6. There are already examples of research being ruined by unannounced releases, and this can happen one, two or three years into a project. After all the time, effort and finance, how would you feel as the person doing the research or responsible for the site? In one such classic case the research had been funded by a conservation body. What message does that send? What confidence can funding and grant-giving bodies have in their continued support of butterfly research?
7. Many butterfly sites have their populations monitored. Very often one of the objectives is to monitor the ability of the site to support butterflies. It is essential to know the natural population levels and carrying capacity and, if numbers are falling, to respond by adjusting the management. If someone is quietly releasing butterflies, all may appear well until those releases stop. Then suddenly, and too late, it is revealed that the habitat has become unsuitable to support the resident population.
8. Uncontrolled releases could be of stock from anywhere. The conservation movement is concerned that local stock should be used. There is an increasing awareness that there are local genetic differences, at a physiological level even if not in appearance. New techniques such as genetic fingerprinting are likely to highlight further the desirability of avoiding further confusion and uncertainty over the origin and nature of populations.
9. Furthermore, it is a moot point whether Section 14 (1) (a) prohibits release of foreign stock of species that are resident in Great Britain; it would need a test court case to decide whether "animals of a kind" means not only species, but also genetic forms (eg the release of foreign races of the Swallowtail). Listing in Schedule 9 would close this loophole and would be quite explicit under 14 (10) (b).
10. A great deal of effort goes into recording schemes at county and national levels. Part of the objective is to repeat such activity at intervals in order to understand the wildlife health of the countryside and the changes which are occurring for better or for worse. There is little point if one is recording the unnatural status of species resulting from unadmitted releases, sometimes on sites that cannot naturally support the species anyway. Any conservation message that action is necessary to prevent further decline of butterfly habitat in the countryside is obscured, weakened and perhaps lost.
11. Most of the Red Data Book and Notable Species occur predominantly on reserves and other sites owned or managed by conservation bodies, or are Sites of Special Scientific Interest (SSSIs) where the statutory conservation

agencies have a responsibility. The concern is to protect and manage the flora and fauna that naturally occur in such places. The presence of species implies success in managing sites to maintain those species. Special butterflies often require special management objectives and it is grossly unfair if surreptitious release is giving the wrong messages about priorities and management.

12. With freedom goes responsibility. The freedom or "right" to release butterflies wherever one wishes has to be set against the freedom of the conservation bodies to be free from the disruptive activities considered above. What right has anyone to release butterflies on to someone else's land without permission? If people are using freedom irresponsibly, then it must be no surprise if legal controls become necessary.
13. The focus is on butterflies, since that is where the problem lies. If similar concerns should arise with other taxa, the Schedule 9 mechanism can be adopted.

Operation of licensing

1. The licensing authority would be the Department of the Environment (DoE), acting on the advice of the statutory conservation agencies.
2. A licence would be considered only if it were supported by one or more of the conservation bodies (eg county wildlife trust, National Trust etc.) and indeed a leading society (or JCCBI) may also be appropriate backers. As a matter of course, it would help to have the backing of the local officer for the statutory agency, indeed essential if an SSSI were concerned.
3. It would need to be clear that the principles laid down in the JCCBI code (or similar required code) were met. Key statements would need to include what was to be released, how it would be done, habitat management implications, the likelihood of success and plans for monitoring.
4. This proposal upholds the principle that release has a valid purpose, in appropriate circumstances, and does not diminish the role of the amateur. The means is offered to provide a legitimate route, working with the conservation movement, whilst prohibiting irresponsible independent action.
5. Research workers face additional bureaucracy in obtaining all the permissions required, but this has to be offset against the current risk that their research effort could be negated by a single unplanned release. Providing that the statutory agencies are properly informed, as they should be anyway, the mechanisms at office level ought to be easy to arrange.
6. There will be concern that there are too many inconsistencies and uncertainties in the operation of Schedule 5 licences at DoE. There are inherent problems from the wording of the Act. The Schedule 9 situation is different, clear-cut rather than ambiguous, and easier to handle.

Comments on this proposal are invited from all *ICN* readers, and will be taken fully into account by the AES Conservation Committee and by the Society's Representatives on the JCCBI when the time comes to vote on the issue. The apparent failure of voluntary controls is particularly worth examining.

AES Area Conservation Representatives in Britain

Martin Harvey, Habitat Conservation Officer

12 Cater Road, Lane End, High Wycombe, Buckinghamshire HP14 3JD.

At the time of writing we have five AES Area Conservation Representatives, and their names are given below. If you have a local conservation issue you wish to raise with an Area Representative, or if you could offer him or her any help, please write to him or her enclosing a SAE and giving your AES membership number. If you are interested in becoming an Area Conservation Rep yourself please contact me for further details.

Dave Hemingway

13 Ashdene Garth, Crofton, Wakefield, West Yorkshire WF4 1PH.

Neil Jones

31 Drummau Road, Birchgrove, Swansea SA7 9QA.

Dr Helen Marcan

49 Red House Road, Bodicote, Banbury, Oxfordshire OX15 4AZ.

Robert Partridge

11 New Road, Mepal, Ely, Cambridgeshire CB6 2AP.

Geoff Trevis

14 Old Coach Road, Droitwich, Worcestershire WR9 8BB.

Sites and Species of Interest

A specialised moth in Cornwall?

Dr F.N.H. Smith, writing in the Ministry of Defence conservation magazine *Sanctuary* (No. 23, 1994), asks some interesting questions about the very local pyralid moth, *Apomyelois bistratiella neophanes*, which was found at the Penhale MoD training area, Cornwall in 1991. In *A Field Guide to the smaller British Lepidoptera*, edited by A.M. Emmet, the larval food source of this micro-moth is recorded as the fungus *Daldinia concentrica*, growing on "dead birch, less often on gorse or other plants, especially on burnt stems".

Following the appearance of the moth in a light trap, Dr Smith investigated the hillside above the trap site, where all the gorse had been burnt two years earlier. On many of the larger charred stumps, he found numerous fruit bodies of *D. concentrica* which, as its common name King Alfred's cakes implies, look like balls of charcoal, several centimetres in diameter. He found larval frass around many of the fruiting bodies and verified the presence of the moth by rearing some adults from one of the stumps.

Dr Smith's observation at Penhale suggests that the moth's presence there is dependent upon the availability of burnt gorse, which is of course restricted to relatively infrequent periods. Birch, the other typical "host" tree for the moth, is virtually absent at the site. The moth could not be found at Penhale by 1992, by which time fruit bodies of *D. concentrica* had become hard to find. Dr Smith wonders whether the moth might be able to follow the scent of burning gorse many miles distant, but this question perhaps presumes too firmly that a burnt substrate is needed by either the larvae or adults. This supposition is perhaps ruled out by the fact that the host fungus is also used by the larvae when it fruits on unburnt birch and other plants. The fungus is actually found most commonly on ash trees, but it could be that ash tends to occur in biotopes which are not suitable for some stage in the moth's life cycle. Alternatively, perhaps, the species of host tree affects the quality of the fungus as a larval food source.

Road schemes in Bedfordshire, Cambridgeshire and Northamptonshire

The Bedfordshire, Cambridgeshire and Northamptonshire Wildlife Trust has drawn attention to the many sites in its area that are threatened by planned road building and widening schemes. Its September 1994 issue shows a map of the region concerned, annotated with a summary of potential damage at each site. Of the twenty-one sites, seventeen are designated as nature reserves, SSSIs or county wildlife sites. Some of the main biotopes that would be affected are wetlands, chalk grassland and woodlands, all of which are important for threatened invertebrate species. Particular species mentioned by the Trust are the Black hairstreak at sites along the M1, for which widening is planned through Bedfordshire and Northamptonshire, and the Small blue and Grizzled skipper at Badgers Hill County Wildlife Site, which stands in the way of the proposed Luton East Circular Road, North.

Book Review

Insect Conservation Biology by M.J. Samways, Chapman & Hall, 1994, xvi+358pp, ISBN 0 412 45440 8, hardback, £37.50.

The growing popularity of conservation in western countries has not been matched by a public awareness of the nature and relative scale of the damage that human activities inflict on different forms of wildlife. Vertebrate taxa receive most of the attention, but this book assembles a body of compelling evidence to show that the risk of extinction is greater for insect species, not only because there are immensely more of them, but also by virtue of their often exacting habitat requirements. The first chapter illustrates the evolutionary adaptation of insects to almost every terrestrial ecosystem. The author draws on some interesting data; for example in a survey of Seram rain forest, over half the estimated 43.3 million individual arthropods in one hectare were Collembola, reflecting the importance of habitats in the soil. The very success of insects, which has produced perhaps 10 million extant species, belies the vulnerability of many species which are so closely adapted to geographically restricted biotopes that even a slight change can wipe them out, often to the point of total extinction. In the tropics, both the diversity of species and the threats to them may seem to make British conservation issues pale into insignificance. However, despite our relatively small insect fauna, our ratio of species to land area appears to be surprisingly high by world standards.

The remaining introductory chapters describe the many ways in which insect habitats have been damaged, while also outlining the aims and responsibilities of national and international organisations which seek to ameliorate this loss. A central problem, which has a chapter of its own later in the book, is the fragmentation of biotopes. This is less serious for the relatively mobile animals, especially birds, whose requirements often seem uppermost in the minds of those who influence conservation policy. Fragmentation prevents species from re-colonising suitable sites following chance local extinctions. In the longer term it could also prevent species from keeping pace geographically with climatic change or other large-scale events (as many did during past glaciations). When fragmentation and other problems are viewed in the context of tropical ecosystems, current conservation efforts seem inadequate in scale and often inappropriate in emphasis.

The author goes on to examine ways in which conservation could become more effective by taking proper account of insect population ecology. The ability of species to disperse in a fragmented landscape must

be understood in order to determine the optimum size and shape of reserves and the value of different types of "corridor" between otherwise isolated habitats. He stresses the need to think about very small-scale "micro-sites" within biotopes, which are essential for survival. Studies on single species show that their different developmental stages and sometimes the two sexes have greatly different micro-site requirements. This does not necessarily mean that we must tinker with sites to help favoured species, since a broader-brush management of the landscape can achieve diversity in a way that is compatible with the economic use of the land.

Although there are still places where the protection of natural ecosystems is the main objective of conservation, there are many other parts of the world where the sympathetic management of agricultural and other "disturbed" land is important. The author describes systems of "adversity agriculture" in which populations of vulnerable species can often fall below a "minimum viable level", leading to local or even total extinctions. This has happened even to former pest species such as the Rocky Mountain grasshopper (*Melanoplus spretus*) in North America. The risk of extinction is lower in "agroecology" systems, in which areas of natural vegetation can support a high proportion of the local insect fauna while serving as refugia for natural enemies of crop pests. There are, however, no absolute rights and wrongs in agricultural methods. Burning, for example, is very harmful to many species, but others depend upon it. Similarly, although biological control is often a "green" alternative to the use of chemical pesticides, it can be disastrous when the agents released are able to persist and to attack non-target species.

The author looks at the pros and cons of "restoration ecology" and concludes that it is worthwhile in some cases, as when trees are planted for agroforestry in deforested tropical areas, or when herb-rich grassland is re-established in temperate farmlands. Restoration strategies can be helped by knowing the specific requirements of individual species, but the most vulnerable species are usually less able to recolonise the restored sites than widespread ones with greater tolerance of varied conditions. Some of the vulnerable species get special attention and can be artificially re-established, but the author sees this as the last resort.

The rate at which insect species are being lost worldwide, according to one estimate quoted by the author, could be nineteen per hour over the next thirty years. Such figures serve both to stimulate concern about individual species and to emphasise that attempts to save a favoured few cannot address a problem of such proportions. The need is for an "umbrella" approach which can take account of both small-scale and

large-scale elements of the landscape. To the extent that individual species can be helped, there is a need to improve methods of assessing their status; for example by recording the number of habitat sites per 10km square; not just mapping a dot for the entire square. Attention also needs to be focused on species which are good indicators of diversity and which can be recorded efficiently in site surveys, rather than on taxa which happen to enjoy the most popularity. On a global scale, it is important to identify the regions of "mega-diversity" and endemism where efforts should be concentrated.

By concentrating on the biology behind conservation, this book helps to identify the most urgent uses to which time and money should be devoted. However, the author admits that such an analysis is not supported by human attitudes towards insects, which often involve taxonomic favouritism or hypocrisy, as exemplified by those who are less aware of their own daily mass slaughter of insects than of the sadism of pulling the wings off a fly. Governments that ignore the wider conservation issues may pass laws to protect species against collecting or trade, but the result is often a high black market price.

The book's extensive bibliography testifies to the great deal of work that has gone into producing it. Its emphasis on fundamental issues and on scientific evidence will complement other recent works which have concentrated more on practical conservation. A subject like this is intrinsically hard to divide into distinct sections, but there could perhaps have been less overlap and repetition of ideas. It required a good index, and the one provided here is certainly comprehensive, although it fails to list all the entries for some important topics. The author's commitment to the cause makes this much more than a dry academic treatise, but it will perhaps be more useful to students, research workers and policy makers than to the amateur conservationist. (Thanks are due to the British Journal of Entomology and Natural History for permission to reproduce this review here.)

Future Meetings

6-7th April 1995, London.

Conference on "Conserving Europe's Bees", Linnean Society of London/
International Bee Research Association.

The four sessions are: (1) Habitat for bees, (2) Grappling with bee diversity, (3) Do plants need bees? and (4) Competition in bee-plant and bee-bee interactions. For further information contact:-

CONSERVING EUROPE'S BEES,
THE LINNEAN SOCIETY OF LONDON, BURLINGTON HOUSE, PICCADILLY,
LONDON W1V 0LQ.

22nd April 1995, Royal Entomological Society of London, 41 Queen's Gate, SW7.

Amateur Entomologists' Society AGM and Members Day. Starting at 11am. All welcome. Talks and practical demonstrations will accompany the meeting. Guests are invited to bring along an exhibit. Please contact Wayne Jarvis, 9a Brook Street, Luton, Bedfordshire LU3 1DS to book space or for further information.

Letters

It should be noted that we received the following letter six years ago! It is still topical, despite having been "held over" while *ICN* was in the doldrums, and so we are happy to publish it. The *ICN* item that sparked it off expressed concern over the practice of removing dead trees to make woodlands safer for the public . . .

Woodland Trust deadwood policy

*from Pamela Harding,
Woodland Trust Legal & Information Officer.*

I would like to respond to your item in the May 1988 issue of *ICN* concerning the Woodland Trust and its approach to dead wood habitats.

Almost all Woodland Trust properties are open to the public and the Trust takes seriously its responsibilities towards visitors, which includes the necessity of some tree safety work. This aspect of the Trust's management tends to be stressed in publicity material, perhaps wrongly so, since in most Trust properties there will be many areas left as non-intervention areas. In some woods dead wood habitats are being created and extended by management work.

The item in question has picked up a few rather isolated examples from the Trust's literature. I could quote to you an item on the back page of the Trust's *Newsletter 26* on the [1987] storm. "Fallen, damaged or dead trees that are not actually dangerous have been left, as rotting wood is a valuable habitat for fungi and insects".

In *Newsletter 25*, which reported on the storm on the front page, there was a sub-heading "Dead Wood is Valuable" with a brief explanation. These are just two examples.

The Woodland Trust aims to strike a balance between several objectives, including conservation, in the management of its properties. It also aims to educate the public about the need for woodland management. The Trust believes that it is fulfilling these roles more successfully than many other landowners and deserves credit for doing so.

Adding species for legal protection

from Peter Tebbutt,

Abingdon, Northamptonshire.

ICN 15 somewhat surprised me with its statement (on page 5) that the AES provides information *etc* that the JCCBI uses in its recommendations on the quinquennial review of species protected by law. If that is the case, then how come EVERYONE was astonished that the High brown fritillary was added to the fully protected list and that many of the restricted species are there only because of the pressure that Butterfly Conservation now exerts. One of its recent publications now makes it perfectly clear that it would like at least 25 species of butterfly to be totally protected. Unless we want to return to our childhood days, when we kept just a few Large white caterpillars in a jam jar, then the JCCBI with its representatives from the AES and BENHS will have to bring in a better line of reasoning than they are presently using, or the fanatical (and usually ill-informed) will succeed in outlawing everything that most AES members enjoy doing (*ie* collecting and breeding butterflies), with fines being dished out in all directions. I do not wish to get really into this subject but I sincerely hope that a good dose of common-sense prevails before our hobby is completely ruined by unnecessary regulations.

Editor's note: The AES and most other member-organisations of JCCBI give authority to their councils to represent their interests. A more democratic arrangement might be desirable, but would usually not be feasible, since in most instances, votes could not be taken in time to respond to the issues in question. All we can do is to try harder to publicise proposals to which society members may wish to respond. In the case of the High brown fritillary, the JCCBI accepted evidence for serious decline. No-one submitted evidence to the contrary, but perhaps too few people knew what was going on around committee tables.

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INVERTEBRATE CONSERVATION NEWS



No. 17, June, 1995

Editorial

It is good to see that invertebrates are now appearing more on the conservation agenda of non-specialist or vertebrate-based organisations than was the case in the late 1960s, when we began complaining about their neglect. However, the situation “on the ground” has often not improved correspondingly. Awareness of invertebrates needs to be matched by building their habitat requirements into decision-making within all aspects of conservation activity. One such aspect is the acquisition of nature reserves and the designation of other protected sites. These site-based measures provide opportunities for managing habitats in ways which might be hard to achieve under normal systems of land use. However, such sites are usually far apart and cannot, in themselves, help much to maintain the distributional status of the many invertebrate species whose mobility is relatively poor.

People who have at best a superficial interest in invertebrates need to be more aware of this limitation when considering sites for purchase as reserves. In some cases, proper awareness of invertebrate habitats might influence site selection. In other cases, funds might more usefully be devoted towards promoting conservation in the everyday landscape, within the constraints of economic land use. This could be greatly helped through replacing existing agricultural subsidies by grants, payable in return for participation in sustainable and “eco-friendly” management schemes.

Despite the need to avoid relying too much on nature reserves and other designated sites, these sites have an important role in conservation, and their managers should be as well informed as possible about the biological diversity that they purport to conserve. Inevitably, the management of these sites will favour the habitats of some species at the

expense of others. Site managers should therefore be aware of the full range of habitat requirements of the plants and animals that depend on the site, or could come to depend on it. This does not mean that all management should be deferred pending a total species inventory; on the contrary, much can be achieved through recognising indicator species and features which help to identify biotopes within the site. It is simply not good enough merely to "garden" the site in favour of selected species which happen to be attractive to humans, even though the funds for land purchase may have been generated through the "taxonomic favouritism" of a generous public. Neither is it good enough to preserve a set of rather coarsely defined "textbook" biotopes without understanding the wide range of types of habitat requirement of the invertebrate species that occur on the site (as well as those that could sensibly be judged suitable for re-establishment by natural or artificial means). To take just one example, a herb-rich grassland that existed during traditional grazing may have consisted of a dynamic mosaic of different sward heights, together with ant-hills and patches of long grass or scrub. Misguided ideas about sward management can lead to over-intensive grazing or mowing, devoid of sensitive and responsive rotational management. The result is an oversimplified vegetational structure in which vital elements of habitat for many invertebrate species are destroyed.

Finally, we must consider adequately the habitat requirements of invertebrates whenever proposed changes in land use are placed before the public authorities. In many instances, the destruction of a habitat on the site concerned could threaten the long-term viability of neighbouring populations by isolating them beyond the normal dispersal range of the species concerned. We can begin to improve the current unsatisfactory situation by making it clear what should be expected of an environmental impact study. To this end, the Joint Committee for the Conservation of British Invertebrates (JCCBI) has published a set of guidelines on site surveys, which are printed in this issue of *ICN*. The guidelines were prepared by Steve Brooks of the Natural History Museum following a proposal by David Lonsdale (AES).

News, Views and General Information

Martin Harvey, the AES Habitat Conservation Officer, reports that four Areas Conservation representatives have joined the scheme since the previous list of names was prepared for *ICN* **16** (February 1995). The new reps are:

Roger Kemp, Kemp's Farm Chapel Road, Ford, Aylesbury,
Buckinghamshire HP17 8XG.

Tel: (01298) 748932.

Tim Lavery, Farns, Castlemaine, Co. Kerry, Eire.

Tony Steele, 97 Benares Road, Plumstead, London SE18 1HU.

Tel: (0181) 854 0910.

Roger Sutton, 16 Ashford Road, Wellington, Somerset TA21 8QF.

Tel: (01823) 663510.

It is hoped that the area representation scheme will help local conservation bodies, land managers and planners in their awareness of invertebrates and their habitats. In many cases involving changes in land use, invertebrates are still being overlooked. Another aid to overcoming this problem has been the publication of the JCCBI guidelines for site surveys which are reproduced in this issue.

The AES Scheme is still its teething stages, and Martin Harvey is now preparing an information pack, which should help the area reps to develop their role in liaising with local organisations and in gaining access to information. Martin is meanwhile keeping in touch with the reps via a newsletter, and he also hopes to hold a meeting for them at the Society's Annual Exhibition at Kempton Park in October. In the next issue of *ICN*, we will be publishing some ideas and experiences from the area reps.

The addresses of the five other area reps can be found in *ICN* **16** and can also be obtained from Martin Harvey at the following new address: 10 Kiln Ride, Upper Basildon, Berkshire RG8 8TA. Tel: (01481) 671889 (Home) or (01635) 550380 (Work).

Quinquennial review of the 1981 Wildlife & Countryside Act

In *ICN* No. 16, we invited readers' views on the proposal from Butterfly Conservation that all British Red Data Book and "Notable" butterfly species should be added to Schedule 9 of the Act, thus making it illegal to release specimens of them into the wild without licences. A few letters have been received, and the writers' views will be taken into account when the matter is discussed further by the AES Conservation Committee and by the JCCBI. There is still some time to send in comments; anyone who is concerned either way about the outcome of this proposal ought to write. The *ICN* Editor would particularly welcome information from readers who would be prepared to answer the following questions:

Did you know that there is a JCCBI code of conduct for the re-introduction of species to sites?

Did you know that there is a form for reporting re-introductions?

Have you released artificially-bred insects into the wild following publication of the code, in which case have you always complied with the code, and if not, why not?

What is your reaction to the idea of introducing a legally enforceable licensing system for the artificial release of listed species?

As far as protection against collecting of "Schedule 5" species is concerned, it was mentioned in *ICN 16* that proposals for amending the Schedule by adding or deleting species will be published later this year. It might seem simplest to wait until then before inviting comments, but earlier comments would be helpful in view of *ICN's* publication lag of about two months. To this end, we now invite comments from any reader who anticipates the listing or de-listing of a species that he/she would wish to support or oppose.

STOP PRESS

While *ICN 17* was in press, we received several more comments on the proposal to control the release of certain butterfly species and perhaps other insects, by law. Amongst those who have responded are members of the Somerset Butterfly Group, whose members are drawn from various organisations, including Butterfly Conservation, the Somerset Wildlife Trust and the Exmoor Natural History Society. Some details of their work and views on specific points in the proposals, provided by Mr Tony Liebert, will be published in *ICN 18*. Suffice it to say for the present that they are involved in the establishment of nature reserves, and that they regard the re-introduction of species as an important part of their work, where this is agreed appropriate through proper consultation as laid down in the relevant JCCBI code. Nine group members attending a field meeting in May have signed the following statement:

We, the undersigned, as far as we are informed, consider the proposed legislation concerning releases of butterflies superfluous, unworkable and damaging to civil liberties.

Mr Roger Sutton, who sent in the signatures from Somerset, comments that many of the sites where surreptitious releases may be causing problems are Sites of Special Scientific Interest (SSSIs). For most such sites, there are already lists of "potentially damaging operations" which,

as a standard procedure, include . . . “The release into the site of any wild, feral or domestic mammal, reptile, amphibian, bird, fish or invertebrate, or any plant or seed”. The site owner must obtain permission from the national conservation agency (English Nature, Scottish Natural Heritage or Countryside Council for Wales) before any such releases are allowed. Mr Sutton points out that this control could, therefore, already be invoked for unauthorised releases in many cases.

Future Meeting

Saturday, 12th August, 1995

New Forest, Hampshire (meet at 11.00 and 19.30 hours in car park by woodland through Furzey Lodge, grid ref. SU 366 027).

This field meeting is being held by the British Entomological and Natural History Society on behalf of the JCCBI, and so conservation will be a major interest. Although some aspects of the meeting relate to moths (e.g. demonstration of an infra-red “non-disturbance” illumination system by the Nature Conservation Bureau Ltd.), the meeting will be of general interest.

(Contact: Paul Waring, Tel: 01733 571917).

Special Feature: Survey Guidelines

As mentioned in our editorial, we are reproducing in full these guidelines, which were prepared by Steve Brooks with the help of his colleagues on the Executive sub-committee of the Joint Committee for the Conservation of British Invertebrates. (Please note that, in places where “biotope” was technically the most appropriate word, the word “habitat” has been used for ease of understanding by non-scientists.)

JCCBI guidelines for invertebrate site surveys

Prepared by S.J. Brooks, Biodiversity Division, Dept. of Entomology, The Natural History Museum, London SW7 5BD.

Introduction

With the rise of public interest in the conservation of invertebrates and the value of invertebrates as environmental indicators, environmental surveyors are increasingly being asked to conduct surveys and prepare survey reports that include invertebrates in their considerations. This may be to monitor the fluctuations of invertebrate populations in response to

changes in management regimes, to assess the likely impact of a proposed development or to establish the conservation value of a site. The results of these surveys may be used to develop conservation strategies or be presented at a public enquiry and tip the balance for or against a development proposal. However, the quality of surveys is variable, some being more thorough than others, and conclusions may be drawn from inadequate evidence or based on inaccurate species identification. Quality assurance in survey work is now being demanded. These guidelines have been prepared on behalf of the JCCBI in an attempt to set standards for invertebrate surveys. The guidelines are particularly designed for whole site surveys, rather than for a brief reconnaissance visit to a site. We intend that the guidelines provide a resumé of what ideally should be covered in an invertebrate survey.

We considered it outside the scope of the guidelines to make recommendations on:

- i. what target groups are most suitable for particular habitats
- ii. what are the most appropriate methods for sampling a particular group of invertebrates
- iii. how to recognise particular habitats
- iv. statistical analysis of data.

These points are dealt with more fully in some of the references provided.

How to use the guidelines

The survey guidelines present a checklist that a would-be surveyor should consider before embarking on an invertebrate survey. They give a framework for a theoretically ideal survey. For some surveys, adherence to all the recommendations set out below may be impracticable in terms of both time available and expense, or unnecessary in order to fulfil the aims of the survey. However, a survey that does not include all these points may still provide valuable data. For example, the discovery of a Red Data Book species (Shirt, 1987; Bratton, 1991), even after a cursory visit, indicates the potential importance of a site even though it may not have been possible to ascertain the size of the population, its distribution on the site, or whether a breeding population is present. A follow-up survey focused on obtaining more information on such a species may then be appropriate. What is important is for the surveyor to recognise any limitations in the survey methodology adopted and how this may affect the data. The surveyor should explain in the survey report the reasons why some of the recommendations could not be carried out in the survey and how this is likely to affect the interpretation of the results.

Need for surveying target groups

To attempt to make a comprehensive list of all the invertebrates present at a given site is impracticable. Thus, it is essential that the groups of species chosen as indicators of the quality of a site convey as much information as possible about the habitats present and complement the data obtainable from other organisms.

Choice of target groups

1. Taken together, the target groups should have the potential to inhabit all the habitats to be surveyed within the survey area.
2. The national, and preferably, the local distribution of species in the target group should be known so that meaningful statements can be made about how common or how rare are the species.
3. The biologies of the target species should be sufficiently well known that meaningful conclusions can be drawn about the quality of the habitats surveyed.
4. The target groups should include species that have reasonably exacting habitat requirements. The presence or absence of such a species can thus be related to a specific attribute of the survey area.
5. The surveyor must be able to have the species in the target groups accurately identified and should consult acknowledged taxonomic experts for verification of critical species.
6. Ideally, the target group should be amenable to standard sampling procedures so as to maximise representation in samples.

Survey methods

Aim of survey. The aim of the survey and the groups to be surveyed must be established from the beginning since this is certain to affect methodology. For example, the survey may be a monitoring programme; simply to establish presence of species; for an environmental impact assessment, or for deciding on appropriate habitat management. The over-riding consideration should be the efficient production of meaningful results. What is the minimum amount of resources required to fulfil the aims of the survey? The following recommendations are designed to serve as a reminder of points to consider before embarking on a survey.

7. Sampling should coincide with the season (normally between April and September for most insect orders), time of day or night, and weather conditions in which the target species display their maximum activity. There should be at least three sampling periods: early, mid- and late-season.

8. For a whole site survey, the full range of habitats of importance to invertebrates in the survey area should be recognised (Evans, 1988; Nature Conservancy Council, 1990; Fry & Lonsdale, 1991; Kirby, 1992). Those habitats that are considered important or vulnerable should be sampled for the appropriate target group.
N.B. The Phase 1 Habitat Survey (Nature Conservancy Council 1990) was developed to recognise plant communities and so may be inappropriate in recognising habitats of importance to invertebrates. Habitats supporting important invertebrate assemblages may be impoverished botanically.
9. Where possible, it is useful to obtain evidence of breeding of target species on or near the site. This may prove impracticable for many invertebrate groups but can be safely assumed for many non-insect groups.
10. Voucher specimens (*N.B.* but not species listed under Schedule 5 of the Wildlife & Countryside Act, 1981) and/or photographs should be taken, especially of critical species, and made available for the identification of many invertebrate species. Named specimens could be deposited in a local museum, prior arrangements having been made with the appropriate curator.
11. The JCCBI code of practice for collecting insects (JCCBI, 1987) should be followed.
12. For Red Data Book species or certain key, easily identified, groups an estimate of abundance of each species in each discrete habitat is of benefit. This is particularly important for monitoring programmes being carried out in conjunction with habitat management so that the effectiveness of the management can be assessed over a period of years. Similarly, in surveys assessing the comparative importance of different parts of a site, such information can be useful.
13. When monitoring a site or comparing sites, the sampling methods should be standardised so that comparability over time and between sites can be achieved. The sampling method chosen should be robust and produce repeatable results (*i.e.* with low variance between samples taken at the same time).
14. In monitoring programmes, the survey should be conducted throughout the period that species of the target group are likely to be present in their most easily surveyable life-stage.
15. If a population is to be monitored, regular surveys need to be made to facilitate comparison over time. The frequency of visits will be related to the period of occurrence of the life-stage being surveyed.

16. The survey report should make clear the aims of the survey, what the results can reasonably be expected to demonstrate and point out any limitations in the survey methods.
17. The survey and collecting methods should be fully described and justified so that the reliability of the results can be assessed.
18. The ways and means by which the species were identified should be made clear (what keys were used; whether specimens were identified in the field; who identified them etc.).
19. Nomenclature used should follow a modern standard and readily accessible checklist which should be cited in the references.
20. Raw data should either be attached to the survey report in an appendix or it should be made clear in the report where the raw data are stored and how they can be accessed.
21. Local experts, landowners, funding agencies and others who assisted in the survey work should be fully acknowledged in the report.

Additional recommendations

22. The inclusion of a map in the survey report showing the location of key species (such as Red Data Book species) in the survey area is useful. These locations should, if possible, be related to physical and vegetational characteristics (e.g. abundance and distribution of foodplants (where relevant), management regimes, habitats recognised). The map can also indicate sample sites, transects walked etc.
23. Structural features of the survey area (e.g. vegetational; aspect; shelter from wind) which may affect species distribution and abundance can be discussed.
24. Any natural factors which may have affected the accuracy of the survey can be noted (e.g. weather conditions, inaccessibility of part of the site, recent storm damage etc.).
25. The possible influence of habitats and land usages in sites adjacent to the survey area can be discussed.
26. The implications of any differences in the abundance of species across the survey area or any changes in abundance with time can be noted.
27. What is taken to constitute breeding evidence should be stated.
28. A review of historical records relating to the site from the literature and from the local and national biological records centres,

conservation agencies and the JNCC Invertebrate Site Register can be useful. However, some records may be unreliable and such data should not be used uncritically.

Legal considerations

Access. Before entering a survey site, permission should be obtained from the landowners and/or tenants. The contractor should make it clear to the surveyor from whom permission for access should be sought. If the granting of permission specifies approved entry points or zones of access within the site, these should be ascertained.

Liability of surveyor. The surveyor should ensure that the landowner's property is not damaged during a site visit or that survey equipment is not left on the site in such a way that it may pose a hazard to other people or livestock.

Safety. Reference should be made to safety guidelines (e.g. BSBI, NERC, Institute of Biology).

Ownership and distribution of data. Before the survey has begun, the surveyor should establish who will own the data gathered and what restrictions will be placed on distribution of the data.

If possible, agreement should be made that all species data should be forwarded to the appropriate National recorder, the local or national Biological Records Centre and the JNCC Invertebrate Site Register. It is useful to agree a time limit on any restrictions on access to the data so that ultimately it becomes freely available.

If possible, copies of the survey report should be deposited at the local offices of the national conservation agency (Countryside Council for Wales, English Nature or Scottish Natural Heritage) or local biological records centre – preferably both.

Acknowledgements

These guidelines could not have been completed without the useful comments and criticism of colleagues on JCCBI and, in particular, the following for their detailed comments: Dr Keith Alexander (National Trust, Cirencester, UK), Dr Stuart Ball (Joint Nature Conservation Committee, Peterborough, UK), Dr Henry Disney (Cambridge University, UK), Dr Martin Drake (English Nature, Peterborough, UK), Dr Brian Eversham (Biological Records Centre, Monks Wood, UK), Dr Adrian Fowles (Countryside Commission for Wales, Bangor, UK), Mr Peter Hammond

(The Natural History Museum, London, UK), Dr Roger Key (English Nature, Peterborough, UK), Dr David Lonsdale (Amateur Entomologists' Society, Alton, UK), Mr Howard Mendel (Ipswich Museum, UK), Dr Norman Moore (Cambridge, UK), Dr Tim New (La Trobe University, Victoria, Australia), Dr David Sheppard (English Nature, Peterborough, UK), Dr Martin Speight (National Parks & Wildlife Service, Dublin, Eire) and Dr Michael Usher (Scottish Natural Heritage, Edinburgh, UK).

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Publication Review

New life for old woods (1994) the Land Rover Woodlands Campaign run by Butterfly Conservation; information pack from the Conservation Office, Butterfly Conservation, P.O. Box 444, Wareham, Bournemouth, Dorset BH20 5YA, £3.95 incl. p&p.

This information pack, despite its rather wide-ranging title, deals principally with butterflies and macro-moths. There are two leaflets on woodland management, one for moths and one for butterflies, together with a guide to butterfly species in British woodlands. The remainder of the pack consists of single-sheet guides to fifteen individual butterfly species.

The leaflet on management for moths brings out some very important points which might be forgotten when butterflies are the main interest.

For example, it mentions the need to protect and enhance a wider range of habitats than butterflies alone require, and it also makes it very clear that coppicing or re-coppicing to create open habitats should be carried out only when certain criteria can be satisfied. As in other publications, like the AES book on insect conservation, there is information on the value of different stages in the coppice cycle and on the need for a varied woodland ride structure. Although the importance of other invertebrates is mentioned, there is not very much guidance on invertebrate habitat requirements which might be neglected or harmed by focusing just on macro-Lepidoptera. For example, bare ground is not shown on the picture which illustrates the "ideal" woodland ride profile. Incidentally, this piece of artwork looks good in colour, as shown in the companion leaflet on butterflies, but has a strange (almost aquatic) appearance in the monochrome version that appears in the moth leaflet.

