



BIOLOGICAL RECORDING IN SCOTLAND

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(and sometimes more adventurous). There is something to suit everyone, no matter where their level of fitness or bat knowledge lies.

There are five types of survey, the simpler of which involve watching for bats at sunrise and counting bats at sunset. More complex surveys involve the use of bat detectors to identify different species and to gauge bat activity in different habitats. Summer surveys start in June and most are carried out throughout June, July and August. For those with experience and a suitable licence hibernation surveys can be carried out over the winter months.

Some surveyors work on their own, enjoying the peace and solitude of night, but some of the more active and adventurous surveys are best carried out with a friend, even if it is only so one can write down results while the other uses the bat detector.

To produce reliable species population trends, BCT need a minimum of 40 sites monitored for each survey in each country in the UK. On average BCT have around 90 surveyors taking part each year in Scotland. In order to meet our targets, 130 more active surveyors are needed, particularly to carry out field surveys and colony counts at brown long-eared and Natterer's roosts.

Householders with pipistrelle bats can help improve knowledge on one of the most recent discoveries in bat science. It is only lately that bat experts have found that the common pipistrelle is in fact two species (nicknamed "45s" and "55s" - the numbers refer to the frequency the bats' calls are heard loudest at, using a bat detector). Householders with pipistrelle bats can help by inviting their local bat group to identify which particular pipistrelle they have and then by carrying out counts of their bats as part of the National Bat Monitoring Programme.

My own personal favourites amongst the surveys are the Sunrise Survey and the Waterway Survey.

The Sunrise Survey can be absolutely spectacular, with or without bats! No special equipment is needed. Your mission is to get up an hour before sunrise and watch for bats swarming outside their roost. If you are lucky enough to see bats, it can be a fantastic sight. If there are not any bats about there are usually other compensations: the intoxicating

SCOTLAND NEEDS MORE BATTY PEOPLE!

Anne Youngman

Would you like to try something just a bit different, be at the forefront of scientific discovery and have fun at the same time? If so you should sign up as a volunteer on the National Bat Monitoring Programme. The Bat Conservation Trust run a series of bat surveys throughout the year and are particularly keen to get more surveyors from Scotland.



The surveys start off very easy with no need for specialist knowledge or equipment and gradually get more complex

smell of flowers, the sound of the dawn chorus and hopefully a gorgeous sunrise just to round of the survey.