The management leaflet on butterflies independently mentions some of the general points made in the moth leaflet (e.g. about coppicing), and contains much useful advice on rotational management and the maintenance of habitat mosaics which, if implemented, will undoubtedly benefit various invertebrates as well as butterflies. Indeed, there is some mention of the habitat requirements of invertebrates such as those depending on deadwood or ponds, which would not benefit from management directed solely towards butterfly conservation. The accompanying guide to butterfly species provides a very useful and concise summary which will aid both identification and habitat recognition. It also includes colour photos of sixteen species, shown in

their natural resting positions. The fifteen individual species sheets give more detailed information, which includes an assessment of the current status of these species in the British Isles, together with a distribution map in each case. These sheets all follow the same well laid-out format.

Overall, this is an attractive publication which guides the reader to other sources of information on the management of invertebrate habitats. The leaflets are well thought-out in themselves, but there are problems inherent in focusing on single taxonomic groups such as the macro-Lepidoptera whose habitat requirements are restricted, compared with the full range of plant and animal groups which should be taken into account by managers. These problems are overcome only to a certain extent by mentioning the need to manage woodlands not just for Lepidoptera, and by guiding the reader to other more broadly based information sources.

Sites and Species of Interest

Key wildlife sites in Gloucestershire

Those of us who have a special interest in invertebrates are particularly aware that habitats need to be protected widely in the countryside; not just in nature reserves and in other specially protected sites. It is, therefore, very heartening to see that the Gloucestershire Wildlife Trust now has a system for identifying and listing other sites whose protection and appropriate management is especially important. Some of these sites, of which nearly 1000 are already listed for Gloucestershire, already have designations such as "Sites of Nature Conservation importance", while others can be added if they meet certain criteria include, for example, the presence of "Nationally Notable" or "Red Data Book" species. In the case of molluscs, any site supporting one or more of the 39 notable species for the county can be included. By maintaining the register of sites the Trust can make an informed response when it is consulted by the planning authorities.



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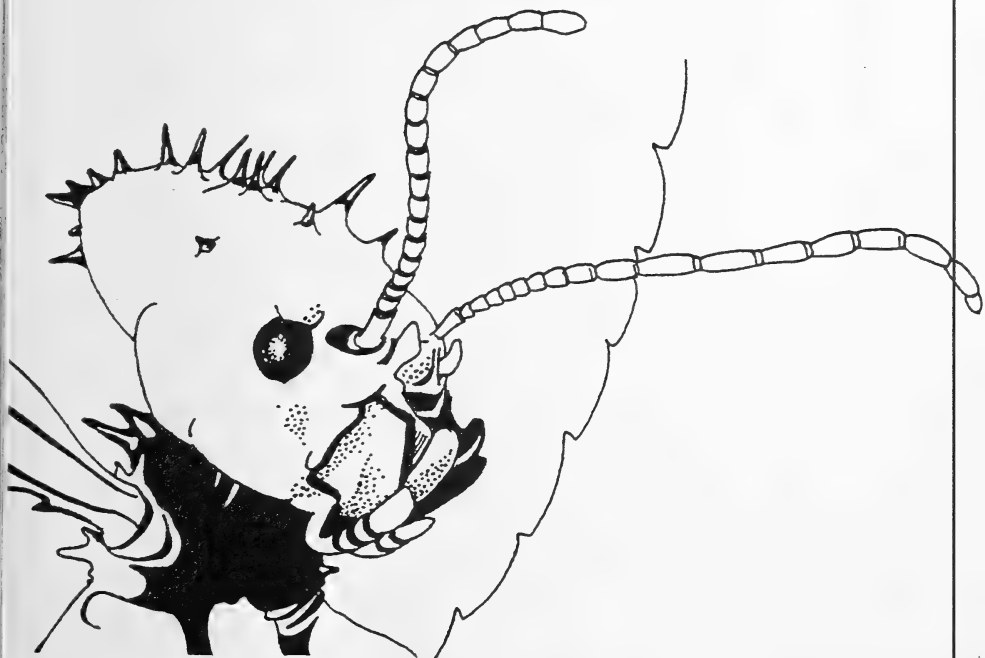
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INVERTEBRATE CONSERVATION NEWS



No. 18, October, 1995

Editorial

The last three issues of ICN inevitably contained a lot of general information that had accumulated during the long delay following *ICN 14*. This did not leave much space for news of invertebrate conservation “on the ground”, and we had hoped to remedy this in *ICN 18*. However, quite a lot of space must now be devoted to a couple of important documents that have been produced by Britain's central agency for conservation, the Joint Nature Conservation Committee. The first of these documents is the provisional list of “Special Areas of Conservation” proposed under a European Community scheme for maintaining biodiversity. Alan Stubbs has written a useful commentary on this; he seems to have been almost alone in being in a position to comment on the list from an invertebrate conservation point of view. The second document contains draft amendments to the list of invertebrates that are protected by law in Britain. These amendments have been proposed under the quinquennial review of the Wildlife & Countryside Act (1981): see *ICN 16* and *17*.

With all this legalistic information taking up our pages, it is worth asking to what extent the law can help the conservation of invertebrates and their habitats. As far as habitats are concerned, it must be a “good thing” for wildlife that certain sites have legal protection against damaging activities. The network of sites of special scientific interest (SSSIs) in the UK perhaps represents one of the best systems of habitat protection in western Europe, and yet many SSSIs are being sacrificed to road schemes and other developments. In any case, as pointed out in *ICN 17*,

SSSIs and nature reserves are far from sufficient on their own to assure the survival of a great many relatively immobile species. The need is for policies – preferably not involving penal law – which can encourage conservation in the wider countryside.

The contribution that anti-collecting laws can make directly to invertebrate conservation can at best be very minor compared with the prevention of habitat destruction, since collecting is very much the lesser threat to most species. Nevertheless, we seem to expend a disproportionate amount of time and effort arguing about such laws! Any law that criminalises collecting can be regarded as an infringement of a basic freedom, but it is a freedom that most field naturalists would not wish to abuse anyway. They can therefore live with such restrictions, provided that this form of species protection is applied very selectively and with proper consultation beforehand. However, they sometimes ask whether there has been any resulting benefit for the species concerned. Unfortunately, it is not usually possible to answer this question objectively, since there is usually no opportunity to set up properly replicated experiments. Thus, even if a protected species were to show a massive recovery, it might be impossible to find whether the prohibition of collecting had played a significant part.

Although the direct efforts of species protection laws are hard to assess, their influence on human attitudes can be observed without recourse to scientific procedures. A positive effect is that species protection draws attention to the plight of the target species, and thus helps to attract funding for research. A much less desirable effect is that the criminalisation of collecting, however selective it may be, tends to draw suspicion upon all forms of fieldwork that involve collecting. It is not in the interests of conservation if the activities of field naturalists are deterred through fear of irrational accusation or condemnation.



News Views and General Information

Proposals for legal controls on butterfly releases in Britain

ICN 16 carried an item about a proposal from Butterfly Conservation, that all British Red Data Book and Nationally Notable butterflies should be added to Schedule 9 of the Wildlife and Countryside Act under the current quinquennial review. This would make it an offence to release specimens into the wild. We have not yet seen an official draft of proposals that have been accepted for Schedule 9, although we have received the proposals for Schedule 5 and 8 (see "Sites and Species of Interest").

Following a further request in *ICN 17* for readers' comments, several more have been received, although the proportion of readers who have written remains small. It would be good to have a wider response on which to base the policies of the AES and of other societies. However, even the most emotive matters of public debate seem to involve only a small minority of those who have opinions. Perhaps most of us simply lack the time to write letters in a busy life, or perhaps we feel that views similar to our own are getting a good airing. Anyway, the silence of the majority does not seem to detract much from the power of the arguments expressed, as is evident from the great debate over the privatised water companies in England and Wales in this drought year of 1995. As far as the release of native British butterflies is concerned, it now seems time to reveal that the views sent by readers have been virtually all against the proposal for legal control. No reader has actually supported the idea, but one letter did suggest that criminalisation might be welcomed as a sort of challenge by those who are intent upon confusing people by releasing species surreptitiously.

Welsh Invertebrate Review

The Countryside Council for Wales has recently published a review for 1993, in which the results of its invertebrate surveys are reported. The sites surveyed included the South Camarthenshire Fens and Cors Fochno where the population of the Large heath butterfly, *Coenonympha tullia*, was studied. Information is available from Mr A.P. Fowles, Countryside Council for Wales, Plas Penrhos, Ffordd Penrhos, Bangor, Gwynedd LL57 2LQ.

AES Area Conservation Representatives in the British Isles

ICN 17 carried a short item about our new Area reps and also promised that No. **18** would include some ideas and experiences from them. These will now have to appear in *ICN 19*, for which we apologise. In the meantime, Geoff Trevis of Worcestershire reports that he is involved in setting up a quality-controlled database for wildlife sites in the county. He also mentions that this year's annual conservation conference of the Worcestershire Wildlife Trust will be devoted to management for invertebrates.

Natura 2000 Sites (Special Areas of Conservation) in the UK

A commentary by Alan Stubbs.

Under the European Community Habitats Directive which was adopted by member states in 1992, each government is to establish a number of Special Areas of Conservation (SACs). This represents an attempt by the EC to define those sites in Europe which are of international importance and to give them priority for conservation. As such, the establishment of SACs forms part of the action following the Rio Conference whereby many nations are supposed to be placing the conservation of biodiversity and sustainability high on their agendas. Governments will be obliged to protect their SACs and to take active steps to maintain their biodiversity, including the full protection of certain associated plant and animal species. The UK is fortunate in this respect, since it has had a government wildlife agency (now split into four within Great Britain) since 1949, and also has the world's strongest and most knowledgeable voluntary conservation movement. We are already committed to international undertakings such as the Ramsar convention on wetlands, so that the concept of SACs should be a challenge easily met. However, as in the world of Alice in Wonderland, nothing is as straightforward as it seems.

When, on 31st March 1995, the official list of SACs proposed for the UK was published by the Department of the Environment (DoE), this was done quietly and was long overdue. A copy was sent to Butterfly Conservation and a few short press reports appeared, but it seems that the entomological world was otherwise kept in the dark. Only six weeks were allowed for the receipt of comments, and there had been no previous chance to prepare possible comments, since no-one outside the official agencies had been permitted to hear so much as a hint at the choice of sites. It seemed that staff were under pain worse than death to

let anything out of the bag. Even when the list appeared, it was like gold dust, and I suspect that I was one of the very few entomologists in a position to tweak out a copy, together with two other documents which were necessary to identify the individual sites listed. Without these other documents, many of the 280 listed names are difficult to interpret; for instance, which sites are embraced in "Norfolk Valley Fens"? The time taken to decipher such names helped to eat up the consultation period but – yes – the main Norfolk pingo sites were included. Eventually, the list was published in *British Wildlife* 6(5), 286-296, June 1995. By then, the "consultation" period was over, and the deadline had been reached for the Government to submit the list to Brussels.

Despite the problems over consultation, the official agencies made a commendable effort to squeeze a quart into a pint pot. Although a ceiling of 300 sites was set by the DoE, the 280 listed names include clusters of sites, giving a total of over 800 individual localities. However, the selection was biased, since it had to represent habitats which are recognised in the European Habitats Directive, which in turn is based on a vegetation classification known as CORINE which was devised for a completely different purpose and which was relevant only to certain regions of Europe. An alternative qualification for a site is that it should contain species which happen to have been listed internationally; mainly those which are categorised as globally threatened. This is all very well for birds, but the invertebrates on these lists are a small and motley collection. Examples of species that were used in a more sensible way to select SACs are the damselfly *Coenagrion mercuriale* and the Marsh Fritillary butterfly *Eurodryas aurinia*. Although the agencies did their best to stretch these habitat and species criteria, the resulting list omits some types of site that seem crucial for maintaining biodiversity in the UK. I made quite a long submission, listing sites that I felt deserved listing in spite of the criteria, together with some that should have qualified anyway. The following list gives a few examples of these.

The North Yorks Moors calcareous springs and seepages (a "priority" European Habitat).

The Hampshire chalk stream valley fens (CORINE problem).

Serious omissions on the coast, including sites on the Isle of Wight, Yorkshire and South Devon.

Syon Park (River Thames), tidal flood meadow and carr (surely a rare habitat in Europe these days).

Redefinition of Thursley to embrace a much wider ecological representation of "Surrey Sands" (CORINE might not allow this).

Inclusion of "levels" habitat (not included in CORINE).

Pembrokeshire/Dyfed wetlands need greater representation as an ecological site (CORINE problem).

River selection, yet to be published but known options seem to be based on aquatic plants and a few animal species; needs to include the Monnow and the Spey.

In view of the problems in classifying sites and the resulting inadequate representation of habitats – and these are problems that the agencies will recognise – I made some further suggestions. I asked that important sites that would have qualified under a more comprehensive classification should in effect be given equal status to SACs. I also asked that all proposals arising from public consultation should be made public by being accessible at agency libraries; this would be some safeguard against any tendency for important proposals to be swept under the carpet.

Four months after my submission, English Nature and the Joint Nature Conservation Committee (JNCC) have not yet responded to my submission and I have had only an acknowledgement from Scottish Natural Heritage. The response from the Countryside Council for Wales confirms my worst fears about site classification. For example they confirm that "levels" habitat does not qualify. I proposed inclusion of the ditch systems, where much of the entomological interest of "levels" resides. Ditches could be classified as "open water", since a blind canal qualifies for this category. Even so, the Gwent Levels, presumably together with the Somerset Levels, Pevensy Levels, North Kent Marshes etc, are disqualified. For the Pembrokeshire and Dyfed wetlands, which deserve to be represented by an SAC containing a cluster of sites, only a few very tightly selected sites qualify according to CORINE classification or by containing species on the "right" list. As for the River Monnow, it is ineligible because it does not fit the CORINE river vegetation classification. We have yet to learn whether exclusions like these can be overcome by acceptance of the idea that, *de facto*, important non-qualifying sites should get equal treatment with SACs.

Another problem in site selection was that some sites of major importance were excluded apparently because they were not already Sites of Special Scientific Interest (SSSIs). Many have not been notified as

SSSIs simply because they are in a backlog. We don't yet know how the agencies will respond to suggestions for non-SSSI sites to be included. In any case, it looks as though a two-tier SSSI system will become entrenched. The press carried an observation from Friends of the Earth that, when so many SSSIs were threatened by road schemes, it was odd that only one of these had been proposed as a SAC. Should one smell a rat over the selection process? The first question at any public enquiry will in future be . . . "Is this a SAC?" The planning process, not to mention ministerial decisions, may well treat a non-SAC SSSI as second-rate. This scenario must be firmly resisted.

Even the existing official list is only a proposed one, and so could be pruned drastically by DoE or Brussels. However, DoE must have known what was coming, and we can therefore hope that it will be inclined to accept much of the list. Once the list has been finalised, we will have to see how much commitment there will be in resources for safeguarding and preventing the decline of both SACs and ordinary SSSIs.

Why does any of this matter? The first reason is that anything that can be done to enhance the government's commitment to prevent damage to these sites must be welcome. Secondly, the scheme makes it more likely that positive management to prevent decline of habitat quality will be specified. (A fault of the SSSI legislation is that it defines damaging operations but has no mechanism for defining positive measures, although there is some finance for management schemes agreed with owners.)

Finally, what should entomologists in the UK be doing? Here are some suggestions.

Keep the Invertebrate Site Register (run by JNCC) up-to-date with important information, since this is the basis of so many decisions within the agencies. If you have a direct contact via one of the agency entomologists, that is an alternative route.

Feed in views on sites which should be considered as SACs, or indeed as SSSIs.

Take part in, or feed into, the various county Biodiversity Challenge fora that are addressing targets for conservation. Your county wildlife trust should know where things stand.

No panic yet, but be prepared to write to MPs and MEPs if their commitment is looking inadequate.

Sites and Species of Interest

A gall wasp newly recorded in Britain

An article in the Ministry of Defence conservation magazine "Sanctuary" (No. 24, 1995), reports the discovery of a cynipid gall wasp new to the British list. This is *Aulacidea follioti*, which had previously been known only from France, where it was first described in the 1970s. The find resulted from an invertebrate survey conducted on MoD land by staff of the Colchester Museum in Essex. The host-plant was the Prickly sow-thistle, *Sonchus asper*, growing along the sea walls at Fingringhoe Ranges, which are less intensively managed than elsewhere on the north-east Essex coastline. This seems to allow the larval galls to develop, whereas they would be destroyed by cutting or grazing. The wasp seems to be well established at Fingringhoe, but it is not known whether it occurs elsewhere. Jerry Bowdrey, Assistant Curator of Natural History at Colchester, would like to hear from anyone who has found galls on Prickly sow-thistle. His address is: The Museum Resource Centre, 14 Rygate Road, Colchester, Essex CO1 1YG.

Requests for sighting of species

Among the many British invertebrates that are either endangered or suspected to be in decline, there are several (apart from butterflies) that can be easily spotted and identified by non-specialists. Surveys of these are now being conducted, and records of sightings are requested. Some of these species and the relevant contact addresses are as follows:

Stag beetle, *Lucanus cervus*, address: George Barker, Environmental Impacts Team, English Nature, Northminster House, Peterborough PE1 1UA.

Mole cricket, *Gryllotalpa gryllotalpa* (protected species), address (information and photo-sheet available): David Veevers or Dr Ed Jarzembowski, Maidstone Museum and Art Gallery, St. Faith's Street, Maidstone, Kent ME14 1LH (Tel. 01622 754497).

Glow-worm, *Lampyrus noctiluca*, address: write c/o ICN editor, 33 Kings Road, Alton, Hampshire GU34 1PX.

English Nature species recovery programme

English Nature's latest progress report states that recovery work has been concluded on the Field cricket, *Gryllus campestris* and the Fen raft spider, *Dolomedes plantarius*. It is also intended to conclude or reduce recovery

work on the Reddish buff moth, *Ascometia caliginosa*, and the Wart-biter cricket, *Decticus verrucivora*, The Large blue butterfly, *Maculinea arion*, has been re-introduced to a fifth site. New projects are planned for the black-veined moth, *Siona lineata* and the Sussex emerald moth, *Thalera fimbrialis*.

Review of species legally protected in Britain

The third quinquennial review of the Wildlife and Countryside Act (1981) is well under way, and we received a copy of the proposed changes to Schedules 5 and 8 in late July. Schedule 5 lists invertebrates and certain vertebrates that are protected under the Act, while Schedule 8 deals with plants and fungi. The Joint Nature Conservation Committee invited comments up to the end of September, with a view to printing the second draft in December. This issue of *ICN* is not due to appear until October and, in anticipation of this time-lag problem, we invited readers to send in comments about any species already on Schedule 5 or which might be candidates for addition. We did not of course know the proposals that were being made, but we can now list these. Incidentally, we received no comments from readers.

The proposed amendments involve the terrestrial and freshwater invertebrates listed below. (After the name of each species, the identity of the proposer is shown as an abbreviation in brackets as follows: JNCCSU = Joint Nature Conservation Committee Support Unit; EN = English Nature; BC = Butterfly Conservation; SNH = Scottish Natural Heritage; QRWG = Quinquennial Review Working Group.)

Agrochola haematidea, Southern chestnut moth (JNCCSU). In early 1990 this mainly Mediterranean species was discovered feeding on cross-leaved heath (*Erica tetralix*) at a heathland in Sussex, southern England; far north of its nearest known site in France. It is alleged that this one site has been heavily targeted by collectors, and so the proposal is that the species should be added to Schedule 5 for full protection.

Bembecia chrysidiformis, Fiery clearwing moth (JNCCSU). This moth occurs mainly in central and southern Europe. In the last 30 years, it has been reported from only one British locality on the coast of Kent, although there are earlier records scattered across southern coastal counties and in the Forest of Dean. It is considered to be at risk from collecting, which involves uprooting the foodplant (species of dock and sorrel, *Rumex* spp.) and therefore affects the habitat. There are reports that the areas within the site where the moth breeds have been denuded

of docks. The proposal under the Act is for total protection. Enforcement of this would make it effectively illegal to damage or uproot any docks or sorrels that might contain larvae of the moth. Presumably, this would only apply at the site where the moth is known to occur; the intention clearly cannot be to outlaw the removal or spraying of docks or sorrels where they occur as weeds in gardens or on farmland. However, it is technically already illegal to uproot any plant species in Britain without the permission of the landowner.

Coenagrion mercuriale, Southern damselfly (JNCCSU). In the UK, this damselfly is confined to a few southern and south-western counties, and occurs at only a few sites outside its main strongholds of Pembrokeshire and the New Forest. It is found elsewhere in western and central Europe, and is widespread in France, Spain and Portugal. It is not considered to be at risk from collecting, although the larval habitat (slow-flowing runnels and streams) is easily damaged through drainage, dredging and water abstraction. Such damage is meant to be prevented under the EC Habitats and Species Directive, which lists *C. mercuriale* in Annex II and requires its maintenance "at a favourable conservation status". However, the recommendation is also for protection against collecting, possession and sale, even though this species is clearly not sufficiently at risk to be scheduled under the criteria normally applied by the British agencies. The reason for this is that it is listed on Annex II of the Bern Convention, under which contracting parties must adopt these rigorous measures.

Gortyna borelii, Fisher's estaurine moth (JNCCSU). This moth, which feeds on hog's fennel, *Peucedanum officinale*, is a mainly Mediterranean-Asiatic species which is extremely local in western Europe and has been recorded only at six localities in the UK, all of them in the Hamford Water Estuary, Essex. The main threat seems to be the mowing of the sea walls where the foodplant, itself a Red Data List species, grows. However, as with the Fiery clearwing, collecting involves the uprooting of the foodplant and is reportedly being carried out commercially. For these reasons, the proposal is for full protection.

Lucanus cervus, Stag beetle (EN). As with many deadwood insects, the habitat of the Stag beetle has been declining due to misguided tidying-up and removal for firewood. These problems have probably affected its populations throughout its range in continental Europe, as well as in Britain where it is mainly confined to the south-east. Also, its large size and fearsome appearance have made it a target for collection and sale. Its status needs to be protected under the EC Habitats and Species Directive,

and there is also an obligation under Appendix III of the Bern Convention to regulate its exploitation. The recommendation is for protection against any activities involved in selling or offering for sale.

Eurodryas aurinia, Marsh fritillary butterfly (BC). This butterfly is widespread in western and northern Britain, and also occurs in most other European countries. However, it has suffered from habitat destruction, due to the loss or "improvement" of the damp pastures where its foodplant, Devils-bit scabious (*Succisa pratensis*) grows. This has led to a severe decline in the number of sites where it occurs, with the loss of many in the more easterly parts of the UK. Due to the often small size of the insect's colonies and to the ease with which its larvae can be collected, commercial collecting is perceived as a threat. For this reason, *E. aurinia* was added to Schedule 5 in respect of sale of specimens only. In Northern Ireland, it has full protection in Schedules 5 and 7 of the Wildlife (Northern Ireland) Order, 1985. By the standards applied to other invertebrates on Schedule 5, full protection of *E. aurinia* in Great Britain might not appear to be justified, despite its disappearance from many sites. However, on a European scale, the western parts of the UK are a stronghold for the species, and this creates something of an international obligation. This could perhaps be met by habitat protection as required by the EC Habitats and Species Directive and by the Bern Convention, but there is also a legal commitment under the latter to outlaw capture, keeping and killing. For these reasons, the proposal is for full protection. This may be a matter of concern for the many entomologists who have enjoyed keeping this butterfly in captivity. However, under the current interpretation of the Act, there seems to be no objection to the keeping of stocks that have been maintained by captive breeding from sources acquired before the Act came into force.

Lycaena dispar, Large copper butterfly (EN). The population of this insect in the UK is derived from an introduction in 1927 of its Dutch subspecies, *L. dispar batavus*, following the extinction of the British form, *L. dispar dispar* in 1851. It requires large areas of reed-fen containing its foodplant, the Great water dock *Rumex hydrolapathum*, and the demise of the British form resulted from drainage of such areas in East Anglia, allegedly together with collection. It is doubtful whether the present population is able to maintain itself, since it appears that the colony at the site of introduction, Woodwalton Fen, might not have persisted without artificial reinforcement, which took place until recently. It has not spread from this site, but English Nature is considering the possibility of establishing

another colony elsewhere in the wild. Outside the UK, *L. dispar batavus* is now known only from one site in Friesland. Collection is perceived as a threat, and there is also concern over the illegal release of a third subspecies, *rutilus*, with which *batavus* might hybridise. For these reasons, the proposal is for total protection, instead of the control of sale only. It is also proposed that Schedule 5 should be amended to specify only *L. dispar batavus*.

Margaratifera margaratifera, Pearl mussel (SNH). This bivalve mollusc, which is a parasite on the gills of fish, is abundant in some rivers of the north and west of Scotland and also occurs in south-west England, Yorkshire, Cumbria and Wales. In Europe it occurs across several countries from west to east. However, some of its British populations seem to consist largely of old individuals, with little recruitment. It seems to be in decline throughout its European range, perhaps due to pollution, siltation and interference with the migration of its host fish species. Globally, it is listed as "Vulnerable" by the International Union for the Conservation of Nature. Individuals take 12 to 15 years to mature and live on average for 60 years. There is therefore concern about the risk from collection, which is mainly carried out for pearls. The pearls can, however, be removed without killing the mussel, and commercial exploitation is therefore allowed. The Pearl mussel was added to Schedule 5 in 1991, in respect only of killing and injuring, while allowing "taking" (*i.e.* fishing). The problem is reportedly that killing and injuring is still taking place, since there is virtually no chance of apprehending offenders. The proposal is therefore to make the "taking" of Pearl mussels illegal, while providing licences for a small number of legitimate pearl fisherman who do not kill their catch.

Catinella arenaria, Sandbowl snail (JNCCSU). This gastropod mollusc occurs at only two known sites in Britain, in Cumbria and in north Devon. A former colony in Glamorgan is extinct. It has a sparse distribution across Europe, where it has "Vulnerable" status. It has had full protection under the Act from the start, even though collection has not been perceived as a threat. Trampling by grazing animals or loss of bare ground due to insufficient grazing are the main threats, although these extremes are avoided through special management at the two known sites. As far as protection against collection is concerned, this snail has been held up as an example where the law is unworkable, since dissection is necessary to distinguish it from another species, *Succinea oblongata*. It is now realised that this could be counter-productive in that anyone who discovers that he

or she has caught *C. arenaria* at a “new” site, would probably fail to report it as a new record for fear of prosecution. The recommendation is for complete deletion from Schedule 5.

Hadena irregularis, Viper's bugloss moth (QRWG). This moth is now considered extinct in Britain, where it formerly occurred only in the Norfolk Brecklands, feeding on Spanish catchfly, *Silene otitis*. It occurs rarely in France, Holland and Sweden. In 1989, a year after its addition to Schedule 5 for full protection, a thorough survey failed to find the moth. In 1994, the last possible site – an airbase that had been inaccessible to surveyors – was found to be unsuitable. The demise of *H. irregularis* was probably due to destruction of habitat due to agriculture, forestry and building development. Even where *S. otitis* persisted, grazing and mowing prevented formation of the seed capsules which are necessary as the larval food source. The proposal is that the moth should be removed from Schedule 5.

A specialised moth in Cornwall?

In *ICN 16* there was an item about a specialised moth in Cornwall that had been reported in the Ministry of Defence magazine, “Sanctuary”. The moth concerned was the local pyralid, *Apomyelois bistratiella neophanes*, which occurs in a fungus growing on burnt gorse bushes. The writer in “Sanctuary” had suggested that the moth might be able to detect the smell of burning gorse many miles distant, and so find its fungal host. The puzzle was that he named the fungus as *Daldinia concentrica*, which is usually found on ash and rarely on other hosts. This fungus is not, in any case, associated with burnt wood. Three readers of *ICN 16*, Miss K. Robinson of Baldock, Hertfordshire, Mr Brian Wurzell of North London and Mr John Gregory of Par, Cornwall, have since pointed out that there is a species of *Daldinia* which occurs on burnt gorse. This is *D. vernicosa*, which has a considerably smaller fruiting body than *D. concentrica*. John Gregory also confirms that the fungus is widespread in Cornwall, and appears to be the normal host there for this moth.



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NOTICE

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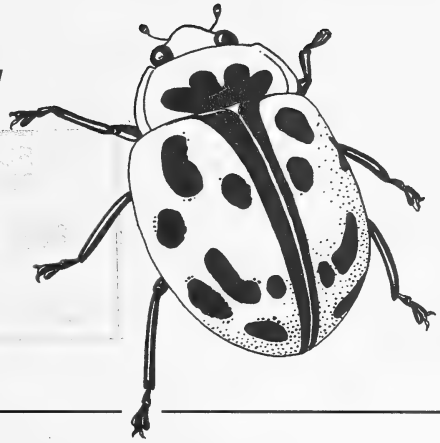
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INVERTEBRATE CONSERVATION NEWS



No. 19, February 1996

Editorial

People who study insects and other invertebrates often work alone, perhaps because they need to examine specimens minutely and at their own pace. There are of course opportunities to share information and interests, in the form of journals, exhibitions and meetings provided by various societies. These fora can be very valuable in facilitating and stimulating a wide range of activities, but they provide only limited opportunities for discussing and promoting the conservation of the invertebrate fauna. Perhaps the major exception to this is the Xerces Society in the USA, which is dedicated to invertebrate conservation. We in the UK have the British Dragonfly Society and Butterfly Conservation, which deal with particular insect groups, and the Joint Committee for the Conservation of British Invertebrates (JCCBI), which is an “umbrella” group.

Despite the lack of a society dedicated to the conservation of invertebrates in general, field naturalists in Britain are devoting a lot of their time to this cause. Many have become involved in schemes to help pinpoint sites of special value for invertebrates. There are many such schemes locally in the UK, as well as national ones like the Invertebrate Site Register and the recording schemes of the Biological Records Centre. Also, the increased mass popularity of wildlife conservation has helped to enhance funding for the acquisition and management of nature reserves and other protected sites, many of which include important populations of invertebrate species.

Although invertebrate conservation is less of a “Cinderella” activity than it used to be, much of the activity has been shaped either by professional invertebrate specialists in government agencies, or by



fund-raising organisations whose interests either embrace all forms of wildlife or focus on certain taxa which represent a very small proportion of biodiversity. In some cases, the balance of interests in such organisations seems to have diverted attention away from habitat requirements of invertebrates, while in other cases it seems to have fostered an unsympathetic attitude towards field naturalists whose studies require the collection of invertebrates.

One potentially very useful outlet for the ideas and opinions of invertebrate naturalists will be a conference which has been organised for 24th February on behalf of the JCCBI (see "Future Meetings" section). This will provide opportunities for amateurs and professionals to discuss issues which come under the general heading of . . . "what is the best way ahead for invertebrate conservation?". A theme throughout the conference will be biodiversity, since the Biodiversity Action Plan (see our news item below) is almost certainly going to shape much of our conservation effort in future years.

News, Views and General Information

Guidelines on legislation for the conservation and protection of invertebrates

As mentioned in earlier issues of *ICN*, the JCCBI has for some time intended to produce a set of guidelines on the appropriate rôle of law in the protection of wild invertebrates. The guidelines are based on scientific principles and take proper account both of conservation requirements and the personal liberty of field naturalists. We are pleased to report that the guidelines have been approved in their final form, and are being made available for publication in relevant journals. By publishing this document, the JCCBI hopes to encourage an informed attitude in all those who might seek to change laws or to promote new ones in the UK or elsewhere. We intend to publish the JCCBI guidelines in *ICN* 20.





AES Area Conservation Representatives: an update (November 1995)

by Martin Harvey, AES Habitat Conservation Officer

As regular readers of *ICN* will know, over the last 18 months or so the AES Conservation Committee has been working to build up our network of local conservation representatives. These "Area Reps" are AES members and keen conservationists who have volunteered to act as contact points, passing information on local issues to the Conservation Committee and promoting invertebrate conservation locally. There are now eleven Area Reps, and already they are enabling the AES to have a real involvement in conservation "on the ground" (see "News from the Area Reps", below). Some of the Reps intend to organise local meetings in 1996, to enable interested parties to meet and take further action on local invertebrate conservation, so watch out in the AES Diary for meetings in your area.

We have never defined how large an area each Area Rep will oversee. This is partly because individual entomologists vary widely in how they work; some travel all over the country to explore new habitats, while others prefer to work their home patch thoroughly. However, for now we are assuming that each Rep will cover the county in which he or she lives, although it is to be expected that Reps will have more involvement in and knowledge of sites near their homes. The one "formal" exception to this is Charles Watson, who lives on the Hertfordshire/Essex border, and is therefore active in east Hertfordshire and west Essex.

If you are interested in invertebrate conservation and would like to get involved in your area then please contact your local Rep if you have one. Many of our Reps are involved in monitoring the invertebrates of local sites, and would welcome any help that other members can give. If you don't have a local Rep as yet, please consider whether you would like to take on this rôle yourself. Otherwise, feel free to contact Martin Harvey or any other Conservation Committee member if there is a conservation issue that concerns you (for example, a local site under threat).

If you would like to be involved in the AES conservation network but live in a county where there is already a Rep, please don't be put off. Contact either the Conservation Committee or the existing Rep and see how you can help. In time, we may be able to establish local conservation groups where enough members live sufficiently close to each other.



Six Area Reps attended a conservation meeting held during the AES Exhibition last October. We discussed various projects in which the Reps were involved (see "News from the Area Reps") and a number of concerns were raised. Within the AES as a whole, there are more members who specialise in Lepidoptera than in any other group, and the interests of our Reps reflect this. However, when looking at habitat conservation for invertebrates it is important that the needs of as many different groups as possible are taken into account. Several of our Reps are involved in advising site owners or managers on management of butterflies and moths, but they expressed concern that they had no way of finding out about which species of, for example, beetles or flies were present, and what their conservation needs might be.

In an ideal world a comprehensive survey of invertebrates would be undertaken before management or planning decisions were made, but such a happy state of affairs rarely exists. It is possible to give general guidelines on habitat management for invertebrates without knowing exactly which species are present on a site, and the AES's own book on habitat conservation deals usefully with this approach, as does Peter Kirby's habitat management book, published by the Royal Society for the Protection of Birds (RSPB). However, advice is much more meaningful if it can be linked to particular species that are known to occur on the site, and for this reason we invite AES members who record the less popular groups to get in touch with their local Area Reps. Even if you only have time to visit a site once or twice and record a few species, this helps to broaden the perspective of any management plans that are being developed. The conservation requirements of the less popular groups are not always well known, but anything we can do to make site managers more aware of the variety of invertebrate life and its needs will be valuable. Our current Area Reps are listed after the next article, which has been contributed by the Rep for Worcestershire, Geoff Trevis.

Invertebrate conservation: a local perspective

by Geoff Trevis, AES County Rep. for Worcestershire

A major reason for submitting this note is to remind AES members in my locality of my existence and to canvass views on field meetings in 1996. I am more than willing to arrange meetings in Worcestershire, which has many sites of entomological interest, but I would like some indication as to whether there is likely to be any response from



members. I know from experience that organising field meetings can be unrewarding! Unfortunately I am not yet up to receiving e-mail but, if you would like to join in field meetings, you can drop me a line at the address listed below, indicating if you have any particular areas of interest or expertise. Alternatively, you can phone me during evenings or weekends. Also some of the meetings of the Worcestershire Wildlife Trust should be of interest, and I will try to advertise these when the publication date of *ICN* allows this.

The Worcestershire Trust's conservation conference in October was mainly devoted to habitat management for invertebrates and I think it provided many reserve managers with a new slant on management planning. Whilst, however, we heard of a variety of prescriptions for managing different types of habitat, or indeed the value of non-intervention, I could not avoid the feeling that we often choose the wrong prescription for a site through not knowing what is present. And that leads me to my second point. We desperately need invertebrate records in order to plan effective conservation strategies. Habitat management is an important issue but conservation has reached one of the most crucial positions that we have experienced for a very long time. Implementation of local Agenda 21 and the development of biodiversity action plans are going to be the driving force for many years to come.

If invertebrates are going to be a major consideration in biodiversity planning and in the designation of special wildlife sites, we must know where the important sites are, and what they support. At the moment, however, systematic records are woefully inadequate. Entomologists must ensure that their knowledge is made available and that it is used. There are a great deal of data on Lepidoptera and Odonata (though we could do with more!), but for other groups there are very little, and they are frequently not in an easily usable form. Also, records in local biological records centres (BRCs) seem too often to be on only a tetrad basis, which is not sufficiently detailed for local planning. I am currently chairing a group concerned with, among other things, biodiversity action planning, the development of conservation strategies for habitats and species, and the implementation of a "Special Wildlife Sites" scheme (SWS). I would, therefore, be very grateful to receive invertebrate records for Worcestershire, and would be even more delighted to hear from anybody willing to help on a more systematic basis. Keep sending your records to your county trust and/or local BRC but please copy them to me if possible. :



Finally, management and designation of special sites, from SACs and SWSs, looms large in conservation thinking. However, if we are to avoid being left with isolated patches of habitat separated by unbridgeable farmland, we must keep a careful watch on the "ordinary" agricultural landscape. As has been clearly demonstrated, populations in isolated islands of habitat are very vulnerable. Linear habitats, such as waterways, hedgerows, verges and railway lines are thought to be particularly important in reducing isolation, and I would therefore be interested in records relating to such features and in information about any that appear threatened.

AES Area Representatives: address update (November 1995)

(see also the address panel for members of the AES Conservation Committee)

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Biodiversity Challenge and the UK Biodiversity Action Plan

As a result of the Rio Summit in 1992, the British government made a pledge to develop a biodiversity action plan, and later produced a book entitled *Biodiversity: The UK Action Plan* (HMSO, January 1994), which was largely a statement of actions that were under way as part of the government's existing work in the conservation of wildlife, genetic diversity and other natural resources. The non-governmental bodies had anticipated that there would be a need to encourage the government to make some additional and very specific commitments, and had therefore compiled in advance a shopping list of habitats and species, for which specific protection or recovery goals were defined. This was published in a 137-page document entitled *Biodiversity Challenge* under the secretaryship of the RSPB. Much of the documentation on invertebrates was supplied by Alan Stubbs, working under the auspices of Butterfly Conservation and also in consultation with the AES. There was also a contribution from the British Dragonfly Society.

After consultations with biological societies, a second edition of *Biodiversity Challenge*, 285 pages long, was published in January 1995. This was placed before the "Biological Steering Group" which was set up in order to report to the government on a set of targets for an objective-setting Biodiversity Action Plan (BAP). The Steering Group report was approved by the government, and was published by the Department of the Environment on 13th December, just as this issue of *ICN* was going to press. A fuller account will appear in a later issue, but the current news is that about 116 species, including invertebrates, have been allocated specific programmes for their protection or recovery.

We understand that there were serious limitations in the BAP procedures for choosing appropriate invertebrate species and for including invertebrates in general to any adequate extent. Part of the problem is that invertebrates cannot be properly considered according to the criteria which are currently used to categorise species as deserving protection or recovery programmes. These criteria have been developed for birds and other vertebrates, and relate to population sizes which are very small by the standards of invertebrate population biology. In any case, accurate data on population sizes do not exist for invertebrates, owing to rapid fluctuations and to difficulties in carrying out the necessary field studies.

As has often been said, we probably have to accept that species-related measures have limited value for invertebrate conservation, since we can never hope to give special attention to more than a very small



proportion of those species which might be at risk of serious decline. It is therefore welcome news that the BAP also includes a statement concerning habitats (or more accurately "biotopes"), such as limestone pavements and raised bogs. However, the selection of biotopes and the measures required to protect or restore them depends on a knowledge of their species, which is not always available as far as invertebrates are concerned. Also, in many cases, a relatively modest number of sites can assure the survival of plants and vertebrates, even though they may be too few and isolated to allow the replenishment of invertebrates following inevitable local extinctions. We understand that invertebrates were not adequately considered in habitat designation, but a detailed review of this must await a later issue of *ICN*.

There is cause for satisfaction in that, apparently, no other country has yet produced a comparable biodiversity action plan. There is, though, some concern over the need for funding to finance the BAP. Some of the funding will have to be raised by the voluntary sector, and it seems that there will also be pressures on the existing budgets of the government agencies.

Sites and species of interest

Quinquennial Review of the UK's Wildlife and Countryside Act

As reported in *ICN* 18, the proposed changes to the schedule of terrestrial and freshwater invertebrates legally protected in the UK concern the following species: *Agrochola haematidea* (Southern chestnut moth), *Bembecia chrysidiformis* (Fiery clearwing moth), *Coenagrion mercuriale* (Southern damselfly), *Hadena irregularis* (Viper's bugloss moth), *Gortyna borelii* (Fisher's estuarine moth), *Lucanus cervus* (Stag beetle), *Eurodryas aurinia* (Marsh fritillary butterfly), *Lycaena dispar* (Large copper butterfly), *Margaritifera margaritifera* (Pearl mussel) and *Catinella arenaria* (Sandbowl snail).

On the basis of information received from entomologists with first-hand information on some of these species, the AES submitted comments to the Joint Nature Conservation Committee, which can be summarised as follows. For *A. haematidea*, there are good grounds for believing that the reported "targeting" by collectors is likely to diminish through voluntary restraint. Also, there is evidence that the land area over which the moth is breeding is too extensive for private collecting to be a demonstrable threat and thus to justify full protection. For *B. chrysidiformis*, there is field evidence to support the argument that a more adequate survey should precede any move to give the species full



protection. For *G. borelii*, the evidence for “targeting” by collectors or dealers came from the advertisement of large numbers of eggs, which might have been obtained from one or a very few adult females. Also, the mowing of the foodplant, which is by far the main threat to the moth, has ceased following representations to the National Rivers Authority so that there now appears to be less justification for full protection. We are very grateful to all those who supplied information on these moths, especially Mr Bernard Skinner, Dr Paul Waring and Mr Joe Firmin.

There was no new evidence regarding *E. aurinia*, but there was a little concern about the possible plight of the many amateur entomologists who maintain breeding stocks of the butterfly, and who will be allowed to continue doing so but only on the basis of the current interpretation of the law. Under the Act, anyone possessing a specimen of a species fully protected on Schedule 5 can be deemed to possess that specimen illegally unless he/she can prove otherwise.

News from the AES Area Representatives

A report by Martin Harvey, AES Habitat Conservation Officer.

As mentioned in my general report (“News, Views and General Information”), the AES now has eleven Area Conservation Representatives, who are involved in a variety of projects or are keeping an eye on local sites of importance for invertebrates. The following are brief accounts of just some of these projects; if you think you can help with any of them please contact the Area Rep concerned.

Martin Harvey has been continuing to record invertebrates and to advise management for several Berkshire, Buckinghamshire and Oxfordshire (BBONT) nature reserves. In particular, BBONT's Homefield Wood reserve exists largely because of its plant interest – it is home to several rare orchids. However, the voluntary reserve manager takes a keen interest in other wildlife, and a number of rare invertebrates have been recorded over the years, partly thanks to visits from AES members. Consequently, invertebrates now feature strongly in the annual reports and management plan. Other activities have included providing information on Scarlet tiger moths to a local council when a wetland site providing habitat for this moth (among others) was threatened with excavation to form a fishing lake, and giving talks and leading field meetings, often in conjunction with the local wildlife Trust and Butterfly Conservation branch.



Neil Jones has also been closely involved in monitoring Marsh fritillary sites in South Wales, and has highlighted this issue with informative displays at recent AES Exhibitions. Although the Marsh fritillary maintains a stronghold in Wales, sites are still being lost to development and the range is contracting. Neil reported a site in mid-Glamorgan that is threatened by a landscaping proposal, enabling the AES Conservation Committee to write expressing its concern over the possibility of further loss to Marsh fritillary habitat.

Roger Kemp and **Helen Marcan** have been sharing Buckinghamshire and Oxfordshire between them, with each involved in sites in both counties. Roger has been looking at three sites that seem to be good for butterflies but are in private ownership and are not designated as nature reserves. In cases such as this, it is essential to build good relations with the site owners, who are sometimes wary of allowing members of the public on to their land. Roger is in touch with his local branch of Butterfly Conservation for further help. The sites may also be good for other invertebrates, but to investigate this requires input from specialists in the "other orders". Any offers of help gratefully received! Helen Marcan has been active in writing letters to local councils and to her local Wildlife Trust, highlighting good invertebrate sites that she feels could benefit from more sympathetic management.

In Cambridgeshire, **Robert Partridge** has been advising several land owners/managers on the possibility of Goat moths breeding in trees on their land, and has distributed an information sheet on maintaining suitable conditions for this species. He has also been involved in discussion with a local council regarding the felling of some old elm trees in a local churchyard. Some of these trees were protected by tree preservation orders, and provided potentially valuable habitat for invertebrates. Further fellings have now been postponed, pending further discussion. Robert is undertaking survey work on moths at the RSPB's Ouse Washes reserve. This reserve contains a large area of wetland and seasonally flooded meadows, and, although it was purchased primarily as a bird reserve, it is encouraging to see the RSPB continuing its commitment to habitat conservation generally. It is also pleasing that, through Robert's involvement, the AES is playing its part in this process. The moth survey work will provide information on an area of land that the RSPB intends to allow to flood for part of the year.



Tony Steele is looking at Saxtons Wood, a Woodland Trust site near West Kingsdown in Kent. This has become very dense and shady, and consequently is in poor shape for woodland butterflies. However, this again highlights our lack of knowledge of the “other orders”; it may be that such shady conditions are just right for some beetle species, or perhaps for snails or spiders, but unless people with knowledge of these groups are able to visit the site and report on it, it is difficult to assess the invertebrate interest of the wood. Once again, if any other AES members can help please get in touch with Tony.

Geoff Trevis is an active member of the Worcestershire Wildlife Trust, whose Breedon Hill reserve has recently been recognised as an important site for dead wood invertebrates, and is now being managed with this in mind. Geoff is busy promoting invertebrate conservation issues through the Trust, and has helped to organise an invertebrate conservation training day for the county. One other worrying issue which Geoff reports on is a proposal to make the Upper Severn navigable for amenity purposes, which could threaten large areas of valuable habitat for invertebrates and other wildlife. Geoff would be pleased to hear from AES members in the Upper Severn area who may know of sites and species of particular interest.

Nonsuch Park, near Ewell, Surrey

In 1994, the “London Naturalist” published an article on the flora and fauna of Nonsuch Park by Dr June Chatfield and she has kindly supplied a copy of this, drawing our attention to the very interesting account of the invertebrates that have been recorded in this area. The Park and adjacent open spaces occupy 168 ha (416 acres) of grassland and woodland within an area that has otherwise been almost entirely engulfed by the south London suburbs. This oasis of countryside was once part of the deer park surrounding Henry VIII's Nonsuch Palace, which was demolished in the late seventeenth century, having been allowed to fall into disrepair. The habitats are quite varied, since the site covers outcrops of chalk, London clay, Thanet sand, Woolwich and Reading beds, as well as a strip of alluvium. By the end of World War II, most of the area had been under the plough at various times, but the edge habitats and areas of woodland have helped to maintain biodiversity.

Several naturalists have recorded invertebrates at Nonsuch, either individually, or at special survey meetings. Dr Chatfield found that the



area known as Cherry Orchard Farm was richer in molluscs than the Park proper, apparently because of its longer woodland history and supply of dead wood and leaf-litter. One of the dead wood specialists is the Glossy snail, *Oxychilus helveticus*. Peter Harvey has found that Hymenoptera are particularly well represented, probably because of the good supply of pollen and nectar in a flower-rich area (Warren Farm). He has noted the occurrence of seven nationally notable species: the bees *Hylaeus cornutus*, *Andrena tibialis*, *Lasioglossum malachurum* and *Melitta tricincta*; the wasps *Pempredon mori* and *Lestiphorus bicinctus* and the ant *Lasius brunneus*. Records of spiders and other arachnids were supplied by the late Frances Murphy, Peter Harvey and Rosemary Hill, but more records are needed to cover all seasons of the year. Four notable species have so far been listed: *Zilla diodia* from scrub and three *Philodromus* species; *P. collinus* from a woodland edge and *P. praedatus* and *P. longipalpus* (the seventh British specimen so far) from an old road. Other invertebrate groups recorded include Isopoda and several insect orders; Odonata, Orthoptera, Dermaptera, Hemiptera, Neuroptera, Mecoptera, Lepidoptera and Coleoptera. Roger Hawkins contributed many of the insect records, which numbered 260 by 1993.

Like the few other "oases" of wildlife habitat within the London conurbation, this area is of outstanding value for informal nature study and for educational use, but Dr Chatfield points out that it will need proper designation if its value is to be retained and enhanced. At present, the prospect of urban development has not been ruled out, despite a recent public enquiry. Even if the area remains as an urban space, there could be pressures for over-formal management (such as occurred in parts of the area in past decades). Dr Chatfield's article helps to show the need for sensitive management and may encourage more naturalists to assist with the recording of species and the assessment of their habitats.

AES Members' Day & AGM

Saturday 20th April 1996

at the Royal Entomological Society of London
41 Queen's Gate, London

10.00am – 4.30pm

For further information write to
Wayne Jarvis at P.O. Box 8774, London SW7 5ZG.
or telephone 01582 486779.



Obituaries

Eric Bradford

Eric Sidney Bradford, who died in August at the age of 74, contributed very significantly both to the detailed study of insects and to conservation. Apart from being an excellent all-round naturalist, he was an authority on micro-lepidoptera. He was also a gifted artist, who became renowned for his superb illustrations of micro-moths. In his work for conservation, he contributed many valuable records for the evaluation of sites, especially in his beloved county of Kent, where he went to live after taking early retirement. He also assisted conservation bodies in various parts of Britain as an expert in identifying specimens, and still found time to serve for a while on the AES Conservation Committee. Perhaps most significantly, he bought woodland in Kent which he managed for wildlife conservation, and which he bequeathed in his will for this purpose. Eric was a very kind and generous man who became a dear friend to many entomologists, and he will be sadly missed.

David Lonsdale

Frances Murphy

Frances Murphy, who died during the autumn of 1995, was an outstanding arachnologist who communicated her enthusiasm to all who knew her, and whose loss has been felt by many members of the societies in which she played an important rôle. She was very committed to the tradition of natural history, and one of the concerns of the last few years of her life was that the Natural History Museum in London should continue to help to sustain the work of the amateur. She assisted the work of conservation by contributing arachnid records from many sites and, until her untimely death, she represented the British Entomological and Natural History Society on the JCCBI.

David Lonsdale

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NOTICE

It is to be distinctly understood that all views, opinions, or theories, expressed in the pages of this Journal are solely those of the author(s) concerned. All announcements of meetings, financial grants offered or sought, requests for help or information, are accepted as *bona fide*. Neither the Editor, the Officers and Council of the Society, nor its Trustees, can be held responsible for any loss, embarrassment or injury that might be sustained by reliance thereon.

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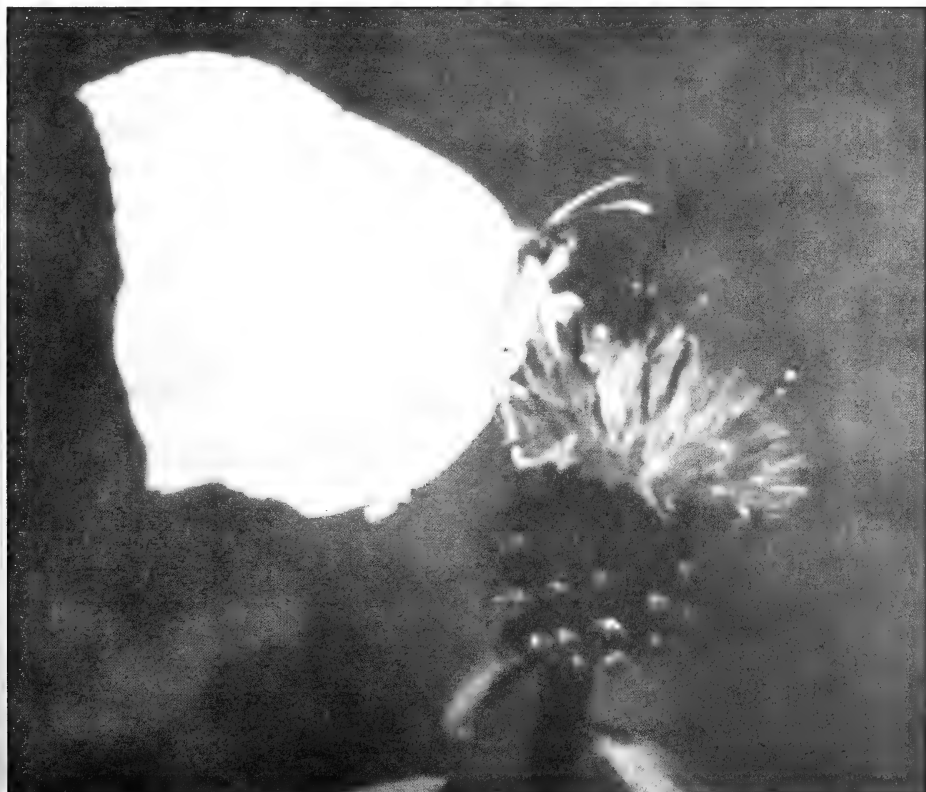
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Invertebrate Conservation News



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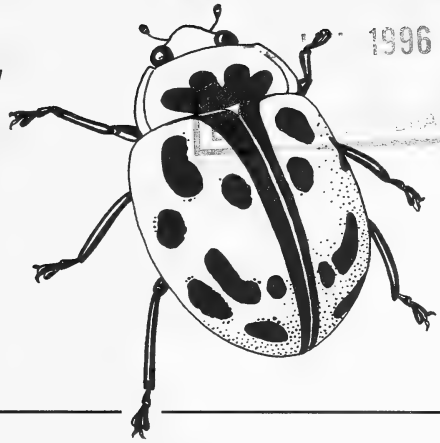
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INVERTEBRATE CONSERVATION NEWS



No. 20, June 1996

Editorial

This issue of *ICN* includes news of various developments in the UK which give cause for optimism over the future status of invertebrates in the conservation movement. In February of this year, there was a national invertebrate conservation conference in Peterborough (as advertised in the *AES Wants & Exchange List*), the first such gathering ever to provide a chance to debate ideas about the development of our work. A central theme at the conference was the Biodiversity Action Plan, as represented by a government-backed report which appeared at the end of 1995, setting targets for the conservation of selected invertebrate species and for a range of important habitats. Another significant advance which is reported in this issue of *ICN* has been the formation of the Ancient Tree Forum, together with the launch of English Nature's "Veteran Tree Initiative". The conservation of invertebrates, particularly deadwood species, should benefit from these moves.

Some field naturalists may fear that increased publicity for invertebrate conservation will encourage calls for further legal controls of collecting, in ignorance of ecological criteria and of the negative effect that such measures would have on data acquisition by amateurs. Ill-informed views will remain a danger as long as people fail to realise that, for most invertebrates, the loss and isolation of habitats is immensely more damaging than the removal of specimens. The biological basis for this fact needs to be explained authoritatively, and



this is why we should welcome the appearance of a long-awaited policy statement on the rationale of law which has been prepared by the Joint Committee for the Conservation of British Invertebrates (JCCBI). The JCCBI document, which is in part reproduced in this issue of *ICN*, states when laws are appropriate, and when they are not.

In spite of these useful developments, resources for invertebrate conservation remain very scarce, and too much depends on the work of a few individuals who are willing to give up their spare time. In theory, it might be possible to promote the cause more strongly through the existing societies and the relevant statutory bodies, with the JCCBI acting as an umbrella body. The alternative would be to form a new society, as happened twenty-five years ago in North America, with the formation of the Xerces Society. This option was discussed in JCCBI in the early 80s, but the general view was that the JCCBI should try to fill the gap by helping the existing societies to work more effectively for conservation. In reality, however, JCCBI has remained primarily a forum for discussion and for bringing together expertise which is the basis for authoritative guidelines and codes of conduct.

Another idea, which has been occasionally voiced over the last few years, is that invertebrate conservation as a whole could become the aim of an existing society; namely, Butterfly Conservation. That Society, formally known as BBCS, has expanded considerably, and has widened its remit to include moths as well as butterflies. It was however, made clear at the Peterborough conference that it was not felt appropriate to widen BC's remit any further.

Clearly, we need to "get our act together", and this involves fairly mundane requirements such as making sure people know who we are, what we are doing and how to get in touch with us. We therefore require an identity, which might yet be the JCCBI, or it might be a new organisation; the floor is open for debate. Unless we can acquire more resources and achieve better publicity, many people who have worked for invertebrate conservation will find increasingly that schemes related to the Biodiversity Action Plan and other initiatives will take place without their proper involvement. This could mean that important sites are overlooked or mismanaged, and that others will act in our stead, often in ignorance of well-thought-out ideas which we have developed over many years.





News, Views and General Information

Legislation for the conservation and protection of invertebrates: the JCCBI policy statement

As promised in the last issue of *ICN*, this statement is reproduced here. Readers should note that the reasoning behind the statement's recommendations is set out in a series of annexes. Due to lack of space, neither these explanations nor the literature references are included here, but the JCCBI will be looking at the possibility of publishing the full document under its own cover.

Preamble

The aim of this policy statement is to provide guidance to all those who have an interest in the rule of law in the protection of terrestrial and freshwater invertebrates and their habitats.

Legislation has been enacted in many parts of the world to limit human activities in the interests of conserving or protecting wild plants or animals. Specific reasons that have prompted such legislation include:

- Concern about possible extinctions of species
- The need to protect ecosystems
- Regulation of the use of natural resources
- Support of conservation management objectives at particular sites
- The upholding of morals in human exploitation of wildlife
- Prevention of cruelty to animals

One or more of the above reasons can be applied in particular cases, depending on the nature of the species or habitats involved, the types of human activity that are thought to be damaging and the views of individuals or governments. In all cases it is necessary to balance these considerations against the principle of upholding the freedom of the individual to utilise or study wild plants and animals.



Recommendations for each of the above legislative purposes, as applied to terrestrial and freshwater invertebrates

Concern about possible extinctions of species

Any law that seeks to protect species should, as its prime function, protect their habitats and not allow them to become so isolated that chance local extinctions become permanent. For the majority of species deserving legal protection of habitats, it is not also necessary to prohibit collecting.

The criterion for selecting an individual species for protection against collection should be as follows: that, according to all reliable evidence, the activities of collectors would significantly increase the risk of any of its regionally or nationally significant populations becoming extinct.

The taxonomic position of a species should count towards its being scheduled only to the extent that some taxa (especially butterflies) are more likely than others to be collected.

Introductions or re-introductions should normally be controlled by law only when they involve species or genetic forms not native to the state concerned. Exceptions may be necessary for economic reasons as well as in the interests of wildlife conservation.

All those who breed invertebrates in captivity should comply not only with any legal regulations on collecting or trading in the species concerned, but also with the relevant ethical guidelines (Anon; 1987, Collins 1990). However, captive breeding *per se* should not be controlled by law.

Protection of ecosystems

Laws intended to protect entire assemblages of plants and animals should take proper account of the habitat requirements of invertebrates where these differ from those of other forms of wildlife. In particular, regulations over land use should aim to reduce the isolation of habitats of species with poor powers of dispersal.

Regulation of the use of natural resources

Certain restrictions on the importation or handling of non-indigenous invertebrates may be required in order to protect crops and to exclude pathogens harmful to economically useful invertebrates.



Legislation should seek, wherever possible, to avoid harm to the livelihoods of those who, without risking the viability of wild populations, trade in invertebrates or their products.

Support of conservation management objectives at particular sites

At sites which have been legally designated for their conservation value, there should be provision for controlling specific activities that are likely to cause significant damage to populations of particular species or to their habitats. The imposition of particular regulations at such sites should be subject to expert adjudication. Owners of non-designated sites which are being managed as nature reserves should have the means to apply for legal designation so that appropriate regulations could be applied in support of agreed conservation objectives. At all other sites, the presumption should be against the control of activities other than those which would damage owners' property or infringe statutory management agreements. However, at sites subject to exceptional visitor pressure, there should be some provision for imposing appropriate regulations.

The upholding of morals in human exploitation of wildlife

This purpose should not, in itself, be a basis for legislation, but it has underlying importance in upholding the other five purposes.

Prevention of cruelty to animals

There is no clear case for laws specifically to prevent suffering to invertebrates other than higher molluscs, except where they come under existing legislation governing the care of captive animals and the shipment of animals for trade purposes.

JCCBI, 21st August 1995

The Ancient Tree Forum and the Veteran Tree Initiative

The conservation of British deadwood habitats has been a recurring topic in *ICN* and the former "AESCG Newsletter", going back to the time when the only people who cared about it were a mere handful of apparent eccentrics. Things have moved on a bit since then, so that it is now quite respectable to argue against the unnecessary removal or burning of this very important type of habitat. As many deadwood invertebrates apparently have very limited powers of dispersal, they tend to be even less able than "green plant" feeders to recolonise sites



where there is a temporary loss of habitat. Thus, the only sites where the most vulnerable species now occur are those where there has been a continuity of habitat over many centuries.

In the UK, most sites of special value for deadwood habitats contain very old trees ("veteran trees") which contain long-established rot-holes, and whose dead boughs, both attached and fallen, have been allowed to decay *in situ*.

In many cases, these trees were pollarded hundreds of years ago, and so have a short bole bearing multiple branches. The branches were cut periodically to provide products such as fuelwood and leaf fodder for animals, and the lopping cuts exposed wood which could be colonised by fungi and invertebrates. The decay of the wood did not usually cause the death or collapse of the trees, since there was always new wood being laid down as the trees grew new branches and increased in girth. Also, the multi-branched form and restricted crown size was usually less vulnerable to catastrophic decay or wind damage and thus allowed the trees to survive far longer than unpollarded ones of the same species. The co-existence of sound and decaying wood for centuries within individual trees has provided a continuously available deadwood habitat, which explains why these trees are often the last habitats for species that once lived in the primal forest.

Although the UK is virtually devoid of primal forest, it is home to most of north-west Europe's veteran trees. However, due to changes in land use, the practice of "re-pollarding" had died out in most areas by the present century. Cessation of cutting often allowed the branches of a pollarded tree to become so heavy and crowded that they eventually tore away, sometimes pulling the bole apart and thus ending the life of the tree. Attempts to forestall this by rejuvenating neglected pollards in the 1950s and '60s met with very mixed success, but lessons were learned and there has more recently been a coming together of people who have the desire and knowledge to do a better job of maintaining veteran trees and to help ensure that there will be successors for them when they eventually die or fall apart.

There is now an informal association which is called the Ancient Tree Forum (ATF), which brings together many disciplines, including entomology, mycology, arboriculture, amenity and landscape management and rural history. The ATF has taken shape largely thanks to the enthusiasm of a few activists, who include Ted Green of English Nature, Helen Read of the City of London Corporation and Keith Alexander of the National Trust of England, Wales and Northern



Ireland. Field meetings are held about three times a year, usually on a weekday, and usually attract 30-40 people. Information can be obtained by sending a stamped addressed envelope to Dr Keith Alexander, National Trust, 33 Sheep Street, Cirencester, Gloucestershire GL7 1QW.

Just before this issue of *ICN* went to press, the Ancient Tree Forum was approached by English Nature, who are running a Veteran Tree initiative under the leadership of Phil Horton. They have some funding to aid various projects which could be pursued by interested organisations, such as the National Trust and local authorities. These projects will include publicity to help people recognise and develop a desire to protect veteran trees, and also the documentation of trees and the sites where they occur. Use could be made of the parish-based wardening scheme, which is promoted by the Tree Council. There will be a special focus on some of the rare species that depend on veteran trees, such as the Violet click beetle, *Limoniscus violaceus*, which has been the subject of a promising habitat creation project by Ted Green (see "Sites and Species of Interest"). Deadwood conservation should benefit considerably from these developments, and we hope to provide some news of progress in future issues of *ICN*.

Biodiversity Action Plan: publication of the UK Steering Group Report

As the last issue of *ICN* was going to press, we had time just to mention that the Steering Group appointed by the UK government had published its report. The report was commissioned following the signature of the Biodiversity Convention at the 1992 Rio Earth Summit. At first, it seemed that there would be merely a review of existing projects in relation to the government's Rio commitments. However, thanks to the challenge laid down by a grouping of voluntary organisations, under the leadership of the Royal Society for the Protection of Birds, the Steering Group was given the remit to set firm action plans for the conservation of selected species and types of habitat, together with costings. The plans will operate at both national and local levels. This means that, provided that the government formally accepts the report as the basis of its Biodiversity Action Plan (BAP), there could be a considerable boost for conservation in the UK. Pessimists might argue that extra spending to meet these targets will be offset by cuts elsewhere, but this remains to be seen.

It was mentioned in *ICN* 19 that the selection of invertebrate species for action plans was fraught with difficulties, since in some cases the



qualifying criteria were not entirely appropriate, while in other cases the criteria could not be properly applied due to lack of field data. For example, there are many invertebrates for which it is not possible to say whether they are “globally threatened” or have “declined by more than 25% in numbers or range in the last 25 years”. Nevertheless, conservation has to be the art of the possible, and we should welcome any initiative that gives invertebrates a little of the prominence that they deserve in conservation. This is certainly true of the report, since many invertebrate species are represented, even if not in quite the numbers that would match their biodiversity relative to plants and vertebrates.

The species targeted fall into three main groups. The first is a “short list” of 121 (116 according to the summary of the report), including 45 invertebrates. These include the ground beetle *Carabus intricatus*, the mole cricket *Gryllotalpa gryllotalpa* and the snail *Vertigo moulinsiana*, whose presence was cited recently as a reason for halting the Newbury bypass. For these species, costed action plans have been prepared. Each plan examines reasons for the decline of the species and proposes ways of halting or reversing it. There is then a “middle” list including just under 300 species, for which action plans will be produced during the next three years. Finally, there is a “long list” of about 1250 species, which are to be reviewed in the longer term.

The report also identifies thirteen “key habitats”, which have been given costed action plans. Examples include species-rich hedgerows, limestone pavements and reedbeds. There are also 37 “broad habitats”, for which statements have been prepared. Examples include native pinewoods, lowland wood pastures and unimproved neutral grasslands.

The report comes in two volumes, expensively priced at £26 and £30, and is available from HMSO, PO Box 276, London SW6 5DT.

Less Intensive Farming and the Environment (“LIFE”)

LIFE is an EC scheme that provides opportunities for farmers to reduce inputs of agricultural pesticides and fertilisers so as to benefit wildlife and the general environment. This is not organic farming, but land areas registered within the scheme receive about one third less in the way of inputs overall, with some chemicals being entirely withdrawn in some cases. Some interesting results involving invertebrates in cereal fields are now being observed. The modern practice in most British cereal fields is to control weeds using herbicides in the seedbed and later to spray the crop with other chemicals for the control of aphids



and other insects. Farmers who have omitted these treatments in some of their fields are now reporting better control of aphids than in conventionally sprayed fields. Since aphids are vectors of a serious disease caused by the Barley Yellow Dwarf Virus, the benefits have been very obvious in some cases.

The reason why aphid attack was less severe in the low input system seems to be that it provided better survival of predatory invertebrates. This confirms the well-established findings of the Game Conservancy, Fordingbridge, Hampshire, where it was shown that the rise of aphids as a cereal pest has been largely brought about by spray regimes and cultural practices which harm beneficial invertebrates and their habitats. To help overcome this problem, and also for the benefit of wildlife, the Game Conservancy has developed its well-known systems involving "beetle banks" and unsprayed headlands. Perhaps the LIFE programme will encourage more farmers to use these ideas.

Sites and Species of Interest

The Violet click beetle* *Limoniscus violaceus

This deadwood insect is one of twelve beetles on the Biodiversity Action Plan short-list, and is currently included in English Nature's Species Recovery Programme. In the March 1996 issue of EN's magazine, there is an article about two schemes to save this internationally rare species from extinction in the UK. At one of the two UK sites where it is recorded, Windsor Forest SSSI, English Nature's local representative Ted Green has succeeded in creating an artificial "habitat tree" for the beetle, which could supplement the one remaining tree where it occurs naturally. He has been re-erecting fallen, hollow stems, and filling them with a mixture of fresh beech sawdust, racing pigeon manure and the occasional dead bird or squirrel, thus apparently simulating the natural habitat. One of these stems proved to have been naturally colonised, when five larvae of the beetle were found in Ted's mixture. In the long term, the answer is of course to provide a natural succession of suitable trees, which will also be of value for many other deadwood organisms, and Ted Green will continue to pursue this aim through the Ancient Tree Forum (see above), even after his retirement from EN.

The longer-term approach is being pursued at the other site where the beetle is known to occur, the Breedon Hill SSSI in Hereford and Worcester. Through co-operation between EN and local landowners,



work is being done to help develop a succession of suitable trees to replace the ancient ones which are just about surviving at the site. Younger trees are being pollarded so as to encourage the formation of rot holes, and about 300 new ones have been planted.

National Moth Conservation Project (Butterfly Conservation and Joint Nature Conservation Committee)

Throughout the time when *ICN* was not appearing, Paul Waring, the project officer for this scheme, had been supplying news, which we unfortunately could not print when it was current. Paul's latest bulletin, which has of course been sent to all participants in the scheme, gives news both of general projects, like the atlas of rarer macro-moths, and of particular species. Some of the news on species is relayed here.

Among the species recently investigated, the Black-veined moth, *Siona lineata*, has been discovered at a third colony in Kent, and the Reddish buff, *Ascometia caliginosa*, bred and produced adults in the wild in Britain on the first known occasion for over thirty years. Also, Paul Waring was commissioned by the Countryside Council for Wales to do a survey of the Silurian moth, *Eriopygodes imbecilla*, which was being considered for addition to Schedule 5 of the Wildlife & Countryside Act (1981). Paul's work showed that the moth was not, as had been feared, confined to a single gully in Monmouthshire, indicating that there was no need for scheduling, which is meant to be reserved only for last-ditch (last gully?) cases.

Paul Waring also reports that he has managed with great difficulty to maintain the last remaining British stock of the Essex emerald moth, *Thetidia smaragdaria*. His captive-bred colony has outlived the moth in the wild, which apparently became extinct in 1991. However, there are signs of inbreeding in the colony and, and it seems likely that this contributed to the moth's demise. Paul now thinks that the introduction of continental genes may be necessary for any successful re-introduction.





Special Feature

AES Conservation Policy

The Society's policy on insect conservation was first published in 1980, when it was sent out as a single-sheet publication to all *ICN* readers. At the end of 1993, the policy was reviewed and re-affirmed with one or two minor amendments. Since many readers might not even realise that this policy exists, we are printing it as follows.

The Society's policy towards conservation embodies the following aims:

1. To draw attention to the need for insects to be adequately considered in all wildlife conservation activities and to emphasise:
 - the great ecological importance of insects;
 - human dependence on insects, direct and indirect;
 - the beauty and the scientific value of insects.
2. To help foster a climate of opinion in which ecological criteria rather than public popularity determine the place of insects in the allocation of resources for conservation.
3. To encourage and support the amateur entomologist in the recognition and conservation of valuable habitats.
4. To publicise the special habitat requirements of insects and to seek ways of lessening the damage caused through ignorance of these requirements.

The Society will work towards these aims in the following ways.

Conservation at specific sites

- Encouraging amateurs in survey and management work.
- Co-operating with local conservation bodies in surveying and management.



- Contacting individuals and organisations not primarily concerned with conservation but whose activities can affect interesting sites (e.g. local authorities and landowners).
- Organising and promoting field meetings at sites of interest.
- Providing support and expertise to promote the conservation of individual threatened sites (e.g. evidence at planning enquiries).

The protection of insects and their habitats from unnecessary destruction

- Opposing the destruction of habitats through a desire for tidiness (as happens when dead wood is destroyed or wild areas in towns are grassed over).
- Discouraging the collection of rare insects or the collection of large numbers of other insects without good reason.
- Attempting to ensure that any laws or other regulations which aim to conserve insects are based on ecological principles.
- Encouraging the adequate consideration of insects in the selection of any sites for nature conservation purposes.
- Encouraging the conservation and enhancement of insect habitats on all land outside special conservation areas, paying particular attention to habitat fragmentation.

Publications and communication

- Liaising with other organisations by consultation over specific sites and also by promoting the views of the Society.
- Encouraging the participation of landowners in ecologically based insect conservation.
- Encouraging individual entomologists to make the views of insect conservationists known to local organisations and individuals.
- Producing a special newsletter on insect conservation.
- Producing other advisory information.
- Encouraging co-operation between the amateur entomologist and workers in related fields.



Past Meeting

Invertebrate Conservation Conference, Peterborough

This conference was organised by Alan Stubbs on behalf of the JCCBI. Its title was *Unity of Purpose for Invertebrate Conservation* and it focused on maintaining the biodiversity of British invertebrates. It addressed the lack, so far, of effective co-ordination between all the organisations involved in this work, and took a fresh look at the rationale of the JCCBI itself. One of the questions asked was whether we want just a talking shop, or is there also a need for a new organisation dedicated to the conservation of all terrestrial invertebrates? The question remained largely unanswered, but it was aired sufficiently to encourage some debate within the various societies. They now need to decide whether they can "go it alone" or need to pool resources? One possible option that some people had been considering was that Butterfly Conservation could widen its remit to embrace all invertebrates, but Dr Martin Warren, who was one of the speakers, explained that this was not felt to be an appropriate direction for the Society.

Another speaker, Graham Wynne (Director of Conservation for the RSPB), gave the background to the recently published Steering Group Report for the Biodiversity Action Plan (BAP: see above). He perceived the need for invertebrate conservation to be put on a stronger footing, so that we would be able to work effectively through the BAP. He explained how the BAP would be implemented through a series of local BAPs, with either wildlife trusts or local authorities taking the lead.

Other very interesting talks were given by Keith Porter (English Nature), who spoke powerfully about the relative neglect of invertebrates, and Keith Alexander (National Trust Biological Survey Team), who gave an example of the working of a local invertebrate group, based on experience in Gloucestershire.



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NOTICE

It is to be distinctly understood that all views, opinions, or theories, expressed in the pages of this Journal are solely those of the author(s) concerned. All announcements of meetings, financial grants offered or sought, requests for help or information, are accepted as *bona fide*. Neither the Editor, the Officers and Council of the Society, nor its Trustees, can be held responsible for any loss, embarrassment or injury that might be sustained by reliance thereon.

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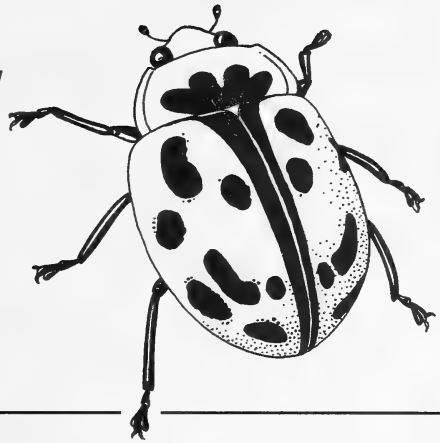
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INVERTEBRATE CONSERVATION NEWS



No. 21, October 1996

Editorial

Some years ago, a well-known conservationist was asked an unusually intelligent question by a BBC interviewer. The question was whether it was justifiable for one taxonomic group (I won't reveal which) to receive disproportionately high conservation expenditure just because the group concerned was exceptionally popular and therefore attracted the generosity of the public. He acknowledged that other forms of wildlife were also important, but was firmly of the opinion that expenditure should indeed reflect popularity. Such a view does not leave much hope for the conservation of invertebrates, perhaps with the exception of the most showy kinds. It is therefore a view that many of us would challenge, but we cannot ignore the fact that we have to work in a world of human likes and dislikes and indeed prejudices. Thus conservation, like politics, is the art of the possible: the things that can be achieved are not always the most justifiable in strictly biological terms.

If a new society for invertebrate conservation is formed in the UK (see below under *News, Views and General Information*), it will need to consider its priorities very carefully. It will be wide-ranging in taxonomic terms, potentially concerning itself with all terrestrial and freshwater invertebrates. This means that any resources that it devotes to individual species will have to be very judiciously targeted. Any such species should be selected not just because people like the look of them, but also because we can learn things of general interest through studying and conserving them.

In practice, the Biodiversity Action Plan (BAP) will for several years be the main factor in our selection of species and habitats for special attention. The species on the BAP lists were not all chosen on the best



of criteria, but they will provide us with a new focus for action. On the other hand, there will always be a need to ask whether we are concentrating our efforts on the right things. For example, how valid is it to devote special funding to the recovery of a species just because it is confined to a few sites? Some species in this position have the potential to flourish again if some of their lost habitats are restored. Others might be declining inexorably for subtle reasons, involving the genetic structure of their populations.

One benefit of learning the habitat requirements of a few species in detail is that we thereby learn some general principles about the complexity of the requirements of many other species. This does not, however, mean that sites should in general be managed for particular species that we happen to like, to the possible detriment of others whose habitats we may harm or destroy in the process. This is more like gardening than conservation, and we should have the humility to accept that our favoured species survived quite happily until recent times without being treated as garden exhibits. A little gardening may be necessary in a few last-ditch cases, but there are more generalised forms of management which can benefit a wide range of species through maintaining structural diversity within the managed areas.

Not only species but also sites can be favoured for questionable reasons. Most of the plant and animal communities that we treasure in the UK have developed largely under the influence of land-use by humans. This is no reason why we should not try to sustain them, but we need to think carefully about the values that we attach to different types of community. To take one example, the habitats of various moorland invertebrates expanded during past millennia with the destruction of upland forests and the resulting loss of soil fertility. If those forests existed today, most conservationists would be up in arms over any attempt to destroy them. This is not necessarily an argument for creating plantations of exotic conifers, but man-made forests, like moorlands, have some ecological value. Indeed, one can even envisage a situation where British conservationists of the future might tie themselves to Sitka spruce trees!



News, Views and General Information

A new invertebrate conservation society?

The editorial in *ICN 20* mentioned the idea of forming a new society for the conservation of British invertebrates. There are of course a number of existing invertebrate societies which work for conservation, and the societies collectively have also long worked through the JCCBI (Joint Committee for the Conservation of British Invertebrates). The JCCBI has sought to win for invertebrates the attention that they deserve within the conservation movement. However, an umbrella group like the JCCBI cannot easily promote active projects, even though it has been a useful forum for discussion and has produced some important advisory documents and codes of conduct. Unlike an individual society, it does not have an executive structure and a home-base from which actions can be instigated and implemented.

As long ago as 1984, the JCCBI tried to find a way of filling some of the gaps in invertebrate conservation. Essentially the choice was then between (a) trying to make the JCCBI more like a society and (b) setting up a new society. On balance, the first option was preferred at that time because a new society would have involved a new administrative and fund-raising structure which might have drained membership and resources from the JCCBI member-organisations. There was also the fear that the conservation role of these societies might be usurped. Although these worries have not gone away, we can take heart from the experience of plant conservationists following the formation of PlantLife. The botanical societies that existed before the new organisation seem to have increased their involvement in conservation and have found ways of co-operating with PlantLife. It seems that the existence of PlantLife has encouraged members of the traditional societies to become more involved in conservation.

As far as competition for membership is concerned, the existing societies offer a range of services and activities which will almost certainly guarantee them considerable loyalty from members. Any new society would, however, need to avoid straying inappropriately into roles that were already being fulfilled by more specialist organisations (such as Butterfly Conservation and the British Dragonfly Society) which already have conservation as a primary aim.

Although the balance of the JCCBI's decision twelve years ago was to doubt the advisability and feasibility of setting up a new society, experience has since shown that the JCCBI could not do the work that was needed. It was for this reason that the question was addressed



again at last February's invertebrate conference in Peterborough. In response to that discussion, the JCCBI Conservation Committee has set up a steering group to examine the feasibility of forming a new society. This involves consulting interested organisations including all the member-organisations of the JCCBI. It is hoped that the JCCBI will vote one way or the other on this important issue at its main meeting in late November.

AES policy on exhibition sales

The availability of items for sale has always been one of the main attractions of the AES Annual Exhibition. Until recent years, the Exhibition was the only venue to offer the chance both to see entomological exhibits and to purchase books, equipment, livestock and deadstock.

The sale of specimens, whether living or dead, has become an increasingly contentious issue. On the one hand there has been an increasing trade in large showy, often tropical, insects which are regarded more for their decorative or curiosity value than for their scientific interest. On the other hand, many people have come to view with distaste the whole business of selling (or indeed collecting) specimens. Although these trends oppose one another, they both mainly involve people whose interest in natural history does not involve in-depth field study. Their views often conflict with the interests and freedom of others whose studies necessitate the collection of specimens or the breeding of species in captivity.

Anti-collecting views are often based on the plight of various vertebrates that have been ruthlessly hunted or persecuted. There are, in contrast, very few invertebrate species that are threatened by collecting, and these can be identified by biological criteria, as defined in the JCCBI policy document on the role of legislation in invertebrate conservation. These criteria have to be considered when species are considered for legal protection in the UK under the Wildlife and Countryside Act (1981). For the vast majority of species that do not meet the criteria, it is nevertheless important that we should give them the respect that they deserve as living organisms that share this planet with us. This does not mean giving up the freedom to study them, and neither does it mean that it is necessarily wrong to make one's living by trading in them. However, we need to question the justification of activities that involve the removal from the wild of large numbers of specimens of any species. Such activities include both trade and the amassing of long "series" by individual collectors.



The AES has a duty to uphold national and international laws, and it also recognises that it has a role in identifying activities that, although legal, are not in the best interests of modern entomology. Earlier this year, it was put to the AES Council that the sale of all deadstock and livestock at the Annual Exhibition should be banned. This proposal was defeated mainly on the grounds that the sale of insects is a major attraction for many of the Society's members. It was also acknowledged that the Society ought not to frown upon activities which are beyond reproach. These include the sale of captive-bred specimens and the supply of specimens from old collections which are very valuable for reference purposes.

The decision made was to impose a selective ban using defined lists: (1) the Biodiversity Action Plan for Britain, prepared by the Joint National Conservation Committee, (2) the International (IUCN) Red Data Book and (3) the Red Data Book. However, on reflection, Council decided that this list was not appropriate and withdrew it for the 1996 event. Council acknowledges that any ruling will carry imperfections and anomalies, but is now asking members to express their views on the trading of livestock and deadstock through the Society. Any comments should be sent to the AES Insect List, PO Box 8774, London SW7 5ZG by 31st January 1997.

The UK Biodiversity Action Plan

an update by Alan Stubbs

On 15th May the UK Government made its long awaited response to the published report of its steering group (see *ICN 20* – ed.).

Just to recap, in June 1992 the Government signed the Biodiversity Convention at the Earth Summit in Rio. In January 1994 it published its report, *Biodiversity: the UK Action Plan* and set up a Biodiversity Steering Group composed of governmental and non-governmental representatives who were asked to prepare costings and recommendations on the implementation of *Biodiversity: The UK Steering Group Report*. With the direct involvement of the Department of the Environment and other arms of the governmental process, it was hoped that this report would be accepted largely fulfilled, since the Government's response in May was positive.

As explained in *ICN 20*, the report recommended three phases of action, represented by the "short", "middle" and "long" lists of species respectively. The short list includes over 100 species for early action plans, of which 43 are invertebrates, and these plans have been



approved more or less in their entirety. Action plans for the species in the middle and long lists for the second and third phases are yet to be drawn up, and there may also be some room behind the scenes to adjust the lists themselves.

As with the listed species, habitats are divided into the first batch, for which action plans are published, and others for which plans are still being written up. For example, one of the approved plans makes a commitment for the re-establishment of 6000 ha of heathland.

The approved report also has implications for broader land-use issues, including underlying Government policies.

Is this too good to be true? Time will tell. Government or, more accurately, certain ministers have made what seems to be genuine commitment, though couched with provisos over the state of the economy. It is also worth noting that the Labour shadow government has made clear that it will adopt the same measures if it is elected.

The Government's response has both positive and negative aspects. On the positive side, it has issued a Command Paper, which is perhaps something stronger than we might have expected. The Prime Minister has endorsed the plans and targets, and all arms of Government are drawn in; not just DoE and the conversation agencies.

On the negative side, the response is weak where extra resources are concerned. (Indeed, the simultaneous cutting of funds to English Nature and Scottish Natural Heritage, with subsequent cuts affecting the Joint Nature Conservation Committee, do not ring well.) Pre-existing action plans are watered down to varying degrees and there is still rather a sprinkling of words that are open to flexible political interpretation. The machinery for implementation could become bureaucratic if it is not handled well. In particular it has, at the time of writing, not yet become clear how far the Government will go in redirecting money that it already spends on countryside subsidy.

The working of the Plan will be overseen by "Implementation Groups", including a UK Steering Group (a smaller version of the original one), "Focus Groups" for Scotland, Wales and Northern Ireland, a "Target Group" and an "Information Group" (for data). Some non-governmental representation is proposed.

All this may sound like cloud-cuckoos flying around an ivory tower, rather detached from the real world. The name of the game is to prevent that from happening and to keep the pressure on the official machine so as to ensure that targets are met.



It is worth reflecting that societies can make a serious impact on results. Early on in the process it looked as though the Government was going to produce hot air and little in the way of tangible new commitments. Fearing a whitewash, six non-governmental organisations (Butterfly Conservation, FoE, The Wildlife Trusts, RSPB, WWF and PlantLife) got together and produced *Biodiversity Challenge* (editions 1 and 2) which set targets for species, habitats and a whole range of policy areas. This made it difficult for anyone to say that targets could not be devised within the short time-scale available. Much of the Steering Group Report resembles a re-edited version of *Biodiversity Challenge* target statements. The message is that if one gets in quickly with an initiative, considerable influence on issues and policies is possible. What is more in this exercise is that invertebrates are given a conspicuous profile in species targets and that much of the thinking on habitats and broader countryside issues is invertebrate-friendly. (This owes something to help from the official side, as well as to voluntary input.)

So what next? There is plenty of scope, and just a few ideas are highlighted here.

- Local Action Plans need an invertebrate input and that is up to local entomologists. Here's your chance. Don't complain afterwards if no one has done the right things. Remember, you can make a difference; contact your local Wildlife Trust office to see how you can be part of the action.
- The re-creation of 6000 ha of heathland and other habitat targets is a wonderful chance to influence the ecological structure of new habitats to suit invertebrates.
- Keep your MP on his or her toes if Government commitment seems to be slacking.
- As a member of societies, help them in their efforts to become effective voices for invertebrate conservation.

The purpose of the Biodiversity Action Plan is to maintain biodiversity in the UK. It means maintaining the range and status of all species, or indeed to enhance status. It means ensuring that common species don't decline, as well as being positive about the rare ones. It means implementing a whole range of habitat action plans and more amenable policies for the wider countryside. And for you, it means that you should be better able to do something towards halting the decline of the animals that you want to be able to go out and see in the future.



We are seemingly at one of the major turning points in wildlife conservation, but we must make very sure through action that it is not a mirage. Collectively, as societies, our strength can grow if we care to use it wisely. Societies need to identify their roles and to consider what new structures may make their voice more effective.

Genetic engineering: fears over “scorpion virus”

Some time ago the AES and other organisations expressed concern over experiments involving a virus which had been modified by the insertion of a scorpion toxin gene. The project was undertaken by the Institute of Virology and Environmental Microbiology at Oxford to investigate the feasibility of using the virus to control lepidopterous pests. Some invertebrate conservationists were worried because the virus concerned, *Autographa californica* polyhedrosis virus, has a very wide host range and can attack many non-target species. In the wild, this virus co-exists with its hosts, but the balance could in theory be disturbed if a more lethal form of the virus were released.

There are strict legal controls over the release of genetically engineered organisms into the wild, and the Oxford team had only got as far as carrying out experiments in an insect-proof enclosure, rather than in the open environment. However, many conservationists were worried that the work was being done out-of-doors and near a site of high conservation value (Wytham Wood, Oxfordshire). The (then) head of the research team, Dr David Bishop, sought to allay any fears by pointing out that the virus would not be capable of becoming generally established in the environment, since it would not persist outside the area of a treated crop. In any case, the first trials had shown that the virus, though more aggressive than the wild type, did not kill the pest caterpillars fast enough to be used commercially. Nevertheless, the latest news that we have was that the US Environmental Protection Agency was not sufficiently satisfied with this evidence to grant permission for field trials.

Evidence for benefits from beetle banks

For many years, the Game Conservancy, Fordingbridge, Hampshire has carried out research to help develop ways of controlling cereal pests by providing habitats for natural predators and reducing the use of pesticides. One of their important findings has been that generalist predators such as carabid and staphylinid beetles are important in keeping pests like aphids at a low level. The more well-known predators like ladybirds become important only when the aphid density is high.



A particularly interesting finding was that some of the staphylinids feed on both fungal pathogens and aphids, so that excessive control of fungi like mildews reduced the staphylinid population and helped the aphids to reach pest proportions. More recently, detailed behavioural studies of these staphylinids, including *Philonthus cognatus* and *Tachyporus* spp., has been helping to identify features of the habitat which could make them more effective as natural control agents. An example is a paper published by P. Dennis and N. Sotherton in *Pedobiologia*, 1984, **39**: 222-237.

Applied research at the Game Conservancy led to the conservation headland system, whereby the edges of an arable field are protected from high pesticide inputs and become refuges for generalist predators. This achieves both the conservation of the invertebrates that can live around field margins and provides a food source for insectivorous game birds which have declined on intensive arable land. For large fields, in which distances from the edges to the field centre are too great for the movement of predators, the beetle bank system was developed. Beetle banks are strips of "weedy" vegetation which cross the field at intervals. The idea has evidently spread to Switzerland, where some recent research seems to support the findings of Nick Sotherton and others at Fordingbridge. A paper by J. A. Lys *et al.* (*Entomologia Experimentalis et Applicata*, 1984, **73**: 1-9) provides evidence of increased abundance of carabid beetles as a result of using a beetle bank system. Overwintering was also enhanced, as shown in some other work by Lys *et al.* (*Pedobiologia*, 1984, **38**: 238-242).

Sites and Species of Interest

Twyford Down motorway route, Hampshire: translocating chalk grassland

The 1995 Annual Report from the Institute of Terrestrial Ecology gives news of early progress in a project designed to re-establish plant and animal communities that were present in an area of chalk downland destined for destruction by the extension of the M3 motorway near Winchester. In the report R.G. Snazell, J.M. Bullock and L.K. Ward acknowledge that other attempts to translocate plant and animal communities have not met with the success that might have been hoped for. However, this scheme involved the use of improved techniques to help overcome problems experienced elsewhere.



The problems in trying to translocate intact turf from a grassland include frost damage and desiccation, leading to the loss of sensitive plant species such as orchids. Also, deep-rooted species may die out because too much of the root system is left behind when the turf is cut. Yet more species can die out after translocation if the receptor site does not suit them. Translocated invertebrates suffer from general disturbance, from loss of foodplants and from the severance of the burrows of subterranean species.

The intention in this project was to help overcome some of the problems of translocation by the use of "macro-turfing", in which the translocated turfs are cut to a thickness of up to 30cm. About 3000m² of turf were transferred in this way from a species-rich site known as the Dongas to another site known as Arethusa A. The Dongas site was destined for destruction, while the status of Arethusa A is not mentioned in the report. A further site on the old A33 road was also selected for restoration work.

It was not possible to cover the whole of the Arethusa A site with translocated turves, and some areas were therefore sown with locally collected seed mixes or planted with pot-grown plants also of local provenance. The seed collections were done with care to minimise damage to the sites of origin.

The success of the project is being assessed through the monitoring of several invertebrate groups such as butterflies, beetles, spiders, true bugs and ants. In 1994, two years after the translocation and seeding, the results looked promising both for plants and for invertebrates. The plant species contained within the turves increased from 56 to 58, and 52 of the 58 species sown as seeds were in evidence. Others, such as the pyramidal orchid (*Anacamptis pyramidalis*) were thought to be present but not yet apparent owing to their slow rate of development. Among the invertebrates transferred with the turf, the spiders *Atypus affinis* (a deep-burrowing species) and *Xysticus acerbus* (a "Notable A" species) were still present. The Chalkhill blue butterfly, which had been a major concern at the M3 Public Inquiry, was present at very high densities.

It will be interesting to see whether the improved methods used at this site will be successful in the long term. The criteria for evaluating success will, however, need to be carefully selected, since there would probably have been some natural changes in species composition and abundance within the Dongas turf even if the M3 had not been extended and the Dongas had been left intact. Also, the new sward in the seed and planted zones of Arethusa A is providing a rapidly changing habitat for invertebrates as it develops.



Even if the project proves to be highly successful in the long run, it ought not to be used as a green light to those who would seek to destroy habitats or damage landscapes for the sake of such things as fast cars or out-of-town hypermarkets. Successful translocation fails to cancel out the fragmentation and nett loss of habitat that brutal developments cause. We must also remember that such developments harm the human environment as well as wildlife habitats. Large-scale translocation is also very expensive (the M3 project was funded by Mott MacDonald Civil Ltd.), and the money involved could perhaps be used to much greater effect in less ambitious forms of conservation work.

Orthoptera in Somerset

The 1996 issue of the Somerset Wildlife Trust's journal *Nature in Somerset* includes an interesting article on grasshoppers and bush-crickets by Elizabeth Biron, the Survey Manager at the county's Environmental Records Centre. This includes some mention of recent changes in distribution patterns of some species. Two species which have been extending their ranges towards Somerset are Roesel's bush-cricket (*Metrioptera roeselii*) which is now present near the Somerset boundary at Bath, and the Long-winged cone-head (*Conocephalus discolor*), which was found breeding within the county in 1995. An already-established Somerset species with an expanding range is the Rufous grasshopper (*Gomphocerippus rufus*) and it is suggested in the article that its colonisation of new sites might pose a problem for conservation management since it requires long turf, unlike the Stripe-winged grasshopper (*Stenobothrus lineatus*) which sometimes lives alongside it but requires short turf. Managers should, we suggest, refer to the AES book *Habitat Conservation for Insects* which explains the need for a mosaic of sward heights, such as can be developed through rotational management.

It may be that warmth-loving insects like Orthoptera are benefitting from hotter summers and/or milder winters, but some species are still in a precarious position due to habitat destruction. One example in Somerset is the Large marsh grasshopper (*Stethophyma grossum*), which is known there only from a nature reserve on the Somerset Levels and has its stronghold in the quaking bogs of the New Forest in Hampshire and in the Wareham area of Dorset. It requires very wet ground, and suffers both from drainage and inundation. After the discovery of the Somerset colony in 1942, the species declined severely in abundance due to peat cutting operations and is now threatened further by the raising of the water table and the resulting flooding of the old peat cuttings.



South Devon undercliffs: survey and review of terrestrial invertebrates

This part of the southern English coast is being surveyed by M. Edwards and C.M. Pulteney for English Nature. The first phase involved the section from Prawle Point to Start Point and comprised both the completion of a review of existing invertebrate data and a survey of neglected groups. This stretch of coastline is now considered to be one of the top two sites in Britain on coastal cliff “head” deposits, and steps are being taken to ensure the adoption of appropriate changes in management, which were suggested as a result of the survey. Further work has been taking place between Axmouth and Lyme Regis, and work is also planned for the Sidmouth to Beer stretch of the Devon coast.

Tree felling at Queen Anne’s Ride, Windsor, Berkshire

The decline of trees in Queen Anne’s Ride prompted the Crown Estate to fell and replace this avenue for historic and landscape reasons. However, the Crown lands at Windsor are of national importance for deadwood invertebrates and fungi, and the trees concerned were an important part of the habitat. Many organisations, including the JCCBI as our umbrella group, wrote to appeal against the felling policy, only to be told that the work was going ahead regardless. However after the felling of about 60 trees, the work was halted, and it became evident that a more enlightened policy had been adopted. English Nature was invited to assess the wildlife potential of the remaining trees. Dr Roger Key of English Nature reports that the remaining oaks in the avenue have been rerieved, but that some of the limes damaged by adjacent cultivation would probably be felled. Also, there were about 200 dead oaks outside the avenue, some of which would have to be felled for safety reasons; this applied to at least 60, which were near roads. Roger has found that most of the dead trees appear to be of value or potential value for saproxylic invertebrates.

Newbury Bypass route

The conflict over the construction of the A34 trunk road bypass at Newbury, Berkshire has repeatedly hit the national headlines in Britain. Newbury is one of many towns that have suffered severe traffic build-up and pollution thanks to the failure of successive governments to develop an integrated transport policy. Thus, the bypass seems to offer a solution to a genuine problem. However, even apart from any doubts about the durability of this solution, the chosen route – to the west of



the town – will desecrate valleys which are both beautiful and of exceptional value for wildlife. Among the area affected is the Rack Marsh Nature Reserve managed by the Bucks, Berks, and Oxon Wildlife Trust (BBONT).

One phase in the Newbury “battle”, which demonstrated the growing public profile of invertebrate conservation, was the parading of a rare wetland snail, *Vertigo moulinsiana*, to stop the bypass. This species is one of about 120 that form the Biodiversity Action Plan “short” list, and the argument was that destruction of its habitats was contrary to the Government’s endorsement of this plan under its international commitment to the Rio Convention. The valleys of the Lambourne and Kennet, both of which lie in the way of the bypass, contain the most important British populations of this snail. Although the construction of the road will not wipe out all the colonies of *V. moulinsiana*, it will destroy some important ones and will probably threaten others in the long term owing to alterations in drainage patterns.

A recent issue of the BBONT’s *Wildlife News* mentions that there are other very rare wetland species which will suffer from the bypass scheme. This include the water beetle *Rbantus suturellus* and the caddis flies *Matelype fragalis* and *Ylodes conspersus*.

Contrary to all the reasoned arguments against the scheme – arguments which came from statutory as well as voluntary conservation bodies, it is now going ahead. Not only is it going ahead, but the design of the road is even more harmful than need have been the case. Where the route lies along or crosses the valley floors, the road will be built on embankments rather than viaducts, so that the impact on the landscape, on drainage patterns and on the dispersal patterns of invertebrates will be severe. It is hard to believe that this would all be happening if the planners had been required to carry out and act upon an environmental impact assessment. Under a current EC Directive, such an assessment would have to be carried out for any newly-proposed scheme. However, the Newbury Public Enquiry pre-dated this Directive. We can only hope that this might be the last time that a scheme of such national significance can be forced through without proper regard for the environment.

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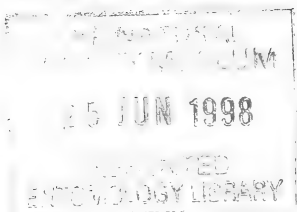
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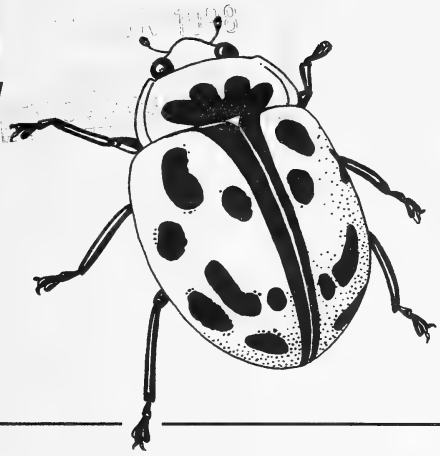
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INVERTEBRATE CONSERVATION NEWS



No. 22, February 1997

Editorial

This issue of *ICN* contains a new section on research relevant to invertebrate conservation. Research news has always figured in *ICN*, but we hope that the new section will give it more prominence.

Many of our previous items of research news have concerned the biological control of pest species. Only a very small proportion of invertebrate species are serious pests, but they have to be controlled somehow. In many cases, this has involved the use of broad-spectrum pesticides that harm populations of non-target species. Such chemicals can sometimes be wholly or partly replaced by biocontrol agents (including other invertebrates, vertebrates and micro-organisms), and there have been successful examples of this over many decades. On the other hand, the use of chemicals has grown much faster than biocontrol and is increasingly seen as a problem in relation to the health of humans and domestic animals as well as the survival of non-target wildlife. Unfortunately, unsuitable non-native biocontrol agents can also harm non-target species, and the harm is perpetuated because they are often able to multiply in the environment. Indeed, there have been some disastrous cases where indigenous plants and invertebrates have been wiped out. In *ICN* we will continue to report both good and bad stories about biocontrol.

There are various research projects aimed towards conservation management. Some of these involve detailed studies of the habitat requirements of particular species, as in the case of the Large blue butterfly, *Maculinea arion*. This insect was re-introduced to Britain after becoming extinct in the late 1970s, and the success of re-introduction depended on a very detailed knowledge of its habitat requirements. Of particular importance was the work of Dr Jeremy Thomas who



discovered that the ants associated with the butterfly had to be of a certain species, *Myrmica sabuleti*. Studies involving single species help not only to benefit those species, but can also provide some insight into the range of habitat requirements of a much wider range of species. On the other hand, there is an increasingly recognised need also for a broader-brush approach. The elucidation of very detailed habitat requirements can only be directed towards a tiny proportion of endangered species, and in any case needs to be complemented by other research on the population dynamics of invertebrate populations. In particular, we need to know the requirements for the size and proximity of habitat sites in order to allow the natural replenishment of colonies following chance local extinctions.

An area of research that holds particular interest for amateurs concerns the effects of re-introducing or augmenting invertebrate populations. The advisability of this has long been called into question, disappointingly so for some people. On theoretical grounds, re-introductions might harm other species in the release site, while augmentations could also perhaps adversely effect the genetic structure of receptor populations. For these and other reasons, the Joint Committee for the Conservation of British Invertebrates has published a code for carrying out work of this kind. There is, however, a need for better research-based guidelines, and this need has been confirmed in a recent review of the effects of translocations conducted by members of the Institute for Terrestrial Ecology (*ITE Report for 1995-6*, p. 48-51). It is perhaps worth recalling from the early 1970s, that the erstwhile AES Conservation Group proposed a project (which was rejected) to assess the effects of re-introducing the Adonis blue butterfly (*Lysandra bellargus*) to a site in the Chiltern Hills in England.

News, Views and General Information

AES policy on exhibition sales

As mentioned in *ICN 21*, the Council of the Amateur Entomologists' Society has been reviewing its policy on trading at the Society's annual exhibition. In the past, the Society's main concern was to ensure that traders were abiding by UK and international laws for the protection of species deemed to be at risk from commercial exploitation. However, there is also cause for concern over some species that, although not protected by law, are collected from the wild in great numbers for trade. Also, quite apart from species protection, the Council supports the growing view that it is better to gain enjoyment from the many



ways in which invertebrates can be studied as living organisms than to trade in specimens as though they were postage stamps or household ornaments.

The prominence of trading in invertebrates at the AES Exhibition has come in for some criticism at a personal level in recent years, and the matter was eventually discussed by the Society's Council, prompted by a letter that had been sent to the AES President. The Council felt that an undue emphasis on trading was helping to perpetuate a negative image of entomology. Its initial decision was to prevent exhibition sales of all species included in a range of national and international lists denoting some degree of vulnerability. It was realised from the outset that this was a compromise which might not achieve a desirable change in the flavour of the Exhibition. Equally, it was bound to rankle with those who, quite logically, believe that the only valid rôle of controls is to protect species demonstrably at risk from such exploitation; not to impose morality. The proposals attracted strong objections, not least because of the glaring anomalies embodied in some of the red data and other listings. The Council therefore decided to lift the restrictions, pending a period of consultation with interested parties. Comments and suggestions have been invited via the main AES *Bulletin*, and will be carefully considered by the Society's Conservation Committee and Council. However, it seems from the very nature of the controversy that there is probably no fundamentally correct solution.

Coppice for Butterflies Challenge

As mentioned in the Autumn/Winter 1996 edition of *Butterfly Conservation News*, the Forestry Authority (Great Britain) has launched the above-named scheme as part of a package of grants which represent the FA's response to the report of the Biodiversity Steering Group (UK). Coppicing provides the warm sunny conditions required by woodland butterflies, and probably compensates for the absence of natural glades and gaps in the tree canopy which would have occurred in the primal forest. In managed woodlands, several of these butterfly species have become largely dependent on coppicing and have suffered greatly following its abandonment in most parts of Britain. There is therefore considerable justification for the restoration of coppicing to help save these and other invertebrate species from further decline. On the other hand, great caution is needed to avoid excessive damage to habitats that have developed in neglected coppice and in areas that were not formally coppiced. The "do's and don't's" are very well set out in Paul Waring's section of the AES handbook on insect conservation.



The FA project involves eight regions which are thought to contain abundant restorable coppice and to support low populations of eight targeted butterfly species. The regions were selected in collaboration with Butterfly Conservation (BBCS), towards its New Life for Old Woods Campaign, supported by Land Rover. The discussions involved Dr Martin Warren of BBCS and Fred Currie, the FA's Wildlife Conservation Officer, assisted by information sent in from BBCS branches. There was also consultation with Dr Keith Kirby of English Nature. Within the eight regions, woodland owners are being invited to submit proposals for FA grant-aid, initially on a three-year basis. The targeted species are as follows: the Wood white (*Leptidea sinapis*) and five fritillaries; the High brown (*Fabriciana adippe*), Heath (*Mellicta athalia*), Pearl-bordered (*Clossiana euphrosyne*), Small-pearl-bordered (*C. selene*) and Duke of Burgundy (*Hamearis lucina*). Also, beyond the eight regions, one-off payments of up to 50% of cost are available for certain types of management for restoration of "neglected" woodlands.

Road verge nature reserves; the Nottinghamshire approach

Roadside verges, when sensitively maintained, are a good wildlife habitat, often lying between the hostile carriageway and hardly less hostile intensive arable fields. As linear habitats, they may also help to provide "corridors", although this remains a debatable issue, as with hedgerows. Unfortunately, over-zealous mowing or mowing at unsuitable times of year has often reduced floristic diversity and wiped out invertebrate colonies. In response to such problems, the Nottinghamshire Wildlife Trust is working with the County Council to establish verge reserves.

The Nottinghamshire Council has already listed 27 verges as reserves, of which the longest, as reported in the Trust's Autumn 1996 newsletter, is one of 3000 metres at Gamston. The shortest is only 10 metres long, at North Collingham. To date, 17 butterfly spp. have been recorded on verges in the county, although no mention is made of other invertebrates. At least for butterflies and plant diversity, the use of two cuts per year and the removal of the mowings seems to be suitable. However, it can be inferred that some consultation with specialists with knowledge of other invertebrate groups would be useful here. At three of the verge reserves, farmers do the mowing and remove the produce for hay.





News from AES Area Representatives

Compiled by the AES Habitat Conservation Officer, Martin Harvey.

The twelve AES Area Conservation Representatives had a busy year in 1996. Between them they were involved in recording and surveying invertebrates, advising on conservation at particular sites, writing management plans for good invertebrate sites, helping to save local sites under threat and liaising with county Wildlife Trusts, the Royal Society for the Protection of Birds and many other groups. We could, however, achieve even more for invertebrate conservation if more of our members were willing to get involved! We would welcome new representatives for parts of the British Isles not already covered, and the most common request I get from existing Reps is "how can I find more entomologists to help with local recording and conservation?" With the current emphasis on biodiversity, more and more organisations such as Wildlife Trusts and local authorities are keen to know how they can help conserve invertebrates, and there just are not enough entomologists to go round. I know that entomologists tend to be very busy people, but if you are able to help with recording, habitat management or any other aspect of conservation, please get in touch with your local Rep. The following are brief summaries of the activities of AES Conservation Reps during 1996. I was unable to contact all the Reps in time for this issue of *ICN*, so my apologies for the gaps in coverage for some counties.

Cheshire Area Rep: Dr Paul Griffiths, Vailima, Broomhall, Nantwich, Cheshire. Tel: 01270 780626.

One of Paul Griffiths' major projects this year has been the writing, with other local naturalists, of a management plan for Sound Common, a local nature reserve near Nantwich. The proposed management for this site was for heathland restoration, although heathland currently forms only a small part of a mosaic with damp woodland and bog. These non-heathland habitats are associated with the rarest species at the site, including several invertebrates, and Paul's group were concerned that this had been overlooked. This case is a prime example of how the needs of invertebrates can easily be overlooked if there is not a concerned entomologist "on-site" to raise their profile. We hope to publish an account of this project in a future issue of *ICN*.

Cleveland Area Rep: Ian Mascall, 18 Alberta House, Highfield Road, Middlesbrough, Cleveland TS4 2NP.

Ian Mascall is the latest AES member to sign up as an Area Conservation Rep. He is particularly interested in butterflies, moths and



dragonflies. Like other Repts, he would be keen to hear from other AES members who would like help with conservation in the area. Ian has supplied the following report on some of his recent projects:

Recently I have become heavily involved with my local Cleveland Wildlife Trust, giving people advice on various plants to cultivate in woodlands and private gardens. At present I visit local reserves during my work-experience training to NVQ Level 2 in conservation. While on site, I have been doing butterfly surveys, recording numbers and species present, and noting the plant species for possible breeding sites.

Coatham Marsh, Redcar: This site is very important for wading birds in winter, but is also abundant with butterflies during the summer months. The summer of 1996 was the best for many years, especially for the Common blue (*Polyommatus icarus*), which was plentiful; sometimes 20 specimens were seen in the space of an hour. Small tortoiseshell (*Aglais urticae*) larval nests were to be found at the bottom of the fence, protected against the north-east wind. Also plentiful were Small heath (*Cecononympha pamphius*) in the grassy areas.

I have yet to do a mothing night on the reserve, but I do know that Drinker moths (*Philudoria potatoria*) are plentiful, having found many of their larvae on the grasses. Five-spot and Six-spot burnets (*Zygaena trifolii* and *Z. filipendulae*) are also common. This site is typical marshland with lots of *Phragmites* reed and other marsh plants. It also has a few patches of Hairy willowherb, which is the foodplant on this site of the Elephant hawk moth (*Deilephila elpenor*).

Saltburn Gill, Saltburn on Sea: This site on the north-east coast is a woodland set in a valley, and the Cleveland Trust has been monitoring it for some years now. It comprises mixed woodland with oak, beech, birch, willow and hazel, but has areas of bracken on the grassy slopes. It also has quite a few patches of blackthorn. This site has a good population of butterflies, and we are pleased to find that our colony of Commas (*Hesperia comma*) is still thriving.

The Gill has a stream running through it, but the stream is dead due to the old mines above it which have contaminated it with iron ore, leaving it rust-coloured. However, the banks and sides are very rich in fauna and flora, and all the common butterfly species are present. One species that has increased recently is the Orange-tip (*Anthocharis cardamines*). Its foodplant, garlic mustard, has been very successful and many adults were noted in May and June.



These are just two sites of interest, but if any members have other records for these sites, or know of other sites in Cleveland worthy of interest please let me know. For instance, does anyone know of any White-letter hairstreak (*Strymonidia w-album*) colonies near Hartlepool?

West Yorkshire Area Rep: Dave Hemingway, 13 Ashdene Garth, Crofton, Wakefield, West Yorkshire WF4 1PH.

Eire National Rep: Tim Lavery, Farnes, Castlemaine, County Kerry, Eire.

South Wales Area Rep: Neil Jones, 31 Drummau Road, Birchgrove, Swansea SA7 9QA.

Tel: 01792 813600, e-mail: neil@nwjones.demon.co.uk

Worcestershire Area Rep: Geoff Trevis, 14 Old Coach Road, Droitwich, Worcestershire WR9 8BB. Tel: 01905 774952.

Geoff's activities this year have been focused on establishing local recording schemes for Worcestershire Wildlife Trust. He is in touch with several local entomologists, but he echoes the pleas of other AES Reps for more entomologists to get involved in local recording, particularly for the less well known groups of invertebrates.

Buckinghamshire Area Rep: Roger Kemp, "Pipistrelles", Kemp's Farm, Chapel Road, Ford, Aylesbury, Buckinghamshire HP17 8XG.

Tel: 01296 748932.

Roger Kemp has continued to monitor several local butterfly sites, including a private woodland with a good Black hairstreak (*Strymonidia pruni*) colony. Over the last couple of years the Brown argus (*Aricia agestis*) has spread in Bucks. (and elsewhere) to new sites where its normal foodplant, Common rock-rose, does not grow. Roger is studying the feeding habits of Brown argus caterpillars which have colonised his garden, feeding on Cut-leaved crane's-bill in this case. Other activities include supplying information to the local Wildlife Trust for their "Biodiversity Challenge" project.

Cambridgeshire Area Rep: Robert Partridge, 11 New Road, Mepal, Ely, Cambridgeshire CB6 2AP. Tel: 01353 776082.

Last year Robert Partridge reported on some old elm trees in his village, which had been threatened with felling despite being designated with Tree Preservation Orders. Felling was postponed, but Robert has continued to monitor the trees, as some have died this year and may come under threat of felling again. The living trees are thriving, and



Robert found White-letter hairstreaks (*S. w-album*) on them this year, making this only the third colony known in Cambridgeshire. Another local threat comes from a proposed landfill site; Robert's local knowledge has enabled him to provide species lists for nearby sites that could be affected by polluted ground water, so that the local authorities can take these into account in their environmental statement for this proposal. Robert continues to record moths for the RSPB at Ouse Washes, and is representing the AES on the East Cambs. Forum, a group of active naturalists set up to advise the county Wildlife Trust. The most unusual of Robert's projects, however, must be a survey of the prey of the Golden oriole, a scarce breeding bird in eastern England. Among the prey items that Robert has identified are caterpillars of the Herald (*Scoliopteryx libatrix*) and Poplar hawkmoth (*Laotioe populi*), and adults of the Hornet clearwing (*Sesia apiformis*).

East Hertfordshire/West Essex Area Rep: Charles Watson, 19 Thorley Park Road, Bishop's Stortford, Hertfordshire CM23 3NQ.

North-east Essex Area Reps: Nigel Cuming/Jerry Bowdrey, c/o 33 Holly Road, Stanway, Colchester, Essex CO3 5QL. Tel: 01206 330019.

Nigel Cuming and Jerry Bowdrey are active recording a variety of invertebrates, especially beetles, on sites in north-east Essex. They have been working closely with the RSPB and the Colchester Natural History Society, and would be pleased to hear from any other AES members who could help with this valuable survey work.

Somerset Area Rep: Roger Sutton, 16 Ashford Road, Wellington, Somerset, TA21 8QF. Tel: 01823 663510.

In a recent AES *Bulletin* (June 1996, Vol. 55 pp. 105-121) Roger Sutton reported on the butterfly reserve that he purchased in the 1970s and has been involved with ever since. Management of this site and work with the local branch of Butterfly Conservation continue to take up much of Roger's time, and he is also active in the butterfly group for his local Wildlife Trust.

Berkshire Area Rep/Habitat Conservation Officer: Martin Harvey, 10 Kiln Ride, Upper Basildon, Berkshire RG8 8TA. Tel: 01491 671889, e-mail: mh@naturebureau.co.uk

A number of requests have come from the local Wildlife Trust for information on invertebrate species. Often this has been in connection with the species that are listed on the various biodiversity lists, both the "official" government steering group list and a variety of other local lists. Invertebrate recording has been carried out on a variety of sites,



including National Trust properties and privately-owned SSSIs. Martin has given talks and led field meetings for local societies, and led two “bug-hunts” for local children.

Kent Area Rep: Tony Steele, 57 Westfield Road, Barnehurst, Kent DA7 6LR.

Most of the AES Reps are working on local projects of one sort or another through their county Wildlife Trusts, and this is undoubtedly a good way to promote invertebrate conservation before a wide and sympathetic audience. Many Trusts are having to find out more about the invertebrates on their reserves as part of the current activities focusing on biodiversity conservation. There has never been a better time for entomologists to get involved in local conservation and I hope that as many AES members as possible will do so, either through the Reps or their own efforts. Please contact me, Martin Harvey (address above), if you would like any more information about the AES and conservation.

Research Notes

In the past, *ICN* has carried many items on research relevant to invertebrate conservation. Now we are giving research a section of its own, although some research-related items may still appear in other sections such as “Sites and Species of Interest”. The items below have been compiled by Owen Lewis of Leeds University. He has been casting his eye over recent issues of zoological and conservation journals, and has attempted to summarise some of the more interesting papers. We hope that this will be useful to *ICN* readers who do not have convenient access to an academic library. In the space available we can only pick out some of the more interesting aspects of the papers that Owen has found, and anyone wanting to read the full story should obtain copies of the original versions.

Carabid beetles shed new light on site evaluation and management

The articles reviewed in this issue come from a special issue of *Annales Zoologica Fennici* **33**: 1-241 entitled “Population biology and conservation of Carabid beetles”. The issue, edited by Jari Niemelae, includes contributions to the 3rd International Symposium of Carabidology (Kaunianen, Finland, September 1995), and several of the articles are of conservation interest.



Carabid beetles have become popular tools in conservation research because they can be sampled easily and consistently using pitfall traps. This has allowed them to be used in environmental assessments. In a study entitled *Ecology and conservation of heathland Carabidae in eastern England* (pp. 133-138), M.G. Telfer and B.C. Eversham carried out surveys of carabids in Breckland, the Humberland peatlands (for example, Thorne and Hatfield Moors) and the cover-sand heaths of Lincolnshire (for example, Risby Warren). The Brecklands of East Anglia have a very rich carabid fauna (167 of approximately 350 species known from Britain), including one species – *Cymindis macularis* – confined to the area. Telfer and Eversham compared the carabid faunas of different habitats within Breckland. Breckland reserves proved not to have a rich, characteristic or threatened assemblage of carabids. In contrast, a previously unrecognised habitat category, “traditional arable”, supported the majority of the Breckland carabid fauna, and individual species also appeared to be more abundant there than on the grass heaths usually recognised as the most important Breckland habitats. The exceptions were carabids which are specialists on sand-dune and ling (*Calluna*)-dominated habitats. The “traditional arable” habitat is mechanically disturbed each year, has a low, sparse vegetation dominated by annual plants, a high percentage of bare ground and a southerly aspect. It is not a habitat that would be recognised as of conservation importance on botanical grounds.

Further support for the use of invertebrates in conservation evaluations comes from surveys carried out on Hatfield Moors. Six vascular plant species and eight bryophyte and lichen species, all nationally common, were found in a 4m² quadrat on this site. A pitfall trap and a water trap in the same quadrat produced 346 insect species; one of these was new to Britain, three were endangered (Red Data Book Category 1) and 15 (three of them carabids) were nationally scarce! Telfer and Eversham argue that botanically-guided selection and management of the heathland sites have failed to protect a large proportion of the carabid fauna in the areas they studied.

Sowing of wildflower meadows to replace ryegrass is generally seen as a beneficial conservation activity, and is actively encouraged by many conservation organisations. Increases in plant diversity resulting from such activity are easy to monitor, but what effect does the creation of wildflower meadows have on the invertebrate fauna? In a study by S. Blake, G.N. Foster, G.E.J. Fisher and G.L. Ligertwood (*Effects of management practices on the carabid faunas of newly established wildflower meadows in southern Scotland*) the carabid fauna of nine



sites was monitored between 1989 and 1993, with a total of 67 carabid species being recorded. The sites varied in the height of the sward and in the degree of management applied. In general, sowing of wildflower meadows did increase carabid diversity. However, managed grassland sites of all kinds – including wildflower meadows – had a carabid fauna quite distinct from unmanaged semi-natural habitats, and there was no evidence that wildflower meadows had been colonised by the carabid fauna from unmanaged habitats nearby. Colonisation – if it can occur at all – must take at least five years. It would be interesting to see how other invertebrate taxa are affected by wildflower meadow creation and management. Insects feeding on herbaceous plants, and species like hoverflies, bees and butterflies which require nectar or pollen resources as adults might respond very differently from most carabids.

In another interesting paper, B.C. Eversham, D.B. Roy and M.G. Telfer (*Urban, industrial and other man-made sites as analogues of natural habitats for Carabidae*) argue that the decline in natural and semi-natural habitats in the UK has to some extent been offset by the creation of new man-made habitats which re-create the specialised conditions required by certain carabids. While specialist species have declined more than generalist species in the UK, some specialist species have maintained or even expanded their range – the authors argue – by colonising newly created man-made habitats. For example, flooded colliery spoil at Bell's Pond in South Yorkshire has high salinity, and has been colonised by the saltmarsh species *Bembidion minimum* and *B. iricolor*. Similarly, quarries and railway lines are occupied by species more typical of inland cliffs and scree, and cave or burrow dwellers like *Laemosthenes complanatus* and *L. terricola* inhabit cellars and stables. Thirty-five percent of rare and scarce carabids now occur in what most non-entomologists would consider very poor quality habitats.

Sites and Species of Interest

Dragonflies in Surrey

The Surrey Wildlife Trust produces a newsletter for biological recorders working in the county. The November 1996 issue (No. 5), includes several interesting items about invertebrates. Mike Thurner writes about the first county record of the dragonfly *Libellula fulva* (Scarce chaser) by the River Wey. This sighting, made by Peter Follett, author of *Dragonflies of Surrey*, followed some previous sightings along the Hampshire stretch of the Wey, the first of which had been made during a meeting of the Alton Natural History Society. By contrast, another



species, *Leucorrhinia dubia*, seems to have disappeared from Surrey, and the reasons for this are reviewed in an article by Mike Thurner and Alison Tutt. They point out that it is mainly a boreal species, which used to have its most southern British colonies in Surrey. It was first recorded there in 1921, but in recent years seemed to remain established at only two sites; Wisley Common until 1977 and Thursley Common until 1992. Occasional sightings elsewhere continued until 1995, but there were none in 1996. Apparently, the last habitat at Thursley was an artificial crater, and plans to blast new ones there have now been implemented.

Invertebrate studies funded by English Nature

Surveys of the following species and sites are listed in the 1996 edition of *English Nature Science*.

- Biodiversity Action Plans
 - Invertebrates of the South Essex Terrace gravels.
- Autecological studies and species recovery:
 - Ladybird spider (*Eresus niger*); investigation of old and recent sightings and captive breeding project.
 - A ground beetle (*Panagaeus crux-major*); review and survey of status and study of habitat requirements with a view to a recovery programme.
 - Blue ground beetle (*Carabus intricatus*)
 - New Forest cicada (*Cicadetta montana*); monitoring of population changes, survey of potential releasing sites and assessing feasibility of captive breeding.

The New Forest cicada project is also mentioned in a recent issue of the magazine of the Hampshire and Isle of Wight Wildlife Trust. In conjunction with the English Nature contractor, Dr Lena Ward of Furzebrook Research Station, the Trust is helping to locate any populations that are not yet known. To this end, it has been appealing for volunteers to listen out for the high pitched song of the male cicada during May and June. Older members or those with impaired hearing need not apply!

Castlemartin Ministry of Defence firing range, Pembrokeshire

Michael Griffith, Chairman of the Countryside Council for Wales has highlighted several areas of interest in an article published in the MoD's conservation magazine, *Sanctuary* 25: 1996. One of these is the Castlemartin Range in Pembrokeshire, which is partly designated as an SSSI and is a candidate as a Special Area of Conservation by virtue of its



maritime limestone cliff flora. The same issue of *Sanctuary* includes an article by Richard Ellis on the area's dragonfly fauna. He is a member of the local Recording and Advisory Group, and Warden of the National Trust's adjoining Stackpole Estate.

Mr Ellis writes that the Castlemartin Range includes some excellent dragonfly habitat, especially at its western end, where there is an old ruined mill (Frainslake Mill). Upstream of the mill, a pond by a disused pumphouse provides habitats for five species, including the two largest of Britain's dragonflies, the Emperor (*Anax imperator*) and the Golden-ringed dragonfly (*Cordulegaster boltonii*). The others are the Common darter (*Sympetrum striolatum*), the Hairy dragonfly (*Brachytron pratense*) and a spectacular species of damselfly, the Banded demoiselle (*Calopteryx splendens*). The Hairy dragonfly is of particular interest, as it is mainly a southern species within Britain, with few outposts in west Wales.

With the Range as a whole Mr Ellis has so far recorded ten species of Odonata, although the relevant 1km squares only chalked up six species in an atlas that appeared in 1985. He expects to add at least three and possibly six more, which have been found just outside the boundaries of the Range; these include the Scarce blue-tailed damselfly (*Ischnura pumilio*), the Black-tailed skimmer (*Ortbetrum cancellatum*) and the Yellow-winged darter (*Sympetrum flaveolum*).

Future Meetings

AES conservation field meeting

Geoff Trevis, AES Area Rep for Worcestershire, and Martin Harvey, Habitat Conservation Officer, will be leading a field meeting on 2nd August at the Devil's Spittleful reserve, near Kidderminster, Worcestershire. The meeting starts at 10.30am, and we will also be running moth-traps in the evening, meeting at 8.00pm. Devil's Spittleful is a nature reserve for the Worcestershire Wildlife Trust, and is one of the few remaining areas of heathland in the county. A number of heathland invertebrates have been recorded from the site, and we hope to add significantly to knowledge of the invertebrate interest of the site during this meeting. Geoff Trevis is involved with promoting invertebrate recording in Worcestershire, and is keen to make contact with entomologists who record in the county. This meeting is joint with the British Entomological and Natural History Society. Please contact one of the leaders in advance if you wish to attend, and to find out the exact meeting point. Geoff Trevis (01905) 774952 or Martin Harvey (01491) 671889).

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NOTICE

It is to be distinctly understood that all views, opinions, or theories, expressed in the pages of this Journal are solely those of the author(s) concerned. All announcements of meetings, financial grants offered or sought, requests for help or information, are accepted as *bona fide*. Neither the Editor, the Officers and Council of the Society, nor its Trustees, can be held responsible for any loss, embarrassment or injury that might be sustained by reliance thereon.

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Invertebrate Conservation News



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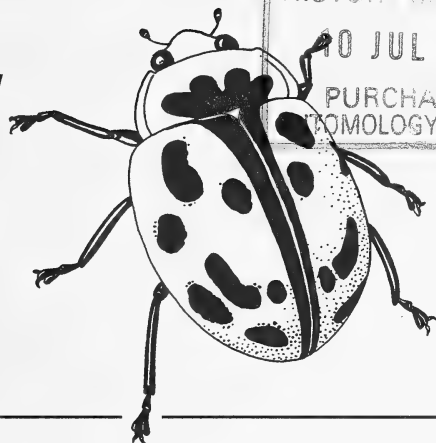
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INVERTEBRATE CONSERVATION NEWS



No. 23, June 1997

Editorial

We report in this issue of *ICN* that the prospects of forming a new UK organisation for invertebrate conservation remain uncertain. Apart from the question of funding, it has to be admitted that support for this initiative seems to be just a little less than wholehearted, judging by the results of the consultation with the councils of the existing invertebrate organisations. Many people are in full support, but doubt whether a “creepy-crawly” conservation society would have much public appeal. Others have expressed very reasonable reservations about the creation of yet another society with consequent costs and its own administration, even though accepting that a more effective structure is needed.

A few people still think that it is sufficient for the various organisations to pursue conservation in their separate ways, while cooperating only in the sense that they meet twice-yearly under the umbrella of the Joint Committee for the Conservation of British Invertebrates. The arguments for and against this view were set out in *ICN 21*.

Although the initiative has received enough support to justify further efforts, there is a need for the membership of the invertebrate organisations to join in the debate, and to this end a second conference has been arranged at Peterborough in the early autumn. This conference could prove to be “make or break” for the initiative, and so we draw readers’ attention to it: please see the section on future meetings.



News, Views and General Information

Educational slide pack

The AES and English Nature have jointly funded the production of an educational slide pack, comprising 48 pictures of British invertebrates and their habitats. Four major habitat types are represented; woodland, wetland, grassland and heathland. Together with its commentary notes by Roger Key of English Nature, the pack can be used for promoting a general awareness of invertebrates in conservation, and for giving advice to site managers and wardens.

We are indebted to those members of the AES, English Nature and JNCC who freely lent their slides for copying. Among the many hundreds of slides that were considered, a high proportion were of superb quality, and it was a very hard job to select only 48. We hope to recoup part of the cost (£3000) through sales, and then perhaps to publish a supplementary pack (or even a CD-ROM version), to cover additional habitats including those in the uplands and on the coasts. Packs are available at £25 each plus p&p, (total £26.20) from Martin Harvey, 10 Kiln Ride, Upper Basildon, Berkshire RG8 8TA.

Amateur Entomologists' Society policy on exhibition sales

Following the consultative period mentioned in *ICN 22*, the AES has adopted a revised policy on trade in specimens at the annual exhibition and through its Wants and Exchanges list. The need was to demonstrate that the AES wishes to facilitate only those forms of trading which are in the interests of the proper study of invertebrates, and which are not a threat to their populations in the wild. The new guidelines seek assurance of *bona fide* activities on the part of traders, rather than imposing restrictions which go far beyond the legal requirements. They are being issued as a policy statement to traders, which runs as follows:

The Society provides facilities for trade through its Wants and Exchanges list and its Annual Exhibition. It does so to help fulfil its overall aim of furthering the study of insects, which can only be pursued effectively through the observation of dead and living specimens, with the aid of books and equipment.

The Society does not believe that trade in invertebrates is generally detrimental to populations in the wild, but recognises that such harm is possible where species are



already in serious decline for other reasons, or where they are being over-exploited. The Society further believes that it is preferable for traders to obtain their specimens through captive breeding or *bona fide* ranching systems rather than through capture from the wild, as an assurance that natural populations and their habitats are not being harmed.

In accordance with this policy, the Society's rules for trade at its annual exhibition and through its Wants and Exchanges list are as follows:

1. Species that are protected under all the provisions of Schedule 5 of the Wildlife and Countryside Act (1981) or for which there is a total ban on international trade under CITES may not be offered for sale.

2. Species that are listed in Schedule 5 of the above Act as protected from trading, except by licence, may not be offered for sale unless the licence number is provided by prior application to the appropriate officer of the Society; *i.e.* the Exhibitions and Meetings Secretary or the Wants and Exchanges Editor. At the annual exhibition, the licence number must be prominently displayed on the trader's stand.

3. There is no restriction on trade in species not included in categories 1 and 2 above. Traders are, however, requested to provide their customers with information on the origins of all live or dead specimens on sale. The Society suggests that this information should be based on the following categories:
 - (a) Captive bred, from self-sustaining stock.
 - (b) Reared from wild-caught immature stages, including gravid females.
 - (c) Wild-caught (in whatever stage is offered for sale).
 - (d) Bred from a *bona-fide* ranching scheme.
 - (e) Specimens from old collections.



Traders must note that, although this information is requested, rather than required, further details must be provided if the specimens are stated to be derived from categories (d) or (e). These details are as follows:

Category (d) – the address of the ranch or ranching agency

Category (e) – the origin of the collection and the year in which the specimen was collected.

A new organisation for invertebrate conservation?

In *ICN 21* we commented on the revived interest in the possible establishment of a new UK organisation to promote invertebrate conservation. Since then, there has been a lot of work behind the scenes, investigating the feasibility of several options, ranging from the launch of a full-blown society to the establishment of a non-membership trust.

The member-organisations of the Joint Committee for the Conservation of British Invertebrates (JCCBI) were asked for their views, and this took a while owing to the timing of their various Council or Committee meetings. There was a majority in favour of forming some sort of new structure, though not necessarily a new society. The lack of unanimity in this matter was perhaps surprising, in view of the difficulties that we have in trying to obtain for invertebrates a little more of the conservation status that they deserve. Many years ago, we tried to pursue the alternative option of co-ordinating the work of the existing invertebrate societies under the JCCBI umbrella, but this did not work, as explained in *ICN 21*.

The need for more effective organisation is exemplified when we consider how difficult it is to communicate effectively with the makers of national and international conservation policies. Some of these policies apply to invertebrates (*i.e.* the great majority of the world's fauna), but they are based mainly on the needs of vertebrates and plants. An example of the resulting deficiencies is the inadequacy of the ecological criteria for selecting Special Areas of Conservation. There is also a failure to take account of the dynamics of invertebrate populations and of the difficulties in surveying them. This failure is now causing problems over the proposed criteria for international Red Data Book listings. Equally, in the absence of proper advice from invertebrate zoologists, some countries have misguidedly enacted draconian and useless laws against the collecting of invertebrates, while doing little or nothing to protect their habitats.



Now that the overall view in favour of a new structure has been confirmed, the JCCBI is continuing to assess, via a steering group, various options which would be both financially viable and acceptable to the existing invertebrate organisations. There was a reasonable hope of securing part-funding through a major wildlife charity, but this hope has receded, at least for the time being. If any progress is made, it will be reported in *ICN*. Meanwhile, the steering group will continue to explore possibilities for funding, and to seek assistance from people with the expertise and business acumen needed to establish a successful organisation. Anyone who can offer such expertise is invited to offer his or her assistance: please write to Alan Stubbs, 181 Broadway, Peterborough, Cambridgeshire PE1 1UA.

In view of the need to open up the discussion to the membership of the societies, as well as to their elected representatives, a second "Peterborough conference" has been arranged for 27th. September 1997 (see the section on future meetings).

News from AES Area Representatives

Compiled by the AES Habitat Conservation Officer, Martin Harvey

We now have thirteen Area Reps in the British Isles, and would very much like to hear from anyone who would like to become a Rep for one of the counties or regions not already covered (see a recent issue of *ICN* for the list of Reps). The existing Reps would in turn like to hear from members with offers of help in recording and conservation.

Cleveland: Ian Mascall, AES Area Conservation Rep for Cleveland would like to receive any reports on numbers and species of fritillaries and hawk moths in the Cleveland area and the North York Moors. Any sightings or details of colonies would be welcome so that he can get a picture of the numbers present. Please contact Ian at 18 Alberta House, Highfield Road, Middlesbrough, Cleveland TS4 2NP. Tel: 01642 250984.

The Wildlife Trusts: The AES Area Reps work largely in conjunction with their local Wildlife Trusts, and it is therefore important that we should maintain and improve our central links with the Trusts' umbrella organisation. The Wildlife Trusts conference in 1996 included a well-received presentation on invertebrate conservation, which highlighted some of the special aspects of our work which are often under-appreciated. The need not to deter potential invertebrate recorders by inappropriate restrictions was one of the points raised by Stephen Miles, who was speaking on behalf of the British Entomological and Natural History Society (BENHS). Martin Harvey spoke on behalf of the AES.



Sites and Species of Interest

Rescue mission for rare ant in Devon

The ant *Formica exsecta* is a Red Data Book species in the UK, with a very restricted distribution, mainly in the Bovey Basin in Devon and in a few Scottish sites in the Aviemore and Rannoch areas. It appears to be common on the European mainland, but it is confused there with other *Formica* species. Unfortunately, the *F. exsecta* nests at one of the Devon sites have become threatened by unofficial motorcycle scrambling, even though the site has SSSI status. A rescue project has been mounted, involving the translocation of seven ant mounds to the grounds of Paignton Zoo under the supervision of Zoo Director and entomologist David Stradling.

The status of the ant at its other Devon site is meanwhile being monitored, and 86 mounds have been counted. There is, however, some difficulty in counting its colonies because one colony can consist of a number of apparently separate mounds, as shown by means of a dye tracer test. Another complication is that *F. exsecta* is not a primary nest builder; it colonises nests that have been initiated by *F. fusca*. Yet another related species, *F. rufa*, can destroy the nests and this is one of the main threats to the survival of *F. exsecta*, the other problem being scrub encroachment. In Scotland, surveys by David Phillips with Scottish Natural Heritage have revealed a total of 95 mounds.

Selar Grasslands, Glamorgan

A report by Neil Jones

The Selar Grasslands Site of Special Scientific Interest was the first in the UK to be totally obliterated as a result of a planning decision. Situated in the Neath Valley in Glamorgan in the village of Cwmgwrach, it was a unique area of high quality traditional hay meadows and wet grasslands. Naturally, such high quality grassland was rich in invertebrates and this site held a colony of the internationally recognised threatened species, the Marsh fritillary *Eurodryas aurinia*, until a mining company, Celtic Energy, cleared the land.

The decision to grant the planning permission was a very controversial one. West Glamorgan County Council has come in for heavy criticism over the manner of its handling of the planning application. The council's own environment quality department recommended that the application be refused because of the SSSI's high quality and quoted a Countryside Council for Wales source as saying



that the SSSI was “. . . of such character and integrity as to be considered for Nature Conservation Review site status”. (Such status is normally associated with National Nature Reserves.). The contents of this report were curiously not passed to the councillors when the decision to grant planning permission was finally made on 24th January 1994.

The application had been strenuously opposed by many conservation organisations such as WWF, Butterfly Conservation and Friends of the Earth and it was widely expected that such an important decision would necessitate the calling of a Public Enquiry. However, the then Welsh Secretary, John Redwood, refused all requests to call one.

The management of the site prior to approval of the planning application for mining left much to be desired. The colony of the rare butterflies had been damaged by ruthless overgrazing, leading to a population crash. My own pleas to the Countryside Council for Wales on this matter had been ignored. A suspicious pattern of management is now beginning to emerge over Marsh fritillary sites threatened by mining operations, this being one of three such sites where unnecessary damage to the habitat has occurred.

The furore gradually died down until the Spring Bank holiday of 1995 when a band of protesters set up camp in the trees surrounding the meadows. Their protest led to an immediate cessation in the work and a large amount of media interest. BBC Wales TV ran the story as the lead news item of a week calling it “The Battle of the Butterflies”. A rally on the streets of Cwmgwrach attracted most of the village in support of the protesters, and many people carried “Save the Butterflies” posters. At the time, an attempt at translocation was under way, with Celtic Energy moving turf from the site to a spot nearby. This was accompanied by a process of removing stock of the Marsh fritillary to a separate site. I visited the site with a group representing a range of conservation organisations and was fortunate to meet the consultant who was moving the colonies. His naive admission that he believed that the translocation would not work received widespread publicity in the local press. There was further media attention in early 1996, when the eventual eviction of the protesters from the site allowed the remains of the SSSI to be totally obliterated.

One interesting incident attracted further media publicity. Some of the translocated turves came from a rare type of mire grassland called NCV M24 under the national classification of vegetation. This is distinguished from a commoner type, M25, by the presence amongst



the sward of the Meadow thistle, *Cirsium dissectum*. The turf had cost hundreds of thousands of pounds to move. During the summer of 1996 Celtic Energy employed people to remove the tree saplings which were growing in the sward. The Meadow thistles were pulled up and left along the edge of the path, instantly degrading the classification of the rare grasslands.

The future of the translocated turves and the butterfly are very much in doubt. Only a small part of the grassland sward was moved from the SSSI and it has been divided into three sections. The original hydrology of the site which influenced its grassland vegetation cannot be replicated. The butterfly's new home is far from ideal. There is very little of the larval foodplant, Devil's-bit scabious, *Succisa pratensis*. Butterfly Conservation's Paul Kirkland, appearing on Channel 4 television, described the operation as a "farce". The only published research indicates that the Marsh fritillary does not translocate well. Out of 56 documented introductions only two lasted more than ten years and these have both subsequently died out.

Dung beetle project in Gloucestershire

A report on the *Gloucestershire Invertebrate Group's* survey of dung-associated scarab beetles is one of several very interesting items in the group's spring 1997 newsletter. These beetles and other dung-feeding invertebrates are widely threatened by the lethal or sublethal effects of avermectins in the dung, which are used as anti-worm drugs for livestock. Keith Alexander states that Gloucestershire's scarab fauna appears to have declined dramatically in recent decades, and he hopes that the project will reveal the present status of the dung-associated species.

The findings so far suggest that the degree of "improvement" of pastures may be the main factor in determining the diversity of the scarab fauna. The two most heavily fertilised sites produced no scarabs at all, even though one of them was a permanent pasture. The effect of avermectins was not clear, as their use had been discontinued on these sites. Two species were found at each of two other permanent pastures, which were more lightly fertilised. The best results all came from unimproved pastures: Daneway Banks, Selsey Common (see future field meetings in this *ICN*), Snows Farm, Rodborough Common and Lower Woods Wickwar, each of which held four to five species. These included rarities such as *Aphodius ictericus*, *A. borealis*, *A. luridus* and *Onthophagus joannae*.



Brown hairstreak survey in Pembrokeshire

This butterfly (*Thecla betulae*) has been recorded from rather few sites in Pembrokeshire in recent years, but the county Wildlife Trust reports that quite a large colony exists at the West Williamston Nature Reserve. There are also apparently suitable habitats in other areas, and the Trust has been asking for volunteers to conduct surveys for the eggs, which are characteristically laid at the base of the new twigs. Unfortunately, the twigs are removed by hedge-cutting, and for this reason Butterfly Conservation is mounting a national campaign to persuade farmers to cut their hedges less frequently (*Butterfly Conservation News*, Autumn/Winter 1996). Apart from south-west Wales, the main strongholds of the species are in the Western Weald of England, North Devon and West Somerset.

Research Notes

by Owen Lewis

Acid rain: effects of liming on invertebrates

Rivers and lakes in many parts of Europe have become increasingly acidic as a consequence of man-made sulphur and nitrogen oxide emissions, which are washed down as "acid rain". Although treating this problem at source – by reducing emissions – is the best way to solve the problem, one way to ameliorate damage that has already occurred is to reduce acidity by treating river sources with lime. This is already being undertaken in Scandinavia, and (on an experimental basis) in the UK. Liming is thought to benefit salmon and trout, but the effects on invertebrates are less well known.

Research workers from the University of Wales (Cardiff), S.T. Buckton and S.J. Ormerod (*Biological Conservation* **79**: 43-57), have been investigating the effects of liming on the invertebrates of mires in upland Wales. They sampled invertebrates using pitfall traps in three mires that had been limed five or six years previously, and from ten similar but unlimed mires. Overall, there was little apparent difference between the two habitats in terms of the diversity of invertebrates. However, particular invertebrate groups appeared to respond differently to liming. Among the beetles, carabids were significantly less abundant at limed sites, but members of the families Hydrophilidae and Ptiliidae were significantly more abundant. Of the other insects captured, Veliidae (Heteroptera) were significantly more abundant on limed mires. Among the spiders, members of the Linyphiidae and



Tetragnathidae were more abundant at limed sites, but species from the Lycosidae were less abundant.

Biodiversity on reclamation sites: indicator species

A paper by K.D. Holl of the Virginia Polytechnic Institute and State University (*Journal of Applied Ecology* **33**: 225-236) describes investigating the populations of butterflies and diurnal moths on land reclaimed after opencast coal mining in Virginia, USA. The areas studied were surrounded by deciduous forests, and had been reclaimed at various times over a period of 30 years. This gave an opportunity to investigate the response to reclamation in the relatively long term, rather than just the initial stages of recolonisation, and also to follow trends in butterfly and moth species richness as plant succession proceeded.

During the survey 52 butterfly species and 99 moth species were recorded during the survey, which used transect counts. The fauna of late-successional sites (mining ceased 25-30 years ago) was similar to that of the surrounding undisturbed deciduous forests, although a few of the less common species were found only in the forest. Interestingly, while the number of diurnal moth species recorded in a site increased with time since reclamation, the number of butterfly species decreased. This reinforces the view that the widespread use of butterflies as environmental indicator species is often inappropriate.

Past Meetings

The 1996 Peterborough Conference

We did not report in detail on the well-attended and very stimulating conference that was held at Peterborough in February 1996, as plans were afoot to publish the proceedings. We are now glad to announce that this has been done, under the editorship of Steve Brooks on behalf of the Joint Committee for the Conservation of British Invertebrates. The title is *Unity of Purpose for Invertebrate Conservation: Maintaining the biodiversity of British Invertebrates*, and the main contributions are as follows:

- A.E. Stubbs – (from a talk by Graham Wynne of RSPB) *The Biodiversity Action Plan and Biodiversity Challenge*
- S.G. Ball – *Action for species*
- K. Porter – *Maintaining the biodiversity of British invertebrates: action for habitats*



- K.N. Alexander & C. Studholme – *County co-operation – a model in Gloucestershire*
- S. Hawkswell – *Working with the Wildlife Trusts*
- A.E. Stubbs – *Opportunities for national invertebrate societies*
- General discussion – Co-ordination of response to biodiversity action plan/Recording/Communication/Biodiversity/A national invertebrate society/Land management/Closing remarks (Prof. M.G. Morris).

The proceedings have been distributed to those who attended the meeting, through the financial support that was kindly provided by English Nature. The *ICN* Editor is willing to make photocopies for other *ICN* readers who would like copies. These would be provided at cost, (including postage) on receipt of a cheque for £2.50 per copy, made out to the Amateur Entomologists' Society. Non-UK members must add the equivalent of £5.50 per cheque to cover bank charges, or pay by international Postal Giro, Eurocheque or cheque in £ Sterling drawn on a London bank.

Future Meetings

AES conservation field meeting (Second announcement)

Geoff Trevis, AES Area Rep for Worcestershire and Martin Harvey, Habitat Conservation Officer, will be leading a field meeting on 2nd August at the Devil's Spittleful reserve, near Kidderminster, Worcestershire. The meeting starts at 10.30am and we will also be running moth-traps in the evening, meeting at 8pm. Devil's Spittleful is a nature reserve for the Worcestershire Wildlife Trust, and is one of the few remaining areas of heathland in the country. A number of heathland invertebrates have been recorded from the site, and we hope to add significantly to knowledge of the invertebrate interest of the site during this meeting. Geoff Trevis is involved with promoting invertebrate recording in Worcestershire, and is keen to make contact with entomologists who record in the county. This meeting is joint with the BENHS. Please contact one of the leaders in advance if you wish to attend, and to find out the exact meeting point. Geoff Trevis (01905 774952) or Martin Harvey (01491 671889).



Gloucestershire Invertebrate Group field meetings

Keith Alexander has kindly supplied details of the 1997 meetings of this group of the Gloucestershire Wildlife Trust. Any non-member of the group who would like to attend a meeting should first contact Keith at 14 Partridge Way, Cirencester, Gloucestershire GL7 1BQ (Tel: 01285 651171). Four field meetings are timed to take place after this issue of *ICN* is due to appear; they are as follows:

- Saturday 12th July at Ban y Gor wood and East Wood Wollaston Lime Coppice – semi-natural ancient woodland and reputedly some limestone pavement. Meet 10.30am at Lancaut Reserve parking area, north of Wintour's Leap (ST541966). Leader Keith Alexander (01285 651171).
- Sunday 10th August at Selsey Common and Lower Lutheridge Farm – an under-recorded Cotswold site, recommended for dung beetles and graylings. Meet 10.30am at south-west end of the Common, approx. SO825024. Leader Tony Taylor (Gloucester 728734).
- Saturday 13th September at Lightmoor Ponds and Laymoor Quagg, Forest of Dean – wetland sites; monitoring of rare *Donacia* beetles. Meet 10.30am at SO654148, following road into industrial estate. Leader Keith Alexander (01285 651171).
- Sunday 13th October at Robinswood Hill Country Park – an area near the Gloucestershire Trust HQ, with big beech trees, hawthorn scrub, neutral meadow and semi-improved grasslands. Meet in main car park outside Dulverton Building (SO838157), off Reservoir Road, signposted off Tuffley Roundabout. Leader Keith Alexander (01285 651171).

The 1997 Peterborough Conference

Date: Saturday 27th September 1997

Time: 10.00am (ends c. 5.40pm)

Place: Central Library, Broadway, Peterborough

Admission: Free, but probably by ticket only

Following the highly successful Peterborough conference of February 1996, and the subsequent moves towards a new UK invertebrate conservation structure, some important issues need to be discussed within a wide forum. A conference is therefore being held at the same



venue, with the support of the AES, The British Entomological and Natural History Society and English Nature. The provisional programme includes generous discussion time, as well as talks on the following topics:

- The core message
- Rivers and streams
- Urban and post-industrial wasteland
- Heathland
- Role of conservation committees within societies
- Emergence of Butterfly Conservation as a professional organisation
- The invertebrate gulf in the conservation movement
- Is an invertebrate conservation society necessary?

It is hoped that the societies will distribute programmes and tickets to individual interested members. Individuals who do not hear from their societies can send enquiries to the following address, providing a large stamped addressed envelope accompanies every such enquiry:

Mr A.E. Stubbs, 181 Broadway, Peterborough, Cambridgeshire PE1 1UA.

Corrigendum

The Editor apologises for the following error in *ICN 22* – In Ian Mascall's report from Cleveland, the comma should have been named as *Polygonia c-album*; not *Hesperia comma*!

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NOTICE

It is to be distinctly understood that all views, opinions, or theories, expressed in the pages of this Journal are solely those of the author(s) concerned. All announcements of meetings, financial grants offered or sought, requests for help or information, are accepted as *bona fide*. Neither the Editor, the Officers and Council of the Society, nor its Trustees, can be held responsible for any loss, embarrassment or injury that might be sustained by reliance thereon.

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Invertebrate Conservation News



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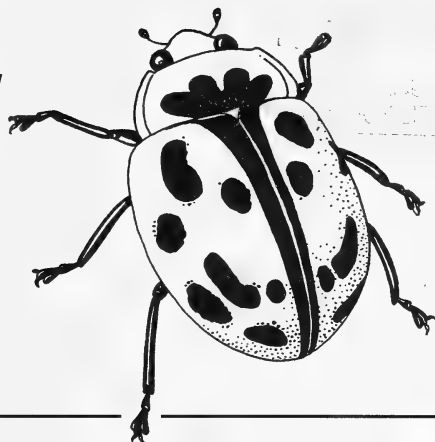
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INVERTEBRATE CONSERVATION NEWS



No. 24, October 1997

Editorial

A number of items in this issue of *ICN* have an aquatic flavour. The research note on the grasshopper *Bryodema tuberculata* in central Europe highlights the widespread loss of habitats that occur in naturally flowing rivers. To quote Alan Stubbs from the AES book *Habitat Conservation for Insects* (1991), “. . . over wide tracts of lowland Britain man has tampered with rivers and, in some districts, has made them into little more than large gutters”. Unfortunately, too few people have yet taken note of the excellent advice that Alan gives in that book, judging by his revelation in *ICN* of a campaign to tame a river to the detriment of wildlife; i.e. the removal of fallen dead wood from the River Wye and its tributaries in England and Wales.

Another aquatic story is provided by the item on *Phytophthora* disease of alder, an ecologically very valuable tree species. This serious disease is occurring mainly along river banks, not only because that is where many of our lowland alders grow, but also because the river water provides a means of dispersal of the causal fungus. The *ICN* article below outlines the ecological importance of alder in relation to the possible threat to its populations.

As the creator of many a garden pond knows, there are some aquatic invertebrates that are good at finding their way to new habitats, and for this reason the temporary loss of habitat at a certain proportion of sites is not always a cause for gloom and doom. Nevertheless, some species are less well endowed with powers of dispersal, as seems to be the case with the riverine island-dwelling grasshopper featured in the *ICN* research note. It is therefore important that conservation work such as pond clearance is done in stages, so that invertebrates and other animals have a chance to disperse from undisturbed areas of mud and



vegetation to the recently cleared zones. Unfortunately, this sensitive approach is very hard to sustain when money is made available on the condition that it should all be spent within one financial year. This problem of letting accountants occupy the driving seat plagues a wide range of projects; not just watery ones!

The news that English Nature (EN) has launched a new agenda for the management of freshwater resources is encouraging, but it is acknowledged by EN that the situation in England is very difficult to tackle, even as far as existing Sites of Special Scientific Interest (SSSIs) are concerned. As the EN agenda gives priority to SSSIs and the top-grade "Special Areas of Conservation" (see again Alan Stubbs' report on the River Wye!), it remains to be seen whether there is any cause for optimism about the status of wetlands and watercourses in the wider countryside.

News, Views and General Information

Invertebrates and Forest Management

by Anna Pike

Jari Niemelae (*Conservation Biology* 1997, **11**(3), 601-610) has recently reviewed existing knowledge of the effects of forestry on invertebrates, mainly within boreal forest (the coniferous forest of northern parts of the northern hemisphere). He focuses on examples from Scandinavia but suggests that similar patterns may occur in other boreal forests. Niemelae describes how invertebrates are affected by logging at three ecological scales: the small scale (a few square metres); the local scale (a forest stand); and the biogeographical scale (thousands of square kilometres).

At the small scale, logging particularly affects species associated with natural old-growth areas, which include patches of swamp-forest and dead or decaying trees or large deciduous trees amongst the conifers. For example, aspens (*Populus tremula*) host a wide range of invertebrates. Aspen leaf litter is favoured over pine needle litter by many invertebrates, such as carabid beetles and land snails. However, mature aspen trees have been deliberately removed from some forests, as they are considered of little economic value and are the alternate host for a pine rust fungus. The decrease in numbers of large aspen trees in old managed forests has probably contributed to the decline of several invertebrate species.



At the local level of a forest stand, invertebrate species richness may actually increase with logging, despite the loss of specialist species. This is because forest generalists (invertebrates that can adapt to several habitat types) persist, while species preferring open habitats move into the area. However, the practice of controlling forest fires detrimentally affects species that require burned substrate.

At the biogeographical scale, logging tends to make forest habitats more homogeneous and leads to the decline and loss of sensitive species. A striking example is provided by the difference between an intensively managed forest system in Finland and a virtually untouched forest across the border in Russia just a few tens of kilometres away. The insect diversity of the unmanaged Russian forest was higher. Furthermore, 15 species of insect "Red-listed" in Finland were found in the Russian forest, compared to only one such species in Finland.

Niemalae suggests three ways of reconciling the conservation of invertebrate diversity in boreal forests with commercial forestry. First, he suggests that areas of undisturbed old-growth forest should be set aside to sustain specialist species and to act as reservoirs for recolonisation. Secondly, ecologically sound methods of cultivating and harvesting conifer trees should be developed. Thirdly, provided that a reservoir of invertebrate colonists is available, areas of habitat should be restored, with provision for natural regeneration through fire, so as to allow the full diversity of invertebrates to re-colonise these areas.

Niemalae concludes that "ecological knowledge is imperative when modifying present harvesting methods to minimise their harmful effects on biological diversity" and suggests that improved collaboration between scientists and forest managers is necessary so that the requirements of conservation and timber harvesting can be considered together.

"Lowland Heath Management Plan" for the UK

Heathland develops on infertile soils, and yet provides some of the richest invertebrate habitats in the UK. Heathlands do not produce much in the way of biomass that can be intensively and unselectively cropped by humans. Thus, the share of biological productivity that is left for wildlife is better on heathland than on arable land or lowland grassland, even though this productivity is rather low due to the soil conditions. Also, the dry warm conditions of lowland heaths, combined with local boggy habitats, provide a good environment for many invertebrates.



The problem is, of course, that large tracts of economically unproductive land in an overcrowded country tend to be regarded as a wasted resource. Thus, for many decades, heathlands have been relentlessly and extensively destroyed and fragmented through a variety of activities. These have included residential and industrial development, mineral extraction, road building and afforestation. Areas of heathland that remain are often subject to ecologically damaging types of management, such as the drainage of boggy areas.

Although some areas of British heathland have been replaced by conifer plantations, a total area of 15,000 ha of lowland heath still exists within the estate of Forest Enterprise (FE), the commercial arm of the British Forestry Commission. This represents about 25 per cent of Britain's lowland heath, but is concentrated mainly in the New Forest in Hampshire, where it covers 13,390 ha. The FE recognises the need to protect its remaining heathland habitats and to reverse some of the effects of the fragmentation from which they have suffered in the past. Accordingly, it has launched the "Lowland Heath Management Plan" in liaison with the Forestry Authority and English Nature, and with the agreement of other organisations such as RSPB, the County Wildlife Trusts and Local Authorities.

The main commitment under the plan is for the FE to sustain all its existing heathlands through appropriate management, including the control of invasion by birch, pine, rhododendron and other non-heathland vegetation. This is currently done through the controlled burning of heather and gorse, and the fencing of grazing areas to encourage regeneration of the heathland flora. However, such methods need to be used sensitively, so that a good habitat mosaic is maintained and that trees and scrub are not destroyed so indiscriminately that their locally beneficial effects as foodplants and shelter would be lost.

The plan makes some provision for restoring heathland, as well as protecting the existing areas. Thus, the Forestry Commission now has a commitment to create at least 760 hectares of new heathland, converted from forest. An area of 87 ha has already been restored at Sherwood Forest, with plans for a further 41 hectares to follow. The plan will contribute over ten per cent towards the national Biodiversity Action Plan restoration target of 6,000 hectares, and it is hoped that additional areas of heathland can be created within future forest design plans. The plan also includes recovery programmes for scarce and endangered species, including the Dorset Heath in Purbeck, creation of sand patches for egg laying by Sand Lizards and a continuing programme for their re-introduction to the New Forest.



Phytophthora root disease of alder

Species of alder (*Alnus*) are ecologically important in many parts of Europe, representing one of the main components of riparian forests, carr and the birch-alder-hazel forests of the sub-boreal regions. As a foodplant for British invertebrates, the native alder (*A. glutinosa*) is listed by Kennedy & Southwood (*J. Anim. Ecol.* 1984, **53**, 455-478) as supporting 141 insect and mite species, being outranked only by the three high-scoring genera of willows, oaks and birches.

Some invertebrate species depend mainly on alder, one example being the Alder leaf beetle *Agelastica alni*, an attractive bluish species which may now be extinct in Britain. Another example is the weevil *Anoplus roboris*. However, other foodplants can support most of the invertebrates that feed on alder, including leaf beetles such as *Chrysomela aenea*, the Alder moth *Acronicta alni* and the Alder kitten *Furcula bicuspis*. Nevertheless, at some sites, alder is the only tree species suited to the local conditions, and is then vitally important for a wide range of invertebrate species.

Around 1993, deaths among riparian alders in England were reported and bark samples were sent to the Forest Commission's Alice Holt Research Station. The cause was found to be a fungus in the genus *Phytophthora*, resembling a species (*P. cambivora*) that kills roots and basal bark in various tree species other than alder, but differing from *P. cambivora* in some details. Fungi in this genus infect their host plants by means of motile water-borne spores which are attracted to the surfaces of roots and other plant organs. Further investigations have indicated that the fungus is probably a hybrid between *Phytophthora* species, and that it occurs over a wide area of Great Britain. The same fungus has also been found in several counties on the European continent.

The newly recognised "Phytophthora root disease of alder" is clearly of concern for invertebrate conservationists, and it is important to know whether it is likely to wipe out entire populations of alder. The potential seems to be quite serious, as there are several riparian localities – for example along the River Lugg in the Welsh borders and on parts of the River Windrush in Oxfordshire – where over half of the alders are either showing signs of the disease (small, spare, yellowish leaves and/or basal stem exudations) or have died. However, the incidence of the disease within Britain as a whole is much lower, and the year-to-year increase in the proportion of trees showing overt symptoms is so far quite small. The widespread occurrence of the



causal fungus, coupled with the apparently slow rate of spread between trees, indicates that it may have been present in Britain for several decades but without causing enough disease to be noticed until the early 1990s. Indeed, recent findings indicate that infected trees can survive for several years without showing obvious symptoms, and that some may remain in good overall condition indefinitely.

Research into the disease is continuing at Alice Holt Research Station, with part funding from the Environment Agency (the successor to the former National Rivers Authority). Members of the public are being invited to contact local offices of the Agency or of the Forestry Commission with details of any suspected outbreaks of the disease. Reports from streams and small rivers (less than eight metres wide) may be of particular value, as previous surveys have concentrated on the larger rivers.

Educational slide pack

Copies of the English Nature/AES slide packs are still available. As mentioned in *ICN 23*, the 48 slides show a selection of species and habitat photos from grassland, heathland, woodland and wetland, plus accompanying text by Dr Roger Key. They provide a good basis for anyone who wants to give slide shows and courses on a range of invertebrate topics, especially those relating to conservation. For the less vociferous, they are a useful resource for private study and can be used in conjunction with the AES book *Habitat Conservation for Insects* (which is still available from AES Publications, c/o the AES PO Box). Orders for the slide packs should be sent direct to: Martin Harvey, 10 Kiln Ride, Upper Basildon, Berkshire RG8 8TA, together with payment made out to "Amateur Entomologists' Society". The total cost is £27, including £2 p&p (not £1.20 p&p as stated in *ICN 23*).

English Nature's agenda for freshwater resources

The May 1997 issue of the English Nature magazine includes a feature on this new agenda, and promises a future series of articles on particular freshwater habitats. The two main objectives of the agenda are as follows:

- to work in partnership with water managers, landowners and users to ensure that the needs of wildlife are not overlooked.



- to influence the controls, regulations and incentives for agriculture and industry so that they become more favourable for nature conservation.

The agenda also identifies eight key threats to be tackled:

- loss of wetland from urban and farming development.
- drainage.
- increased water abstraction.
- pollution, nutrient enrichment and siltation.
- intensive fisheries management (see *ICN* article by Alan Stubbs on the River Wye).
- river channelisation and other modifications.
- introduction of non-native species, like the American signal crayfish.
- inappropriate recreation and navigation.

In view of the difficulty of trying to reverse these trends in the wider countryside, the agenda focuses on Sites of Special Scientific Interest (SSSIs) and the top-grade “Special Areas of Conservation”. However, it is admitted that, even for river SSSIs, three quarters of sites suffer from excessive phosphate concentrations.

For those with a special interest in this subject, English Nature is offering free of charge a booklet entitled *Wildlife and fresh water* (ISBN 1 857 16 260 9 56), available from Telelink, PO Box 100, Fareham, Hampshire PO14 2SX.

News from AES Area Representatives

New AES Area Conservation Representative

Brian Mitchell has stepped forward as AES Area Rep for Warwickshire. Brian has been very active in arguing for better protection for good invertebrate sites in his local area, although he has sometimes been frustrated by a lack of response from local authorities and others. Like each of our Reps, Brian would be pleased to hear from any other AES members who might be able to help in promoting recording and conservation in his area. Brian's address is: Brian Mitchell, 127 Watling Street, Grendon, near Atherstone, Warwickshire CV9 2PH. (There will be a report from the Area Reps, with a full listing of names and addresses in the next issue of *ICN*.)



Sites and Species of Interest

Removal of fallen timber from the River Wye and its tributaries in England and Wales

by Alan Stubbs

In mid-June I learned that a salmon fishing group had been persuading landowners to clear all fallen tree trunks and branches from the Wye and its tributaries, including minor streams where salmon may spawn. This may seem innocuous, but it could have serious implications for the invertebrate fauna of rotting wood partially submerged in flowing water. We know painfully little about this fauna, as the habitat is now very difficult to find in any abundance. It must, however, have been abundant in the form of log jams in the days when most of our rivers ran through primeval forests untouched by human intervention and rich in fallen dead trees, including those felled by beavers. If there was a large dependable source of dead wood, we can be sure that an invertebrate fauna was present to utilise the free meal.

It has taken a lot of effort to get the conservation movement to recognise the special nature of the invertebrate fauna of old trees on land, but who has ever heard of a campaign for rotting wood in water?

We rarely see much fallen timber in British rivers mainly because it is generally a scarce resource, but it may seem even more scarce than it really is because most of the log jams that do exist are probably hidden from our view on private land. Hence the news that 400 log jams in the Wye catchment had been cleared by July 1997 prompts considerable surprise; first that so many log jams were there, and secondly that this ecological niche has been subjected so unobtrusively to such a drastic onslaught.

Everyone in the conservation movement has been caught on the hop by this problem of timber clearance, perhaps because nothing on such an unprecedented scale was anticipated. The scale of clearance is very significant, as the Wye is one of the major rivers of mid-west to south-east Wales and forms part of the Welsh border with Herefordshire and with the Forest of Dean in Gloucestershire. The main course of the Wye is being made an SSSI and is almost certainly to be selected as a River SAC ("Special Area of Conservation" – a top of the tops category in European designations). The recent developments are therefore especially inappropriate, and yet seem to have met with helplessness on the part of the statutory bodies: the Countryside Council for Wales, English Nature and the Environment Agency.



The reason why the fishing interests have been taking this action is that they believe that it will improve salmon stocks. They are anxious to achieve this in all rivers, and also want to re-establish stocks where the salmon has been lost through past pollution etc. The Wye philosophy is quite likely to spread nationwide.

In view of the ecological implications of timber clearance, I have written to the Minister of State for the Environment, drawing his attention to the problem and to the need for swift action. With some modification, the following summary shows the main points that I placed before the minister.

1. *The River Wye is being impoverished during SSSI notification*

The Wye is currently going through the process of SSSI notification and is presumably to become a River SAC. Removal of fallen timber ought to be listed as a Potentially Damaging Operation under the terms of the SSSI but the river does not yet have SSSI designation, so that CCW and English Nature are seemingly helpless in this matter.

2. *The River Monnow, a top entomological site is not being notified. Why?*

The Monnow, partly on the Welsh/English border, is part of the Wye catchment. It has been flagged up as a top entomological site since the early 1980s (if not before), but the energies of the erstwhile Nature Conservancy Council were then being devoted to the re-notification of existing SSSIs in the wake of the 1981 Wildlife and Countryside Act, rather than to the designation of new ones. There was then a long dither over river notification policy, and even after this there was no designation for the Monnow, even though it is the top UK site for river Diptera (flies) outside Scotland. During this time, the Monnow has been affected by at least two incidents of river modification.

3. *The fauna of fallen timber is being eliminated = biodiversity loss.*

The fauna of timber in streams has not been well studied, in part because suitable study sites are difficult to locate (often out of sight on private land). In lowland Britain the water authorities have cleared many rivers. However, we have recently discovered that a Red Data Book endangered species of crane fly, *Lipsothrix nigristigma*, depends on this very vulnerable habitat. There are almost bound to be other ecological specialist species that are equally endangered. This crane fly occurs on the Severn catchment in Shropshire and could well be somewhere on the Wye tributaries.



It is designated as a “second tranche priority” under the Species Action Plans, together with a related species, *L. errans*, which depends on similar habitat in Wales, northern England and Scotland.

4. *If this concept of salmon management spreads, the biodiversity of other catchments such as the Severn will be diminished in the same fashion.*
5. *Ecological impact is disproportionate to any benefit for salmon.*

A small group of people have come up with the notion that salmon need water free from all obstructions; indeed I gather that even waterfalls (which may have their own specialised invertebrates) are being modified to provide easy steps. The benefits to fisheries seem minor, and indeed highly questionable in view of the fact that salmon presumably managed well enough when natural forest was providing a large supply of fallen timber. Salmon fisheries are affected by various problems of human impact upon rivers, some of which are intractable. Fallen timber represents a relatively minor problem, but it is easily cleared away.

6. *There has been no consultation; just precipitate action.*
7. *A small, powerful vested interest is overwhelming biodiversity objectives.*

This is a classic case of biodiversity objectives being overwhelmed by a small but powerful interest group. with the response mechanism of the conservation movement proving too slow to affect the outcome. It is comparable with the clearance of rainforest where no attempt is made to record biodiversity beforehand or to develop a strategy to help reduce losses. An entire ecological component of an ecosystem is being destroyed for questionable economic motives. We helplessly watch this sort of thing going on in impoverished third world countries – cannot we do better in Britain?

Anything that can be done to bring some urgency into resolving this problem will be welcome.

BBONT species recovery programme for the stag beetle

The Berkshire, Buckinghamshire and Oxfordshire Naturalists' Trust is mounting a recovery programme for the Stag beetle, *Lucanus cervus*, Britain's largest native terrestrial insect. As with many deadwood invertebrates, *L. cervus* has suffered from excessive tidying up and fuelwood gathering, but the need of its larvae for large units of dead



wood has made it particularly vulnerable to such habitat destruction. In the UK, it is currently being added to Schedule 5 of the Wildlife and Countryside Act, in respect of trading, which is a possible threat for a species which can be kept as a "pet".

The BBONT programme, which has funding from the Green Card Trust, is starting this autumn with an initial survey of the occurrence of the beetle in the three counties covered by the Trust. It is also hoped that BBONT volunteers will take part in the national survey of adult beetles next summer. The Trust's plan for next year is to start creating new deadwood habitats.

Glow-worms and rare snails in London

The latest issue of the London Wildlife Trust magazine carries a report that one of London's finest colonies of the glow-worm, *Lampyrus noctiluca*, has been discovered in the Colne Valley. The site is a long-disused railway embankment neat the Trust's nature reserve at Denham Lock Wood, where the dry calcium-rich conditions support snail species which are needed as prey by the larvae of this beetle. In the damp conditions at the base of the embankment there is also a colony of the rare wetland snail, *Vertigo moulinsiana*, which acquired fame during the Newbury anti-bypass campaign.

This London glow-worm colony was found by astronomer Robin Scagell, who has developed an interest in the species because it seems to share a problem with astromers; namely, "light pollution". It is widely believed that the evident decline in glow-worm populations is partly due to disruption of mating behaviour by artifical light.

Research Notes

Persistence of populations of a rare grasshopper in a changing environment

by Anna Pike

Besides harming invertebrates through direct habitat damage, humans can also threaten their populations by influencing the frequency and severity of "natural" events like floods. This seems to have been the case for the grasshopper *Bryodema tuberculata*, which ranges from the Asian steppes to central Europe, where it becomes rare. Researchers in Germany have found that most extinctions of *B. tuberculata* populations are due to human interference in the natural flooding regimes of rivers.



In central Europe *B. tuberculata* is only found on gravel bar islands within braided river systems in the northern Alps. Floods are frequent in this habitat, covering existing gravel bars and creating new ones. Since *B. tuberculata* requires open and dry habitats, populations on the gravel bars go extinct naturally from time to time, either when they are flooded or when the amount of open ground is reduced by successional development of the vegetation, which culminates in the formation of willow thickets. However, the overall population of the grasshopper can persist as long as these extinctions are balanced by the colonisation of newly exposed gravel bars along a stretch of river.

Christian Stelter, Michael Reich, Volker Grimm and Christian Wissel (*Journal of Animal Ecology* 1997, **66**, 508-518) have found that the frequency of flooding of rivers is the most important factor affecting the persistence of populations of *B. tuberculata*. The female grasshoppers are extremely poor dispersers, so that colonisation of a new habitat is an uncommon event. If the river floods too frequently, the loss of local populations exceeds the rate at which new gravel bars can be colonised. Equally, populations are lost if the floods occur so infrequently that existing habitat is lost to encroaching vegetation without being adequately replaced by areas of freshly exposed gravel. This happens when the damming of rivers prevents flooding. Thus, human management of river systems has prevented new habitats from being created for *B. tuberculata* in the northern Alps, and many populations have been lost.

Stelter *et al.* suggest that their research provides a model for evaluating the impact of man-made and natural changes on a habitat and for formulating possible measures for the conservation of species threatened by such changes. They also suggest that *B. tuberculata* should be used as a target indicator for species dependent on natural flood-plain dynamics. Management which allows this grasshopper to persist may also succeed for other animals and plants in this niche.

Book Review

The Larger Moths of Surrey by Graham A. Collins, (1997). Surrey Wildlife Trust 333pp, ISBN 0 9526065 6, hardback, £18.50 net – The county of Surrey with its southern location and its varied geology, supports more moth species than most other British counties and this book should therefore be of interest to entomologists and conservationists well beyond the county boundaries. To explain the importance of geology as a factor in biodiversity, the introductory pages



include an account by Dr Peter Sutcliff of the geology of Surrey. Also, a map of the county's solid geology is superimposed on each of the individual species distribution maps. Another biodiversity factor is the range of different types of habitat, which reflect both geology and the history of land-use. Substantial percentages of the county's land area are occupied by deciduous and coniferous woodland, heathland, grassland, parkland and domestic gardens, although there is very little wetland.

The main body of the book consists of concise accounts of each of the larger moth species, including information on voltinism and on foodplants in the case of more specialised feeders. There are notes on the types of sites within the county where each species occurs, as well as a dot-map of its Surrey distribution. The inclusion of species as genuinely occurring in Surrey was based on rigorous criteria for the acceptance of records, and this book should therefore prove a reliable guide.

County guides to insect taxa sometimes seem a little dull for want of colour illustrations, and it is good to find that this one includes sixteen colour plates in a centre spread. The photos include species now extinct in Surrey, examples of the larval forms of various families, adults of various migrant species and adults of selected species from parkland, woodland, heathland, wetland, chalk downland, gardens and "South London". No doubt, the inclusion of these plates owes something to the financial support that was provided by three outside organisations: the British Entomological and Natural History Society, the Corporation of London and the Surrey branch of Butterfly Conservation.

In addition to the very useful information on the individual species, the book includes some helpful advice on priorities for conservation, including the need to avoid inappropriate management based on the requirements of a single species. There are also hints on field techniques, such as light trapping and sugaring. A review of previous literature is provided, and attention is drawn to some species whose populations have greatly increased or declined since the last century. For the future, the author emphasises the importance of recording and makes a commitment to maintaining the Surrey macro-moth database.

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NOTICE

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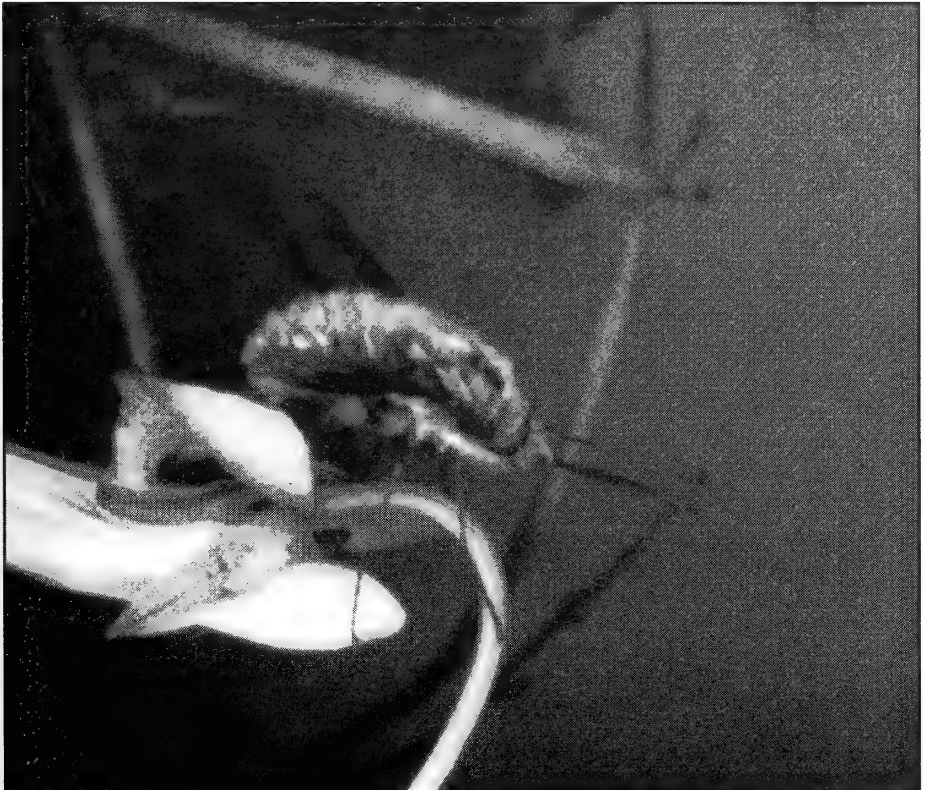
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Invertebrate Conservation News



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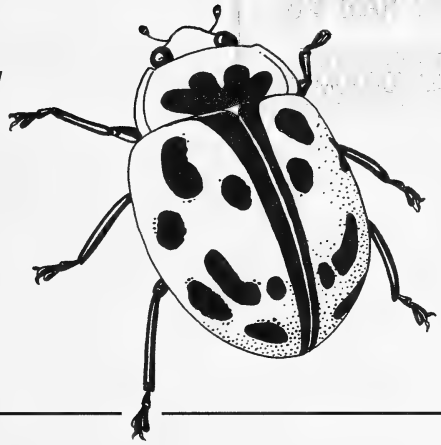
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INVERTEBRATE CONSERVATION NEWS



No. 25, February 1998

Editorial

In a world less overcrowded by humans, the study of invertebrates in the field might be relatively free from anxieties and obstacles. The fear that vulnerable species might be endangered by collectors would have little basis if their habitats were under less pressure from humans. Also, access to sites might be relatively easy in a less intensively used countryside. The reality is of course very different; land is coming under increasingly intensive use, and field naturalists are often viewed with suspicion. Nevertheless, access to sites could become less restrictive in the UK if current campaigns for a "right to roam" on cultivated land are successful.

Although access to sites is desirable for the individual naturalist and essential for the recording of survey data, there are circumstances where it may conflict with conservation management objectives. In particular, certain fragile types of vegetation can be harmed by trampling, and there are various vertebrates such as nesting birds which can suffer from disturbance. As far as invertebrates are concerned, it is very important for naturalists to take care not to damage habitats in the course of taking specimens. The presence of people on sites may, however, have positive as well as negative effects, since localised trampling often helps to maintain a vegetational mosaic, including bare ground.

In the particular case of deadwood invertebrates, access may bring about an indirect problem because of the legal liability that site owners may incur for injuries caused by hazardous trees. Old trees containing decaying wood are vital for many localised and rare invertebrates, and it would be a great shame to remove or interfere with them for fear of litigation. In some areas, for example near public roads, hazards from



trees need to be assessed and managed within reason. In less frequented areas, the risk to people is generally very much lower but the fear of liability cannot be entirely dismissed within the current vagaries of “case law”.

Clearly, increased access to the countryside could have mixed effects on invertebrate populations, but naturalists would probably welcome it from the standpoint of their personal freedom to study wildlife. It can be argued that such freedom is fundamental and should be restricted only when it might seriously threaten property or wildlife. Indeed there are many sites of importance for conservation where careful management can encourage people voluntarily to stay within zones where they can do little harm. On some sites, however, there may be zones where there is justification for restricting access compulsorily, at least during certain times of year.

Despite the political will for improved access to parts of the UK countryside, some events of recent years have worked in the opposite direction. In particular, the sale of many sites formerly owned by the Forestry Commission has barred people from routes which were previously open to them on a permissive basis. Indeed, some of these sites now contain theme parks, which can be entered only if money changes hands. The morality of charging people for the privilege of setting foot on land is yet another issue which needs to be addressed, though perhaps not in *ICM*.

News, Views and General Information

Urban development: greenfield versus brownfield sites

We are all familiar with pressures to develop land so as to meet the housing demands of an increasing population with ever smaller family units. In the UK, estimates of a demand for perhaps over five million new homes within twenty years are creating considerable concern, especially over the despoliation of the countryside that such an expansion would entail. In particular, it is feared that large areas of countryside, so-called “greenfield” sites, would become covered by bricks and mortar.

Many people believe that, in order to safeguard greenfield sites as much as possible, every effort should be made to develop “brownfield” sites in preference. This is an understandable view, but too few people seem to realise that many sites which have previously been used for housing or industry have considerable value for wild plants and



animals, which may include rare or local invertebrates. These “brownfield” sites are often oases of largely unmanaged vegetation within urban or arable deserts. They frequently contain spoil or polluted soil which supports specialised species which would be out-competed in more fertile conditions. This may be the case, for example, in the old colliery sites in Warwickshire, UK which are mentioned below in the report from the AES Area Reps.

Brownfield sites often have value for educational and recreational value as well as for wildlife itself. Many people now well into middle age remember their introduction to wildlife on the bomb sites that were widespread in cities after the Second World War. By classifying brownfield sites as “derelict” or “vacant”, the authorities may be downgrading them unjustifiably in some cases. Oases of wildlife in a degraded landscape deserve some degree of protection and sympathetic management, perhaps more so than land which has been used for the most intensive forms of agriculture.

Eco-friendly aphid control

All invertebrate conservationists know about the environmental value of using predators to control aphids, in preference to toxic chemicals. We have often reported on methods for the release or augmentation of predators such as lacewing larvae in agricultural systems, but it is now interesting to see that a company in Kent, UK, is offering for sale a “lacewing chamber” for use in gardens. The chamber is pheromone-impregnated to attract hibernating adult lacewings and provides them with shelter which, it is claimed, will increase their overwintering survival from 5% to more than 90%.

“Butterflies for the New Millennium”

“Butterflies for the New Millennium” is a UK survey project which was launched by Butterfly Conservation and the Biological Records Centre in 1995. There have been previous studies of butterfly distribution in the UK, but this project is to be the largest and most comprehensive yet. By the time that its 1997/98 Winter Newsletter appeared, over 300 000 records had already been sent in.

As with all distribution survey schemes, there is of course some tendency to map the distribution of observers as well as that of species. An analysis published by the organisers shows that coverage is good over much of southern England, but fades away to the north and west of Britain. There is also a provisional “league table” of species, based



on the number of 10 km squares within each species was recorded during 1995 and 1996. This ranges from the Lulworth skipper in four squares to the Small tortoiseshell in 1535 squares. The Large blue, which has been re-introduced to parts of south-west England, is not included in the table.

Those interested in the scheme can contact Jim Asher of the co-ordinating network by e-mail butterflynet@btinternet.com or by telephone on 01865 391727 after working hours and at weekends. The contact at the BRC is Nick Greatorex-Davies, whose e-mail address is n.greatorex-davies@ite.ac.uk. In the daytime he can be telephoned on 01487 773381.

English Nature research on invertebrates

Projects in EN's research programme for 1997/98 include studies on quite a long list of invertebrates. Among these, certain endangered species are the subject of autecological research which is intended to provide the data needed to help arrest their decline at their remaining UK locations and to support restoration programmes within their former UK ranges. These are as follows:

Barberry carpet moth (*Pareulype berberata*); Black-veined moth (*Siona lineata*); Reddish buff moth (*Ascometia caliginosa*); Field cricket (*Gryllus campestris*); New Forest cicada (*Cicadetta montana*); Wartbiter cricket (*Decticus verrucivorus*); Mole cricket (*Gryllotalpa gryllotalpa*); Large marsh grasshopper *Stethophyma grossum* and Black-backed meadow ant *Formica pratensis*.

In addition, other species being studied include the following:

- Marsh Fritillary butterfly, *Eurodryas aurinia* – status on the North Berkshire Downs
- Ladybird spider, *Eresus niger* - condition of existing and potential release sites
- Little whirlpool ramshorn snail, *Anisus vorticulus* – distribution and habitat requirements
- Southern damselfly, *Coenagrion mercuriale* – detailed status on SACs and habitat requirements
- Glutinous snail, *Myxas glutinosa* – status of currently known sites
- A hoverfly, *Callicera spinolae* – artificial rot-hole habitat establishment as a survey technique and for study of larval requirements



- A hoverfly, *Chrysotoxum octomaculatum* – pilot survey in Surrey heaths
- Hornet robber fly, *Asilus crabroniformis* – oviposition behaviour
- A water beetle, *Agabus brunneus* – habitat management requirements
- Pashford leaf beetle, *Cryptocephalus exiguus* – presence/absence at former sites and most recently recorded site
- Birch/hazel leaf beetle, *Cryptocephalus coryli* – presence/absence at former recorded sites
- Noble chafer – *Gnorimus nobilis* – presence/status in Wyre Forest (Worcestershire)
- Crucifix beetle, *Panagaeus crux-major* – habitat requirements
- Violet click beetle, *Limoniscus violaceus* – surveys, marking of future potential habitat trees at Windsor Forest, continued artificial habitat project
- Lundy cabbage beetle, *Psylliodes luridipennis* – experimental habitat research, including rhododendron control.

News from AES Area Representatives

compiled by Martin Harvey

The network of AES Area Conservation Representatives (Area Reps) enables the AES to react to and help with local conservation issues. The AES members who volunteer as Area Reps are all keen invertebrate conservationists, and between them undertake a wide range of conservation activities, from surveys of sites to advice on management plans, from organising local talks and meetings to carrying out practical habitat management on reserves. If you are interested in conservation and would like to know more about how you can help, please contact your local Area Rep. If there is not yet an Area Rep covering your county please contact Martin Harvey (see address under Berkshire, above). Please enclose an SAE when writing. The following is a brief summary of some of our local activities during 1997.

Charles Watson and eleven other entomologists undertook a survey of a small Essex Wildlife Trust reserve, and were able to provide the Trust with a report on the site. About 850 species were recorded, including several Red Data Book species, showing that small sites can be of considerable importance to invertebrates.



In Berkshire Martin Harvey has recently established a county group, the Berkshire Network for Invertebrate Conservation. If you record or conserve invertebrates in the county please contact Martin to be added to the mailing list.

In August 1997, Geoff Trevis and Martin Harvey led a joint AES British Entomological and Natural History Society Meeting at the Devil's Spittleful, a Worcestershire Wildlife Trust reserve. Over a hundred species were recorded, including the Bee wolf, *Philanthus triangulum*, a wasp which preys on bees. This species was until recently known only from a few sites on the south coast of England, and has Red Data Book status. However, in recent years it has spread widely through south and central England, and is now known from at least two Worcestershire sites.

"Post-industrial" sites such as old quarries and spoil heaps may not seem the best places for nature conservation, but they can support a lot of invertebrates, including some scarce species. In Warwickshire, Brian Mitchell has continued to argue for the protection and suitable management of some old colliery sites. All the sites are subject to plans for development or reclamation, but some provisions are being made for nature conservation, with some areas being left for conservation. Although these areas are small and fragmented, Brian hopes that they will provide a refuge for at least some of the invertebrates which are currently present.

Sharon Flint is the latest AES member to become an Area Conservation Representative. Sharon is a post-graduate student at Lancaster University, and has been carrying out survey work for Lancashire Wildlife Trust.

Ian Mascall has been busy co-ordinating and reporting on various surveys of butterflies and moths in Cleveland. At the Cleveland Wildlife Trust's Scaling Dam Nature Reserve moth-trapping was undertaken in 1996 by several of Ian's colleagues, producing a list of 83 species, including Wood carpet (*Epirrhoe rivata*), Round-winged muslin (*Thumatha senex*), Heath rustic (*Xestia agathina*) and Southern wainscot (*Mythimna straminea*). Ian is especially keen to receive records of hawk-moths and fritillary butterflies for the Cleveland area and North York Moors, to help establish the status of these species. Some worrying news from Ian was that a fire in the dry spring of 1997 had damaged a site for the Castle Eden argus (the *salmacis* form or subspecies of the Northern brown argus *Aricia artaxerxes*). The fire was reported to be the result of arson, and could possibly have wiped



out the Castle Eden Dene colonies of this unusual butterfly. Ian would like to hear from anyone living near the Cleveland/Durham border who may be able to help monitor the site in 1997, to see if the butterfly has survived.

List of area reps.

- **Somerset:** Roger Sutton, 16 Ashford Road, Wellington, Somerset, TA21 8QF
- **Kent:** Tony Steele, 57 Westfield Road, Barnehurst, Kent, DA7 6LR
- **North-east Essex:** Nigel Cuming/Jerry Bowdrey, c/o 33 Holly Road, Stanway, Colchester, Essex, CO3 5QL
- **East Hertfordshire/West Essex:** Charles Watson, 18 Thorley Park Road, Bishop's Stortford, Hertfordshire, CM23 3NQ
- **Berkshire:** Martin Harvey, 10 Kiln Ride, Upper Basildon, Berkshire, RG8 8TA; email: mh@naturebureau.co.uk
- **Oxfordshire:** Dr Helen Marcan, c/o AES, PO Box 8774, London, SW7 5ZG
- **Buckinghamshire:** Roger Kemp, Kemp's Mushrooms Ltd, Kemp's Farm, Chapel Road, Ford, Aylesbury, Buckinghamshire, HP17 8XG
- **Cambridgeshire:** Robert Partridge, 11 New Road, Mepal, Ely, Cambridgeshire, CB6 2AP
- **Worcestershire:** Geoff Trevis, 14 Old Coach Road, Droitwich, Worcestershire, WR9 8BB
- **Warwickshire:** Brian Mitchell, 127 Watling Street, Grendon, near Atherstone, Warwickshire, CV9 2PH
- **South Wales:** Neil Jones, 31 Drummaw Road, Birchgrove, Swansea, SA7 9QA; email: neil@nwjones.demon.co.uk
- **Cheshire:** Dr Paul Griffiths, Vailima, Broomhall, Nantwich, Cheshire
- **Lancashire:** Sharon Flint, 7 Church Brow, Halton, Lancaster, LA2 6LS; email: sharon@winkywoo.demon.co.uk
- **West Yorkshire:** Dave Hemingway, 13 Ashdene Garth, Crofton, Wakefield, West Yorkshire, WF4 1PH
- **Cleveland:** Ian Mascall, 18 Alberta House, Highfield Road, Middlesbrough, Cleveland, TS4 2NP
- **Eire:** Tim Lavery, Farnes, Castlemaine, County Kerry, Eire



Sites and Species of Interest

Misson training area, Nottinghamshire, UK

Dr. Sheila Wright of the Nottingham Natural History Museum is running a Lepidoptera survey of this site, which is the final remnant of the old fen grazing and mowing meadows of the Misson/Idle Levels. At last autumn's annual exhibition of the British Entomological and Natural History Society, she presented an interesting exhibit about the site, and some of the information that she presented is summarised here.

The emphasis so far has been on moths, of which 192 "macros" and 76 "micros" have so far been recorded. The list of species is quite impressive, considering that it comes from only eight nights of light-trapping during July and August of 1991, 1995, 1996 and 1997. High numbers of species caught during individual nights indicate that species diversity could be exceptionally high for this part of the UK.

Thirty-eight of the moth species so far recorded are nationally significant, and no fewer than 24 of these are associated with fenland, breckland, wet woodland and other marshy habitats. Although most of the nationally significant species are "macros", there are five "micros" in this category, of which three are newly recorded for Nottinghamshire, these being *Monochroa lutulentella*, *Syncopacma larseniella* and *Sitochroa palealis*. The larval foodplants of these moths are, respectively, *Filipendula ulmaria*, *Lotus* and *Genista* spp. and *Daucus carota*. The remaining two of these five species are known only from one other site in the county and are *Epinotia demarniana* and *Phlyctaenia perlucidalis*.

In the case of one species newly recorded for Nottinghamshire, the Dentate pug, *Anticollix sparsata*, the discovery represents a new 100 km square for Britain. This "Grade A Nationally Notable" moth is generally declining, like various other species dependent on marsh or fenland. Another Grade A National Notable species found at Misson is the Marsh carpet, *Perizoma sagittata*, whose larvae were found feeding on Meadow rue, *Thalictrum flavum*. Interesting non-lepidopterous species include the Black darter dragonfly, *Sympetrum striolatum* and the beetles *Aromia moschata* and *Corticus unicolor*, which are associated with old willows and birches respectively.

Although the Misson site might not be a haven for many extreme rarities, it appears to be of considerable value with regard to current conservation initiatives based on biodiversity. It is an example of a habitat type that is under threat not only in the East Midlands of



England, but throughout Britain and in other countries. Within this context, the occurrence of "indicator species", is of interest. One moth which might fall into this category at Misson is the Marbled white spot, *Lithacodia pygarga*, which, according to a personal communication from Roger Kendrick to Sheila Wright, is associated with calcareous seepages, an important habitat which seems to have been neglected in the designation of candidate Special Areas of Conservation.

Sheila Wright can be contacted at Nottingham Natural History Museum, Wollaton Hall, Nottingham NG8 2AE (tel. 0115 915 3905). The local contacts for English Nature are Ian Butterfield or Steve Clifton (tel. 01476 568431).

Thorne and Hatfield Moors, near Doncaster, Yorkshire, UK

Many naturalists will be relieved to know that English Nature (EN) has dropped its plans to remove protective status from parts of the Special Site of Scientific Interest which was established within this peat extraction area in 1992. Such de-regulation is possible under criteria for assessing the continuing value of existing SSSIs. In this instance, large zones of the peatlands have been drained for commercial peat stripping, and have very little ecological value compared with other zones that are being managed as wetlands under the conservation management agreement between EN and the extracting company, Levington. It has, however, been accepted that the management of the area as a whole, especially regarding its hydrology, is important for the conservation and future expansion of the wetland habitats.

Chafers and pesticides at a military airfield

Anyone who reads the excellent wildlife magazine *Sanctuary*, published by the UK's Ministry of Defence, can be in no doubt about the great ecological value of land which, for military reasons, has been taken out of normal commercial usage. Wildlife conservation is a major secondary objective, subject to defence training requirements, and there are many local groups who study plants and animals on these sites and give advice as to the conservation of their habitats.

No one would pretend that military usage of land has purely beneficial effects, and it is in particular accepted that disturbance due to vehicle manoeuvres can be excessive, even though in moderation it also helps to maintain vegetational mosaics. One thing that may, however, be less well known that it has in the past been standard practice to treat at least some military airfields with insecticides in order



to discourage birds from hunting for insect prey and thus causing bird-strike of aircraft. Although bird-strike is a serious matter, which can occasionally lead to a fatal plane crash, an entomologist could, perhaps, be forgiven for wondering why the poor old insects should be indiscriminately exterminated because of a bird-related problem.

The interesting observation that brought this matter to light in the 1997 issue of *Sanctuary* (No. 26), came from Wg. Cdr. R. Parker, who found a large swarm of the Summer chafer, *Amphimallon solstitialis* at RAF Mildenhall in the summer of 1995. This was a classic swarming of adults emerging from the grass-feeding larval stage (i.e. on the airfield) to move to adjacent trees (supplied by the Forestry Commission) for maturation feeding. He witnessed some further swarming events in 1996, and on one of those occasions some of the beetles flew into a freight aircraft and caused consternation on their arrival at a US airforce base.

It seems likely, as Wg. Cdr. Parker suggests, that these large swarms at Mildenhall have occurred as a result of the discontinuation, in 1991, of the former routine use of insecticides on the airfield. This was the wish of the (then) National Rivers Authority, rather than of insect conservationists. It may, of course, be that populations of insects such as chafers, which can reach pest proportions, are likely to recover more quickly from the discontinuation of pesticide use than some of their natural enemies (apart from the birds, which the pilots don't want to see). Nevertheless, as Wg. Cdr. Parker notes, the cockchafer (*Melolontha*) was once a pest but has been reduced to mostly very low populations by pesticide applications. Another species, the Garden chafer (*Phyllopertha horticola*), still seems to have the potential to kill large areas of grass on airfields and elsewhere.

Now that, for reasons unconnected with invertebrate conservation, the RAF has been reduced to trying to scare the birds away, a non-chemical means of insect control is now being sought. One possibility is the use of parasitic nematode worms, which is an interesting, though somewhat debatable control measure, which we hope to discuss in a future issue of *ICN*.

Aculeate wasps and bees at Sherwood Forest, Nottinghamshire, UK

By examining museum and published records, together with his own recent survey data, hymenopterist Michael Archer has compiled a list of 54 solitary wasps, 48 solitary bees, 14 social wasps and bees, and five ants for Sherwood Forest (*Entomologist's Monthly Magazine*, **132**: 35-44,



1996). The list represented 22.6% of the British aculeate fauna, although some of the listed species may now be absent or even nationally extinct, as in the case of *Mellinus sabulosa*. The value of the site is due partly to the ancient standing oaks (Sherwood is one of England's premier deadwood habitat areas) and open areas of sandy ground, which provide good nest sites.

Regional and national "quality scores" for Sherwood were calculated from the number of species falling into each of several categories of rarity or vulnerability. Thus, each species contributed a value within the series 1, 2, 4, 8, 16 and 32. The quality score was divided by the total number of species to yield a "species quality" score. Sherwood had a better national species quality score (2.9) than the three heathland commons of the Vale of York, although one of these, Allerthorpe Common, had over five times the land area. Interestingly, however, Allerthorpe would have scored slightly higher than Sherwood on the basis of the species that it supported before the planting of conifers.

Obituary

T.C. Dunn, MBE

We received the sad news, via the Durham Wildlife Trust's journal, of Tom Dunn's death last year. Tom was an outstanding naturalist and teacher, whose many interests included Lepidoptera and other insects. He deserves special mention in *ICN* because he was very supportive during our earlier years of publication, when the newsletter was *Insect Conservation News* and even back to the days of the AES Conservation Group bulletin. His was a voice that did much to help the conservation of invertebrates in the north of England, when other people were sometimes too restricted in their understanding of what we now call biodiversity. The story of Brass-side Ponds, Co. Durham, which we reported many years ago, provides just such an example. Tom will be sadly missed by naturalists far beyond his home area.

DL

Journal Review

Journal of Insect Conservation

This new journal began publication in March 1997 under the editorship of Dr. Andrew Pullin of the University of Birmingham, UK. The journal will publish papers on all aspects of conservation and biodiversity related to the insects and closely related groups such as arachnids and



myriapods. These papers will embrace original studies, reviews and expressions of opinion, with a view to bridging the gap between scientific research and practical conservation.

It remains to be seen whether there could be some overlap with the more modest scope of *ICN*, but the new publication is a professionally produced journal at the sort of price that one has to expect nowadays; for example, the 1997 personal and institutional rates for EU subscribers are £80 and £195 respectively. Judging by the first issues, which present four major review papers, the content will be much weightier and more academic than is appropriate in *ICN*. One of the papers, by Dr. Tim New of La Trobe University, Australia, asks the question "Are Lepidoptera an effective 'umbrella group' for biodiversity conservation?" This is well worth reading, as there is a need for debate about the wisdom or otherwise of hoping that the less popular forms of invertebrate life can be adequately conserved by concentrating on more showy species that inhabit the same areas.

Past Meetings

Devil's Spittleful Nature Reserve, Worcestershire, August, 1997

This meeting is reported in the AES Area Reps. Section, above.

Invertebrate Conservation Conference, Peterborough, Sept. 27th, 1997

This, the second Peterborough conference, was well attended and provided the opportunity for a wide range of amateurs and professionals to debate the question of whether a new invertebrate conservation society is necessary and potentially viable. The main problem remains previously hoped-for sources of funding have not materialised, which rather sapped the confidence of those who were arguing for the formation of a new society. It was also felt by some participants that this important debate was not given enough time, compared with the presentations on different kinds of habitat which were given during the morning. However, these presentations were very stimulating, and provided a taste of practical conservation which was much needed.

A summary of the proceedings will be given in a future issue of *ICN*, after they have been published in full. Copies of these proceedings will be sent to all participants, and some will be available for other interested people; details later.



Future Meetings

Captive Conservation of Endangered Invertebrates

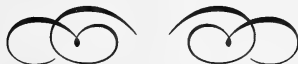
This conference is to take place on Saturday 28th March, 1998 at the Meeting Room, Zoological Society of London, Regent's Park, London NW1 4RY. The conference is organised by TITAG, the Terrestrial Invertebrate Taxon Advisory Group, and will address a wide range of issues, including captive breeding strategies and specific recovery issues. Anyone interested should contact: Adrian D. Durkin, Dudley & West Midlands Zoological Society, 2 The Broadway, Dudley, West Midlands DY1 4QB.

Nonsuch Open Space, Ewell, Surrey

16th May 1998; a meeting of the British Entomological & Natural History Society, to be led by **Roger Hawkins** (01293 783397) & **David Lonsdale** (h: 01420 83742, w: 01420 526242).

As one of the aims of this BENHS meeting is to provide survey data for use by local conservationists, we are publishing the following details here.

Meet at 10.00 hours in the car park (TQ 227634), The Avenue, just off London Rd., Ewell. Railway stations: Ewell West, Stoneleigh, Cheam. Refreshments can be bought in Nonsuch Park. The Park and surrounding land occupies 168 ha (416 acres), now virtually engulfed by south London suburbs. Grassland and woodland habitats occur on Chalk, London Clay, Thanet Sand, Woolwich & Reading Beds and alluvium. Nationally notable species from various orders occur, including the ant *Lasius brunneus* and the spider *Zilla diodia*. A special search will be mounted for the rare myrmecophilous ladybird *Platynaspis luteorubra*; an unconfirmed sighting. Invertebrate records are needed from specialists in all taxa to help protect the area from urban encroachment.



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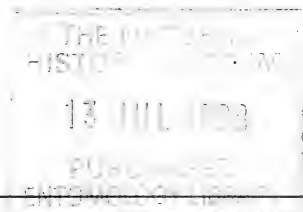
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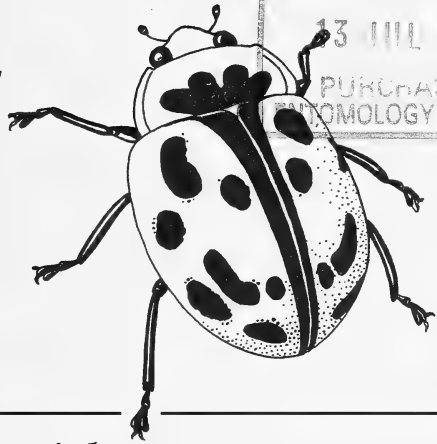
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No. 26, June 1998

Editorial

Throughout the world there is a growing need to conserve wildlife, brought about by the increasing demands of our own species for natural resources. This need is most acute in regions where the potential losses of biodiversity are greatest, especially the tropics, but the very same regions are often the least able to afford the costs of conservation. Detailed knowledge, needed for conservation management, has been largely acquired in affluent temperate countries which possess a relatively small proportion of the world's biodiversity. True, there have been many biological expeditions to the tropics, but these often serve mainly to unearth large numbers of species, many of them new to science and with unknown habitat requirements. The main conclusion seems to be that there is a lot of biodiversity "out there", and that it is very sad but perhaps inevitable that so much of it is being destroyed.

Even in relatively well studied countries like the UK, invertebrates new to science are occasionally found, and it seems possible that some are becoming extinct without ever having been described. Such "unseen" extinction is almost certainly occurring on a massive scale in tropical forests, and this process is currently being highlighted by the fires that have been raging across huge tracts of forest, especially in South America and south-east Asia. It is therefore true to say that we will never know the full impact either of these fires, or of deforestation in general.

A ruthless person could perhaps argue that it doesn't matter that we are destroying biodiversity, but even the most hard-nosed accountant ought to be aware that we are at the same time frittering away our "capital" in the form of finite resources. If we do not learn to manage resources sustainably (and that includes controlling our population growth amongst many other things), we will have to learn our lesson



the hard way. Human beings are already dying because of environmental degradation, but the main impact for the time being is on the species that share the planet with us. Their plight should be seen not just as a concern of naturalists in wealthy countries, but also as a message which has relevance to our own survival.

News, Views and General Information

“Bracken for butterflies”

Although the spread of bracken (*Pteridium aquilinum*) is very often damaging to the diversity of habitats, it provides habitats in its own right for various invertebrates, especially some of the two-winged flies (Diptera). Botanists will also be aware that bracken sometimes forms an association in non-woodland areas with bluebell (*Hyacinthoides non-scriptus*, as the two plants root at different depths and break their dormancy at different times. The flowering of the bluebell in open ground is a spectacular site in the spring.

Violets (*Viola* spp.) are another group of woodland herbs which can co-exist with bracken, and they are important as foodplants for some of the fritillary butterflies. It has been found that the larvae of these butterflies thrive in a very warm environment, which is provided by the sun's rays beating down on the layer of dry bracken litter during the period before the bracken fronds expand. Information about this beneficial property of bracken has been provided in a leaflet, *Bracken for Butterflies*, obtainable on request with an s.a.e. from: Butterfly Conservation, P.O. Box 222, Dedham, Colchester, Essex CO7 6EY.

Insect electrocution traps (again!)

We have recently seen complaints that insect electrocution traps, similar to those used in food-handling premises, are being advertised for outdoor use. They emit ultra-violet light which attracts insects to their death on an electrified wire grid. In most such traps, the light source is effective as an attractant only over a few metres range, but insects from much further afield are obviously able to enter the zone of attraction. It therefore seems possible that the outdoor use of the traps might have the potential to deplete populations of locally distributed species. Although positive proof of harm to populations would require research, the indiscriminate use of total-kill traps seems contrary to the precautionary principle. To put it more emotively, it seems unlikely that ornithologists would be very happy about the use of total-kill bird traps!



In the early 1980s, complaints about such advertisements prompted discussions between entomologists and British suppliers of the traps. One of the points that was made, via the Joint Committee for the Conservation of British Invertebrates (JCCBI), was that the use of total-kill light traps was contrary to the widely accepted JCCBI code for collectors. Assurances were obtained that the electrocution traps were intended for indoor use only, and it seemed at least for a while that subsequent advertisements tended to be less specific about the places where they could be used (see *Insect Conservation News* No. 8, Sept. 1983.).

The press advertisements that have led to recent complaints are quite explicit about the outdoor use of electrocution traps. One, which appeared in *The Daily Telegraph* states: "Unlike most other flykillers, our ultra violet zapper can be used outdoors as well as inside to catch unwary mosquitoes and other flying insects." It seems that the JCCBI may have to renew its representations!

Success of educational slide pack

We are glad to report that the invertebrate slide pack (produced jointly by English Nature and the AES) has proved popular, but we equally regret the fact that we have almost sold out! This news comes only two or three months after the pack was featured in the English Nature magazine. In view of the continuing demand, we will have to consider the possibility of producing a further set of copies. However, even apart from the financial investment required, most of the original slides are not readily available for copying. Secondary copies, produced from the existing copies, would probably not be of acceptable quality; indeed although the existing slide packs do represent much of the superb quality of the originals, they are inevitably not as good.

Sites and Species of Interest

Crayfish surveys

The only crayfish native to Britain, the White-clawed crayfish (*Austropotamobius pallipes*), has died out in many rivers owing to habitat degradation and the fungal disease known as crayfish plague. This crustacean has been given legal protection under the Wildlife & Countryside Act. The fungus that causes crayfish plague, *Aphanomyces astaci*, was accidentally introduced with the North American Signal crayfish *Pascifastacus leniusculus*, which was unwisely released for commercial fishery purposes.



People who work in or near streams and rivers should do their best to avoid spreading the fungus to stretches of water that are as yet unaffected; similar advice applies to the *Phytophthora* root disease of alder (see *ICN 24*). A guide on crayfish plague is available in England and Wales from the Environment Agency, Rivers House, East Quay, Bridgewater, Somerset (Tel. 0645 333111).

The Wildlife Trusts of Somerset, Wiltshire and Staffordshire have recently publicised the need to conserve the few remaining populations of the White-clawed crayfish that exist in those and in other British counties. In particular, the Somerset Trust has published a most interesting article by Richard Thompson in its journal *Nature in Somerset*. In the Mendip area of Somerset, the District Council has a species Action Plan for the crayfish. Also in the Exmoor area, a surviving population enjoys some protection within an SSSI. In the case of Wiltshire, the status of the crayfish in the north-west of the county is to be investigated by the Environment Agency and the Cotswold & By Brook Project.

The North Yorks Moors National Park is another area that has recently been surveyed for the crayfish. This has been done by the Park Authority with grant-aid from English Nature, and has revealed populations in the rivers Rye and Derwent and their tributaries.

Stag beetle campaign

The Stag beetle (*Lucanus cervus*), the largest terrestrial invertebrate native to Britain, is one of the forty-five invertebrates which has a UK national Biodiversity Action Plan (see *ICN 24* about the local involvement of the Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust).

As with many other deadwood-inhabiting invertebrates, the Stag beetle appears to have died out at many sites due to inappropriate tidying-up of decaying tree trunks and stumps. There is also some reason to suspect that the removal of specimens from the wild could adversely affect its populations, partly because of its attractiveness as a pet or curio, and partly on the premise that the larger the species, the greater the impact of removing individuals from the population. Also, there have been occasional cases where unscrupulous entomologists have dismantled large volumes of deadwood habitat. Due to these considerations, trade in wild-caught specimens of the Stag beetle has recently been outlawed in Britain.



As part of the Stag beetle Biodiversity Action Plan, the People's Trust for Endangered Species (PTES) has formed a Stag Beetle Focus Group to generate publicity for a national survey in the summer of 1998 ("The Great Stag Hunt"). This was launched on 14th May at Richmond Park, a well known Stag beetle locality, in the presence of Mr. Michael Meacher, Minister of the Environment. Evidence of the beetles' presence at individual sites may help to highlight the importance of protecting deadwood habitats in general. It will also be interesting to gain more information about the beetles' distribution pattern. It now seems to be confined mainly to south-east and central southern England, with relative strongholds in the London area and the New Forest.

The PTES has produced an advisory leaflet with a survey form attached, copies of which are available from the wildlife trusts in England. Some of the trusts have already circulated copies to their members. Other information about the survey can be obtained from the PTES at 15 Cloisters House, 8 Battersea Park Road, London SW8 4BG (tel. 0171 498 4543; fax 0171 498 4459; e-mail stags@ptes.co.uk).

Surrey mollusc survey

The Surrey Wildlife Trust has published a very useful and informative article by Jan Light on slugs and snails. This includes information on the distribution of species in relation to geology and an ecological evaluation of the various control measures for pest species. Jan Light is the marine recorder of the Conchological Society of Great Britain & Ireland and is also running a recording scheme for the molluscs of Surrey as part of the county's Invertebrate Atlas Project. She would welcome assistance with this project and can be contacted at: 88 Peperharow Road, Godalming, Surrey GU7 2PN (tel. 01483 417782).

White-faced darter at Thursley Common, Surrey

In ICN No. 22, a report was quoted to the effect that a dragonfly, the White-faced darter (*Leucorrhinia dubia*), seemed to have died out at Thursley Common National Nature Reserve, Surrey. The reserve has been recorded as the most southerly site for this species in Britain, where it is nationally rare. However, the British Dragonfly Society has reported that a few adults were seen at Thursley in 1997. As mentioned previously, some new pools have been blasted at the site, and it is hoped that these will be colonised by the dragonfly.



Marsh Fritillary recording scheme in Pembrokeshire

The Marsh Fritillary (*Eurodryas aurinia*) has now become fully protected by law in the UK under the Wildlife & Countryside Act, owing to its internationally endangered status. With its disappearance in parts of Europe where agriculture has intensified, the more western parts of the UK remain a relative stronghold. In the county of Pembrokeshire, the Wildlife Trust is monitoring populations of the butterfly, and is asking for volunteers to assist with this work. They are asked to contact Alison Wheeler (tel. 01559 371157).

Feltham Marshalling Yards, Greater London

This extensive area of land, on the borders of the outer London Boroughs of Hounslow and Richmond, ceased nearly thirty years ago to be used as railway marshalling yards. It has developed a diverse flora and fauna, and was for many years defended for its value as a wildlife site by the late Peter Cribb and other local naturalists. Indeed, there is now a local nature reserve on adjacent land on the opposite bank of the River Crane.

Unfortunately, by the criteria that may be applied by planners, the Marshalling Yards could be regarded as a brownfield site, ripe for development (see the editorial in *ICN* 25). It is therefore not surprising, though very disappointing, that the eastern portion of the site is now the subject of a planning application for what is described by objectors as a "huge industrial estate". Apparently, this estate would include some extremely large buildings, including a 5 acre (2 ha) workshed, itself dwarfed by a new postal sorting office to replace existing Royal Mail facilities at Twickenham and Kingston. There would also be a 628-place car park.

On the other side of the argument, a leaflet entitled "New Future for the Feltham Marshalling Yards" has been published by and on behalf of the prospective developers, British Land and Railtrack plc. They say that the scheme has been designed to meet employment needs and to meet the requirements of the Hounslow Unitary Development Scheme. They also refer to various benefits, although these might not appear to have a great effect on the *status quo*. For example they say that Railtrack will allow the formalisation of access to the western marshalling yards, and that this area will be subject to an appropriate management and nature conservation plan. However, the area already has both wildlife value and *de facto* access.



The objectors have issued a statement, pointing out that the proposed developments would destroy a large area of the grassland habitats and an area of previously protected woodland. They quote a report from the London Ecology Unit which bears out Peter Cribb's assessment of the site many years ago. The Unit is said to have described the Marshalling Yards as "probably the largest and best quality wasteland site in Greater London". A survey report, prepared in 1988, is said to list 21 butterfly species and 100 moth species, as well as various rare plants. It is not clear whether, at this stage, assistance with further invertebrate recording would be of any use to the objectors, but we hope to provide more news in a later issue of *ICN*.

The Hornet robber fly in Wales

The Hornet robber fly (*Asilus crabroniformis*), a rather spectacular predator of other insects, was once widespread in lowland England and Wales, but is now known from fewer than 20 sites, concentrated in the Dorset heathlands of southern England and in parts of South Wales. Recent news of surveys in Wales has come via the February 1998 issue of *Urban Wildlife News* (a publication of the national conservation agencies in Great Britain) and in a report (to the JCCBI) provided by Adrian Fowles of the Countryside Council for Wales (CCW).

In the 1997 surveys, two previously unknown populations were found near Swansea and on the Gower Peninsula. One important feature of these habitats is the presence of grazing mammals, whose dung supports the beetles which make up the prey of the larval stage of *A. crabroniformis*. This relationship brings to mind the problems caused by the administering of the anti-helminthic drug ivermectin to livestock (see *ICN* 23). As it is classified as a drug, it is not subject to the same environmental regulations as pesticides, but it is very damaging to dung-feeding invertebrates.

In addition to CCW's site surveys for *A. crabroniformis*, the autecology of the insect was studied by Peter Skidmore and Dave Clements. They concentrated on adult behaviour, particularly oviposition, and larval ecology.

Further information about the Hornet robber fly in Wales can be obtained from David Painter or Jonathan Graham, Countryside Council for Wales, RVB House, Llys Felin Newydd, Phoenix Way, Swansea Enterprise Park, Llansamlet, Swansea SA7 9FG (tel. 01792 771949; fax 01792 771981).



The Black bog ant in West Wales

In his latest report to the JCCBI, Adrian Fowles of the Countryside Council for Wales has reported that the rare Black bog ant (*Formica candida*) was recently re-discovered on Rhossili Down on the Gower Peninsula of West Wales. This was followed in 1997 by an extensive survey, involving transects across the slopes, and the results indicate that the population of the ant at this site is one of the largest in the UK.

There is a national Biodiversity Action Plan for the ant, in which the West Wales Wildlife Trust is the "lead partner". The Trust reports that Adrian Fowles and his colleague Mike Howe, with other biologists, have been monitoring the known population of the ant at the Cors Goch Llanllwch National Nature Reserve. An autecological study of this population has concentrated on nest-founding, gyne-worker composition, food preferences and inter-nest relations.

Continued decline of Dorset heathland

The heathlands of southern Britain are very important for invertebrates, as the drier types of heath support many warmth-loving species which are near the limits of their geographic ranges. There are also many species which inhabit the acid boggy areas which occur within many of the heathlands. The Dorset heathlands were once very extensive, but have declined greatly in area over the last two centuries, as mentioned in the AES book *Habitat Conservation for Insects*, published in 1991.

The figures quoted in the AES book were 40 000 ha in 1750, reducing to 5000 ha by 1980, with an estimated continuing loss of about 260 per annum. That rate of loss has clearly not been sustained, as it would by now have led almost to the elimination of the Dorset heathlands. Some losses have, however, continued, as shown by a study summarised by the Institute of Terrestrial Ecology (ITE) in its 1996-97 Scientific Report. The study was partly funded by the Royal Society for the Protection of Birds and Dorset County Council.

In the ITE study, carried out by N.R. Webb, R.J. Rose and R.T. Clarke, four categories of heathland were recognised: (1) dry heath, dominated by heather (*Calluna vulgaris*); (2) humid heath, co-dominated on areas of impeded drainage by heather and Cross-leaved heath (*Erica tetralix*); (3) wet heath, which has a water table within 100 mm of the surface and is dominated by Cross-leaved heath and the mosses *Sphagnum compactum* and *S. tenellum*; (4) peatland or valley mire, dominated by species of *Sphagnum* on an organic substrate which is waterlogged for much of the year.



According to the data in the graph provided (which do not seem to tally with the text of the report), the overall area of heathland declined from 5466 ha in 1978 to 5262 ha in 1996, a loss of 2%. This loss was almost entirely attributable to vegetational succession, in contrast to losses in earlier decades which had resulted more from changes in land use.

Within the four categories of heathland, there was some decline in dry heath, probably due to succession to scrub and woodland. Conversely, the area of humid heath increased slightly, perhaps at the expense of zones that were previously identified as wet heath but later became drier. Indeed, the area of wet heath decreased from 838 ha to only 443 ha, with most of this decline having occurred between 1987 and 1996. Also, the peatland area declined from 591 ha to 445 ha, following a period of little change between 1978 and 1987. It thus appears that the main change in the Dorset heathlands in recent years has been due to drying out. This observation clearly has implications for future management, following a period in which the major concern was the change in land use.

The butterflies of Belgian Lorraine

A group of amateur entomologists has recently published the results of a study of the status of all the butterfly species in the Lorraine district of Belgium (bordered by France and Luxembourg) found over five seasons (1990-94). This report, by Eric Cavalier, Jean-Luc Renneson, Paul Taymans and Yves Valenne, has appeared in No. 34 (1998) of *Notes Fauniques de Gembloux* which is one of the journals exchanged with ICN.

For each of the 84 species recorded there is a distribution map, showing whether the species is generally present or occurs as a migrant or only within the north or the south of the 10 km square concerned. There are also notes on the habitat, breeding pattern, population density and status of each species. For example, the Marsh Fritillary (*Eurodryas aurinia*) is shown in four of the 21 squares and said to be in serious decline. The Grayling (*Hipparchia semele*) is also said to be endangered in this district, and is shown in only one square. The distribution of a few legally protected species, such as the Heath fritillary (*Mellicta athalia*), is confidential and is not shown.

In addition to the accounts of the various species, the authors have placed them into categories, based on distribution and status. For example about 45% of the species belong to Category 4, which consists



of rare or extremely localised species, of which six are restricted to the Lorraine district within Belgium as whole. These six are as follows: Glanville fritillary (*Melitaea cinxia*), Chestnut heath, (*Coenonympha glycerion*), Blue-spot hairstreak (*Nordmannia spini*), Adonis blue (*Lysandra bellargus*), Green-underside blue (*Glaucopsyche alexis*) and Large copper (*Lycaena dispar*).

Finally, there is a table showing the decline (or otherwise) of each species during the decades of the present Century.

Leaflet Review

British Trust for Conservation Volunteers: Woodland Action Leaflet

This leaflet was published, with sponsorship from Halifax plc, to coincide with the BTCV's fifth annual Woodland Action Week at the end of February 1998. It outlines the history of woodlands in Britain and also explains the various benefits that woodlands provide, including wildlife habitats, a recreational and amenity resource, carbon dioxide sinks and sources of timber. Emphasis is placed on the need to establish new woodlands which can be managed so as to augment ancient woodlands which now occupy only 200,000 ha in Britain and are often isolated.

The need for long term management plans is stressed in relation to the various options that exist. The need to manage woodlands with different types of wildlife in mind, including invertebrates, is explained. In this context, notes are provided on coppicing, dead wood protection and the maintenance of structural diversity at woodland edges, rides, glades and by areas of open water.

The leaflet includes a good deal of other information on matters such as health and safety for conservation work, involvement with local people and groups, celebratory events and educational activities. There is also a further reading list (including Peter Kirby's book *Habitat Management for Invertebrates*, but not the AES book which preceded it), and a list of useful addresses. The only invertebrate organisation on the address list is Butterfly Conservation but this is probably no reason to criticise BTCV, as there is not yet an organisation for British invertebrates in general that can handle the day-to-day issues of conservation.



Future UK Meetings

As an experiment (comments welcome!), we are listing a number of invertebrate meetings selected from available programmes of wildlife trusts. Please note that attendance at meetings of organisations other than the Amateur Entomologists' Society may be subject to certain conditions which are not stated in the following list: e.g. restricted numbers, no dogs allowed etc. For this reason, anyone who is not a member of the organisation concerned and would like to attend should first speak to the meeting organiser concerned, whose phone number is shown. It should also be noted that the Amateur Entomologists' Society does not accept responsibility for any errors in the details provided here.

Joint Committee for the Conservation of British Invertebrates

August 22nd (Saturday): general invertebrate meeting with Dr. Paul Waring, in the New Forest, Hampshire, with nocturnal session by arrangement. The area includes various oak woodlands with mature trees. Meet at 11 a.m. in Whitley Wood Car Park, off the A357 (SU 300055). Bring packed lunch. Please ring or write to Dr. Paul Waring, 1366 Lincoln Road, Werrington, Peterborough, Cambridgeshire PE4 6LS (01733 571917).

Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust

July 10th (Friday): "Creatures of the Night - Stag beetles and other beasties", with C. Bailey, M. Harvey & Maiden Earley Park Rangers; meet at 7.30 p.m. at the weir in the park (SU 750710), car parking along Instow Road, Earley, Berkshire. Please ring C. Bailey (01865 775476) or R. Harrington-Vail (0118 986 8995).

July 23rd (Thursday): "An illuminated evening at Holtspur Bank" (glow-worms), with M. Young; meet at 7.30 p.m. by the scout hut in Cherry Tree Road, Beaconsfield, Buckinghamshire (SU 924905). Please ring M. Young (01628 472000).

July 26th (Sunday): Butterflies, moths, ants and ladybirds at Pilch Field, Buckinghamshire with M. Killeby; meet at 2 p.m. at the Reserve entrance on Pilch Lane (SP 747322). Please ring M. Jones (01296 713696).

Gloucestershire Invertebrate Group

July 18th (Saturday): at Moseley Green and Cannop Valley (Forest of Dean); grassland, woodland and aquatic invertebrates (incl. crayfish); meet at 10.30 a.m. along lane off the B4431 (SO 632086). Please ring Roger Gaunt (01594 530475).



September 19th (Saturday): at Sandpool Farm and Somerford Lakes; diverse habitats (special interest in bush crickets and mining bees); meet at 10.30 a.m. in Neigh Bridge Car Park (SU 017946) on the Spine Road, south-west of Somerford Keynes. Please ring David Haugh (01242 513544).

October 18th (Sunday): Highnam Woods; species include ancient woodland molluscs and wood-boring beetles; meet at 10.30 a.m. in RSPB Car Park off the A40 (SO 778190). Please ring Keith Alexander (01285 651171).

Hampshire Wildlife Trust

July 4th (Saturday): guided walk and butterfly transect on Portsdown Hill with Theo Roberts; meet at 10 a.m. at Fort Purbrook car park (SU 679063). Please ring Mike Harris (01705 384538) or Alan Thurbon (01705 325570).

July 18th (Saturday): butterflies on Bartley Heath, with Paul Boswell; meet at 2 p.m. at Cotman's Corner (SU 723525). Please ring Tony Lear (01256 763492).

July 26th (Sunday): dragonflies and damselflies on the Basingstoke Canal with Drs. Chris and Bill Wain; meet at 2 p.m. at Claycart Bridge car park (SU 853257). Please ring John Ayres (01252 617351).

North Kent Wildlife Preservation Society/London Wildlife Trust

July 24th (Friday): bat and moth watch at Footscray Meadows (TQ 464724) with Barry Cheal; rendezvous at 8.30 p.m. at Sidcup railway station. Please ring Barry Cheal (0181 300 8036).

Somerset Wildlife Trust

July 12th (Sunday): butterfly walk in Bentley Woods, with John Patterson; meet at 10 a.m. at the Reserve car park (ST 264293). Information available via the Trust office (01823 451587).

Sussex Wildlife Trust

July 5th (Sunday): Watch group (juniors) "Not so ugly bug ball" at Woods Mill Countryside Centre; meet at 2 p.m. Please ring Jenny Baker (01444 483507) or Lucy Webber (01273 492630).

July 19th (Sunday): Watch group (juniors) butterfly hunt on South Downs near Madehurst; meet at 2 p.m. on the minor road between Madehurst and Houghton (SU 993105). Please ring Jenny Baker (01444 483507) or Lucy Webber (01273 492630).

**Worcestershire Invertebrate Group**

July 11th (Saturday): Grafton Woods; local experts will cover various taxa, meet at 10.30 a.m; moth trapping evening to follow. Please obtain other information from Geoff Travis (01905 774952). (A note about this newly established group is to appear in *ICN* 27.)

The Wildlife Trusts**(Cambridgeshire, Bedfordshire, Northamptonshire)**

July 16th (Thursday): Watch Group (juniors) "beastly hunt" with sweep nets and pooters at Houghton Regis, Bedfordshire; meet at 6.30 p.m. at Houghton Regis Pavilion (village green). Please ring 01582 415225.

July 19th (Sunday): Butterfly walk in Potton Wood, Bedfordshire with Paul Woiwood (fee payable); meet at 2 p.m. at Potton water tower (TL 247495). Please ring Gavin Kennerley (01234 364213).

August 8th (Saturday): Watch Group (juniors), butterflies and dragonflies at Hinchingsbrooke Country Park nr. Huntingdon; meet at 10.30 a.m. at the Visitor Centre. Please ring the Rangers (01480 451568).

August 13th (Thursday): Watch Group (juniors) "minibeast hunt" (fee payable) at Graffham Water, Cambridgeshire; meet at 2 p.m. at the Wildlife Cabin, Mander Car Park. Please ring Jo Calvert (01480 812660).

**Erratum**

The editorial of *ICN* 25 referred to the campaign for the "right to roam" in the UK. This campaign is concerned only with uncultivated land; the use of the word "cultivated" on line 10 of the editorial was a typographical error, for which we apologise.

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NOTICE

It is to be distinctly understood that all views, opinions, or theories, expressed in the pages of this Journal are solely those of the author(s) concerned. All announcements of meetings, financial grants offered or sought, requests for help or information, are accepted as *bona fide*. Neither the Editor, the Officers and Council of the Society, nor its Trustees, can be held responsible for any loss, embarrassment or injury that might be sustained by reliance thereon.

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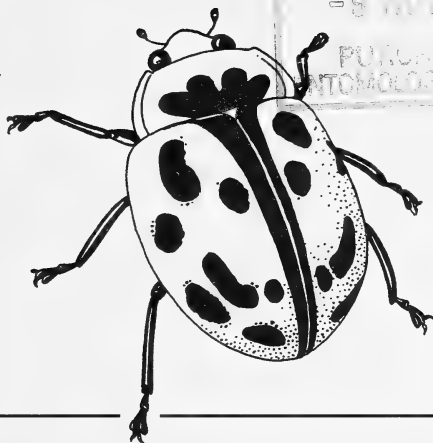
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INVERTEBRATE CONSERVATION NEWS



No. 27, October 1998

Editorial

In this issue of *ICN* we report the publishing of a new code for collectors of fungi in the UK; a code which has appeared many years later than its counterpart for insects, which was produced by the Joint Committee for the Conservation of British Invertebrates (JCCBI). The JCCBI code has been widely accepted, probably because it represents the sort of moderation which is in any case observed by scrupulous entomologists. The new code for the collection of fungi (see below) is fairly similar in tone, but it may be less compatible with current mycological practice than the JCCBI code has proved to be with current entomological practice. In particular, the code could clash with the quite common practice of removing a large proportion of the fungal fruiting bodies present within a fungus foray area. Also, there is an increasing interest in the gathering of wild fungi for food, often on a commercial scale.

As far as the fungi themselves are concerned, mycologists argue that the removal of fruit bodies is analogous to removing fruit from a tree and should not be likened to the removal of the tree itself, nor even the uprooting of much smaller types of green plant. Although it is almost certainly correct to assume that fruit bodies can be removed without harming the fungal mycelium to which they are attached, it is not known whether the concomitant loss of spore-bearing capacity can affect the ability of the species to establish new colonies and survive in the long term.

For fungi, as for invertebrates, any harm that might be caused by collecting is vastly outweighed by habitat destruction due to changes in land use. A lesser degree of habitat destruction can of course occasionally result from the collection of specimens, whether of fungi



or of invertebrates. For example, considerable harm can be done to deadwood habitats if excessive amounts of material are dismantled. However, the major difference in the situation facing mycologists, as compared with entomologists, is that fungi are themselves habitats for many other species, principally invertebrates.

It is not known to what extent, if any, the removal of fungal fruit bodies during fungus forays might be a threat to populations of dependent invertebrates. When fruit bodies are removed or destroyed their existing inhabitants are usually doomed, but at least the more mobile species will be able to recolonise the site when new fruit bodies develop. More worrying is the increase in culinary collecting, which could be expected to deplete the habitat more seriously in some areas, especially when damage is done to the litter layer by the undesirable practice of raking. More particularly, it seems possible that invertebrates with specialist requirements and poor powers of dispersal could suffer local or even total extinction due to removal of their habitat. This problem of habitat damage makes it particularly hard to decide how much restraint should be urged on collectors.

Controversy in the British press has followed the publication of the code (e.g., *The Daily Telegraph*, 31st August 1998 and *British Wildlife* 9: 349-356). A major fear of those who defend individual freedom is that proposals in the code could be enforced almost like law by landowners and managers. Entomologists in the UK may feel a sense of *déjà vu*, but they should perhaps have some appreciation of the fact that, unlike amateur mycologists, they have the JCCBI as a talking-shop and a provider of codes.

News, Views and General Information

Events and developments in Worcestershire, UK

A note from Geoff Trevis,

Worcestershire Conservation Representative for the AES

A meeting was held on 13th May at the Worcestershire Wildlife Trust headquarters. It was attended by a wide range of experts in various taxa. Several representatives had an interest in invertebrates and the opportunity was taken to try to launch a Worcestershire Invertebrate Group. This group is not seen as competing with established organisations such as Butterfly Conservation or the British Dragonfly Society but rather to encourage interest in less well recorded taxa. The Group will aim to collate records from the county, to arrange field meetings and to provide a focus for entomologists. We will hope to



publish a newsletter and scientific reports. Some AES members are already involved and we hope that others who have not yet been in touch will take the opportunity to make contact and help with the recording and conservation of the county's invertebrates.

The Worcestershire Invertebrate Group will be independent, though with close links to the AES, Worcestershire Wildlife Trust and the Worcestershire Biological Records Centre. AES members who would like to join are invited to contact me at 14, Old Coach Road, Droitwich Spa, Worcestershire WR9 8BB (tel. 01905 774952).

Synthetic pyrethroid sheep dips

Due to serious concerns over the health risks to people handling organo-phosphate (OP) sheep dips, British farmers have been increasingly switching to dips based on synthetic pyrethroids (SPs) for the control of sheep scab. These are much less toxic than OPs to humans, but they are extremely potent insecticides which can wipe out aquatic invertebrates if they find their way into watercourses. Such problems have resulted from particular spillage incidents. Two such cases in Wales, which were mentioned in a recent issue of the environmental newsletter *Habitat*, involved the River Wye and the Afon Twrch, a stream flowing into Llyn Tegidm. It seems likely that less spectacular contamination of waters is occurring from routine use.

The news item in *Habitat* mentions that a joint letter, expressing grave concern about the use of SPs, has been sent by two government agencies to Welsh Office minister Win Griffiths. The two bodies concerned are the Environment Agency, which has responsibility for rivers, and the Countryside Council for Wales.

Butterflies for the New Millennium: recent progress

In the summer 1998 newsletter for the BNM project, co-ordinator Richard Fox reported that the total number of records in the national database had already doubled during the year so far. The number was 630,000, covering 85% of the 10km squares in Great Britain, Northern Ireland and the Isle of Man. Within some of these squares a number of 1km squares and tetrads remained under-recorded, but local co-ordinators had been asking recorders to fill in these gaps. The aim is to produce an atlas in the year 2000, which will include both current distributions (1995 to 1999) and earlier data. Many of the earlier data will come from BRC records, but other records are being requested. Another development has been the launch of BNM – Ireland by the Dublin Naturalists' Club in association with Butterfly Conservation and the Biological Records Centre (BRC).



Code of conduct for collection of fungi in the UK

On 3rd September 1998, a code entitled "The Wild Mushroom Picker's Code of Conduct" was published by English Nature in conjunction with the Woodland Trust, The National Trust (of England, Wales & Northern Ireland) and the Forestry Commission. The code itself is accompanied by a coloured leaflet, under the separate title of "The Conservation of Wild Mushrooms". This serves as a preamble to the code, explaining what fungi are and why they are vitally important in ecosystems and as a resource for humans. Prominence is given to the role that fungi play as habitats for over 1000 British invertebrates, and there is a picture of the rare erotylid beetle *Triplax russica*, which occurs in and among fungi on dead wood.

The leaflet addresses the question as to whether collecting poses a threat to fungi and their dependent organisms. As far as the fungi themselves are concerned, it is made clear that evidence of harm does not currently exist. However, the need to apply the precautionary principle is stated. The final section of the leaflet outlines the possible application of UK laws to collectors of fungi.

The code itself is divided into five sections, some of which are directed at different interest-groups. The first section gives general guidelines, including advice to obtain landowners' permission and to follow the Country Code. It also emphasises the need to avoid damage to habitats, such as leaf litter and dead wood.

The second section of the code is directed at those who collect for the pot; i.e. individual fungus-eaters rather than commercial pickers. As well as warning people about poisonous species, these guidelines stress the need to collect edible fruit bodies only in moderation and to avoid picking or destroying those of species which are not to be eaten. The recommended limit for a site visit is a total of 1.5 kg or half of the fruit bodies of any single species present, whichever is the lesser. A warning is also given that culinary collecting on many protected sites, such as nature reserves and SSSIs, is not likely to be allowed and should never be done without prior consultation with the site owner or manager.

The next section, "Guidelines for scientific collecting", is aimed mainly at those who collect fungi for the purposes of study. It acknowledges that specimens have to be taken, while urging that no more should be taken than are strictly needed for study. It also states that the results and significance of the findings should be made known, both to the site owner or manager and to museums and databases. The next section, "Advice for foray leaders", echoes the guidelines on



scientific collecting, while also emphasising the additional safeguards that may apply when large groups of people are involved. It also adds a warning to avoid the use of rakes except where absolutely essential, in which case the raked areas should be restored as far as possible.

The final section is "Advice for landowners and managers". While suggesting that foray groups are generally to be welcomed, this advice also raises the idea that owners may wish to set limits on the number of visits. It also indicates that it will "probably be inappropriate" to limit picking to scientific collection on nature reserves or other protected areas like SSSIs. It furthermore points out that, on SSSIs, the picking of fungi may require consent from the statutory nature conservation body. Unlike the rest of the code, this section also deals specifically with commercial collecting. It sets out some of the limitations which landowners may wish to impose, for example regarding the species that are to be collected and the area covered by the permission. Other possible limitations mentioned relate to the quantities of fruit bodies, the collecting methods and the season.

On the whole, the code seems to represent a moderate application of the precautionary principle as far as fungi themselves are concerned, and a warning to those who have not hitherto been aware of the importance of fungi as invertebrate habitats. It is to be hoped that the arguments about dependent organisms may persuade people that collecting without restraint may be more damaging than they formerly realised. On the other hand, some people may quite reasonably ask whether the designation of a site as "protected" is sufficient reason to discourage owners and managers from allowing collecting. Most field naturalists have traditionally supported such designation, but their support could falter if they come to feel that it tends to result in the unnecessary curtailment of their private study, or indeed of their personal freedom. (Some issues raised by this code are addressed in the editorial of this issue of *ICN*.)

Both the code and the accompanying leaflet are available free of charge in the UK from English Nature's Enquiry Service (tel. 01733 455101). Information on the code can also be obtained from Dr. Brian Johnson (tel. 01823) or Carl Borges (tel. 01209 796666).

Urban development: greenfield versus brownfield sites

In *ICN 25* an article under the above title questioned the currently "received wisdom" that the demand for millions of new houses in Britain should be met by building on so-called brownfield sites always in preference to greenfield ones. Subsequently, the May 1998 issue of



English Nature magazine carried an article entitled "Making the of Town Land". This refers to a new English Nature report "*A Framework for the Future: Green Networks with Multiple Uses in and around Towns*". The report concludes that arteries of "green" land within built-up areas can be expanded into national networks so as to enhance wildlife habitats and the environment for people. It is argued that such networks are needed to complement the local Biodiversity Action Plans which focus on core areas of habitat only.

The article in the EN magazine does not indicate to what extent the green arteries that have been identified come under the "brownfield" or the "greenfield" label. In reality many brownfield sites are far richer in wildlife, especially invertebrate life, than intensively farmed greenfield ones. This has been pointed out in the *ICN* article and also in an article by Barry Cheal in the magazine of the North Kent Wildlife Preservation Society (issue No. 3, 1998). Anyway, it is good to see signs that one of our statutory agencies might be willing to challenge the current greenfield-brownfield dogma.

The Cribb Award for invertebrate conservation

The Amateur Entomologists' Society has decided to set up a small award in memory of the late Peter Cribb, who gave outstanding service to invertebrate conservation and to amateur entomology in general. The award, which will have a value of approximately £50, will be made periodically to individuals who have made a significant contribution to invertebrate conservation. A panel will consider nominations annually, although the AES will reserve the right to make the award only when the nominations include a candidate of appropriate merit. Precise details regarding eligibility, rules and procedures will be announced in a future issue of the main *AES Bulletin* and on the Society's website. Another suggestion which was made by some of Peter's friends soon after his death in 1993 was that a series of memorial field meetings should be held in his old haunts in the Ditchling area of East Sussex. This possibility is being explored, and we hope to be able to report progress in a future issue of *ICN*.

The TCD Annual Natural History Weekend

As sadly reported in *ICN* 25, the well known naturalist and insect conservationist Tom Dunn died last year. It has been decided that there should be an annual field event to celebrate Tom's life and work. Due to problems with timing, we were not able to relay the details of the 1998 event in *ICN*, but it may be possible to provide a report on it in



due course. The primary purpose of the gathering was to add information on the Lepidoptera of Hamsterley Forest, one of Tom's old haunts. It was due to be hosted by the Durham Wildlife Trust during the weekend of 25th-26th July on behalf of local societies, individuals and the British Entomological & Natural History Society.

Sites and Species of Interest

The Large heath butterfly at Otterburn, NE England

An entire article is devoted to the Large heath, *Coenonympha tullia*, in the 1998 issue of *Sanctuary*, the conservation magazine of the British Ministry of Defence. In the article, Harry Eales points out that 145 of the 212 sites where this scarce butterfly occurs in England and Wales are in the north-eastern county of Northumberland. Colonies are known from a further five English counties, but the butterfly has become extinct within an additional six where it was formerly recorded.

Harry Eales states that the decline of this insect in Britain has been entirely due to the lowering of water tables. Its larval foodplant, the Hare's-tail cotton grass (*Eriophorum vaginatum*), will only grow in very wet conditions. The adults feed on Cross-leaved heath (*Erica tetralix*), which also grows in a similar environment. Both plant species decline and eventually die out if their sites become drier. Although *C. tullia* is but one species which happens to be a relatively attractive one, the degradation of its habitat has severe consequences for many other invertebrates with similar requirements. Harry Eales quotes a figure of 3500 such species as being recorded from raised and blanket bogs and from other types of mire where *C. tullia* occurs.

The Otterburn Army Field Training Centre occupies 22,900 hectares of windswept uplands. Within this large expanse, *C. tullia* has so far been found at 28 sites, all of these being blanket bogs. Most of these sites are barred from public access, as they lie within impact areas for live firing, but four of them lie within an area at Darden Lough, around which people are allowed to walk on a restricted circular route. Even authorised personnel are allowed to enter the remaining sites only on certain days when firing is not taking place, and there are often merely two or three such days during the flight period each year. With unsuitable weather on some such occasions, survey work is difficult and much still needs to be done.

Although the military use of the Otterburn area restricts human access, it has probably been very beneficial to *C. tullia* and other



moorland invertebrates. Many similar upland areas have been drained and planted with conifers. However, another use of the area, i.e. grouse shooting, does have some implications for *C. tullia*, as it involves the periodic burning of the heather. This practice has the potential to wipe out the insect's colonies if it is done over too large an area. Restriction of burning is therefore advisable within areas where colonies are known to occur. Harry Eales points out also that the cotton-grass tussocks which the butterfly needs for oviposition and for larval overwintering can take up to ten to fifteen years to develop from the seedling stage. Existing tussocks survive burning, but they lose the dead plant material which is needed for oviposition and which takes several years to build up again. Despite the possibilities of damage from burning, the survey has shown that some large colonies in the training area are close together and could probably be re-colonised by the butterfly even if its habitat were locally destroyed.

Over-tidy beaches and the strandline beetle *Nebria complanata*

It is widely known in the UK that the use of land for military purposes, thought not without its drawbacks, has been extremely valuable in protecting wildlife habitats from damage from intensified agriculture and conifer afforestation. The above-mentioned article from *Sanctuary* magazine about the Large heath butterfly provides a good example of this. Perhaps less well known is the beneficial effect of beaches being under the charge of the armed forces! After all, beaches do not generally need protection from intensive agriculture or forestry. However, an article by Jack Donovan in the same issue of *Sanctuary* draws attention to the damaging effects of intensive public use of beaches. This may involve over-zealous tidying-up by local authorities, the removal or burning of deadwood flotsam and disturbance of habitats by dogs.

The difference between beaches with either frequent or infrequent public access was apparent from a survey of the carabid beetle *Nebria complanata* in Pembrokeshire. Unlike most inland carabids, this handsome species is mainly very light-coloured, with darker streaks on its elytra. Specimens were found mainly under strandline detritus, including pieces of wood, and were concentrated in areas where the upper strandline merged into a dune system without a cliff feature. Jack Donovan refers also to research which was done on this beetle many years ago. This indicated that logs on the beach were important as shelter from extremes of temperature and humidity. It was also found that the females laid their eggs above the strandline in holes which they left open; this may mean that backfilling by disturbance could be a problem for survival or for larval emergence.



In the recent survey, a comparison was made between Frainslake Sands, which is little disturbed, and the nearby Freshwater West, where many people walk with dogs or collect wood as beachcombers or barbecue users. Whereas 314 specimens were found at the former site, only one was found at the latter. As some of the loss of habitat on public beaches is due to tidying-up by local authorities, it seems clear that a different attitude on their part needs to be fostered. The author puts in a plea for some areas to be left undisturbed, so that beach detritus, preferably consisting of natural materials such as logs and stumps, can be retained.

British moths

The news bulletin of the National Moth Conservation Project (April 1997 to March 1998) includes news of work on a number of rare and endangered species. The presence of the Small Dotted footman (*Pelosia obtusa*) was confirmed at Catfield Fen, Norfolk by Dr. Paul Waring with members of the Norfolk Moth Group and the local branch of Butterfly Conservation, which has a reserve at the site. Paul mentions that the British range of this species is confined to several sites within the Norfolk Broads, where it appears to be associated with Common reed (*Phragmites communis*). Interestingly, the larvae feed on green algae of the *Desmococcus/Pleurococcus* type, which develop on the lower stems of the reed if these have remained uncut or undisturbed for some years. The concern is that the efforts of several organisations to re-establish regular reed-cutting could destroy the habitats of this moth, but the recent discoveries should increase the chance of averting this. However, it is important as a matter of principle that the restoration of any traditional but neglected land management practices should be planned judiciously.

Another moth which has been studied for its food-plant requirements was the Bright wave (*Idaea ochrata*), the subject of a preliminary project held jointly by Butterfly Conservation and English Nature. Only three populations of this Biodiversity Action Plan Short List species have been recorded in Britain; on sandhills from Walmer to Sandwich in Kent, near St. Osyth in Essex and between Aldeburgh and Thorpeness in Suffolk. No sightings have been made at the Essex site since 1985, nor at the Suffolk site since 1991. In the survey, which took place near Sandwich, several forb species were identified as possible foodplants, and subsequent feeding experiments have given positive results with Common chickweed (*Stellaria media*) and Black medick



(*Medicago lupulina*). Other foodplants which the larvae have accepted in captivity include White clover (*Trifolium repens*), Daisy (*Bellis perennis*), and various cultivated *Aster* spp.

There were several other rare moth species which were surveyed in 1997. The Barberry carpet (*Pareulype berberata*), was discovered at two sites in Southern England. Also, continued survival was monitored for two other "Species Recovery" moths, which had been previously re-established: the Reddish buff moth (*Ascometia caliginosa*) and the Black-veined moth (*Siona lineata*). The Reddish buff and Barberry carpet are being reared in captivity by the Federation of Zoological Gardens of Great Britain, and there is also a programme for the propagation of its foodplant, Barberry (*Berberis vulgaris*), with a view to replacing bushes which have been destroyed at key sites in the wild. A meeting of the British Entomological & Natural History Society in October 1997 provided a chance to survey the Southern chestnut (*Agrochola haematidea*). It was then found at widely scattered sites in the western half of the New Forest, Hampshire, despite having been first found in the area only in the previous year. The first British record was in 1990.

Other work, some of it supported by the national agencies, has involved the monitoring and/or management of sites where known colonies of rare moths occur. These species include the Fiery clearwing (*Bembecia chrysidiformis*) in Kent, the Speckled footman (*Coscinia cribraria*), the New Forest burnet (*Zygaena viciae*) in Argyll, the Rosy Marsh moth (*Eugraphe subrosea*) in Wales and the Silky wave (*Idaea dilutaria*) on the Great Orme, also in Wales.

The news bulletin is accompanied by an up-dated directory to the names and addresses of Butterfly Conservation Branch moth officers and to the county moth recorders. A list of relevant publications and reports in 1997 is also appended. Dr. Paul Waring can be contacted at: 1366 Lincoln Road, Peterborough PE4 6LS.

The Durham argus butterfly at Bishop Middleham, NE England

The Durham Wildlife Trust reports that habitat enhancement has been carried out at its reserve at Bishop Middleham to benefit the nationally important colony of the Durham argus (*Aricia artaxerxes*). The work involves selective scrub clearance where the larval foodplant, Common rockrose (*Helianthemum chamaecistus*) forms part of the ground flora. Ian Waller of Butterfly Conservation is monitoring the butterfly population so as to assess the effects of the management.



Saproxyllic flies at Ashridge Estate, SE England

In his latest report to the Joint Committee for the Conservation of British Invertebrates, Dr. Keith Alexander of the National Trust notes that the results of a survey of flies at the above estate on the Hertfordshire/Buckinghamshire border, were "astonishing". Eleven species of Red Data Book status and a further 22 Nationally Scarce species were recorded. One species, a fungus gnat (*Sciophila baltica*, proved to be new to Britain and a female specimen of a platypezid fly was provisionally identified as a second British record of *Agathomyia cinerea*, subject to confirmation of identification to species level, which requires a male specimen.

Freshwater molluscs on properties of the National Trust in England

Another item of news in Keith Alexander's report to the JCCBI was that the Trust had identified a gap in its knowledge of freshwater molluscs in its properties. With the help of funding from the Environment Agency, some surveys were carried out last year at sites which had previous records of Biodiversity Action Plan (BAP) species or which included grazing marsh - an important habitat for many species.

At Buscot Estate, Oxfordshire, a survey of the drain network in the Thames floodplain failed to reveal any sign of the Thames Rams-horn *Gyraulus acronicus* (BAP Long List), which had been recorded there in 1972. Slightly more success in following up an old record was achieved at The Wyne, Hampshire, where the Wey Brook yielded a single valve of the BAP Short List bivalve mollusc, Fine-lined pea-mussel (*Pisidium tenuilineatum*). The brook was found to support large populations of other mussels such as Painter's mussel (*Unio pictorum*), despite concerns that agricultural run-off may have been affecting water quality.

Near Winchelsea, East Sussex, the False orb pea mussel (*Pisidium pseudosphaerium*, BAP Long List) was found in remarkably dense and very extensive populations at two sites; Wickham manor and Crutches Farm and also at Marsham Sewer, Fairlight. It was, however, noted that the ditch systems appeared to be over-managed and that this problem needed to be addressed.

Publications

Somerset Hoverflies by Ted and Dave Levy, published by Somerset Wildlife Trust, 1998, 80pp, £6.00 plus P&P. This book, which has been announced in *Somerset Wildlife News*, includes details and distribution



maps of all the 200 species of hoverfly which have occurred in the county of Somerset since the early 1880s. Eighteen of the species are illustrated by colour photographs and others by line drawings, but readers are advised to refer to *British Hoverflies* by Stubbs & Falk in order to identify species.

Wings: a journal of the Xerces Society

The Spring 1998 issue of *Wings* (Vol. 21, No. 1) included the following articles:

Sylvia A. Earle: *Why Care about Life in the Sea?* - A superbly illustrated article which addresses the importance of marine invertebrates in global biodiversity. The author discusses the suspected over-fishing of pelagic squid, krill and zooplankton, and the vulnerability of some marine invertebrates which occur only in small restricted areas.

Clyde F.E. Roper: *Tracking the Giant Squid: Mythology and Science meet below the sea:*

Jerry McCormick-Ray: *Preserving the Temperate Reef: The Case of the Eastern Oyster*

Past UK Meeting

Nonsuch Open Space, Ewell, Surrey

As advertised in *ICN* 25, this meeting of the British Entomological & Natural History Society took place on May 16th 1998. This proved to be one of the warmest and sunniest days of the year, as the ensuing summer was mostly cool and wet. Only a partial list of the invertebrates recorded is available at the time of writing, but if the final lists reveal anything very significant from a conservation point of view, this will be reported in a future issue of *ICN*. In the meantime some notes from one of the leaders (D. Lonsdale) and the local "host", Miss Frances Wright, may be of interest.

About a dozen people attended the meeting, including local naturalists, members of the BENHS and a small contingent from Alton, Hampshire. Three main areas were studied: Cherry Orchard Farm (meadows and hedgerows), the site of the Banqueting House (trees with grassy ground flora) and Warren Farm (rough grassland being partly used for tree planting, with surrounding hedgerows). Large areas of Nonsuch Park itself were of limited interest, as they consisted of lawn-like mown swards.



The management of the Banqueting House site, a raised area, was a matter of some local discussion, as there was apparently some pressure to remove some of the trees and to close-mow the grass. The trees included cedars, probably *Cedrus atlantica*, yew (*Taxus baccata*), English oak (*Quercus robur*), as well as seedlings of sycamore (*Acer pseudoplatanus*) and ash (*Fraxinus excelsior*). There seemed little reason to remove any of the oaks or the yew, as had been proposed, although control of the sycamore seedlings seemed desirable. The nationally notable tree-nesting ant *Lasius brunneus*, first found at the site in 1993, was found in one of the cedars, and it was observed that the workers were gathering honeydew from aphids lined up on ivy shoots higher up the tree. A Lesser stag beetle, *Dorcus parallelipedus*, was found sheltering on the same tree, but was thought probably to have emerged from a broken and partly decayed beech (*Fagus sylvatica*) close to the site. Retention of the beech seemed important, as there was little other dead wood in the immediate vicinity.

Among the many insects found at Warren Farm, one of the more striking was the Stag beetle, *Lucanus cervus*, although only the dead remains of a specimen were found near a large, three metre-high tree stump. The stump itself, probably a long-dead elm (*Ulmus* sp.) was riddled with larval boreholes which were probably too large to have been anything other than those of the same beetle. However, the stump had been badly burnt, probably by children setting fire to surrounding ivy, and was in any case now exposed to the full rays of the sun. In case the stump still has any deadwood value, the desirability of providing some shading is being made known to the Woodland Trust, who are managing the site.



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NOTICE

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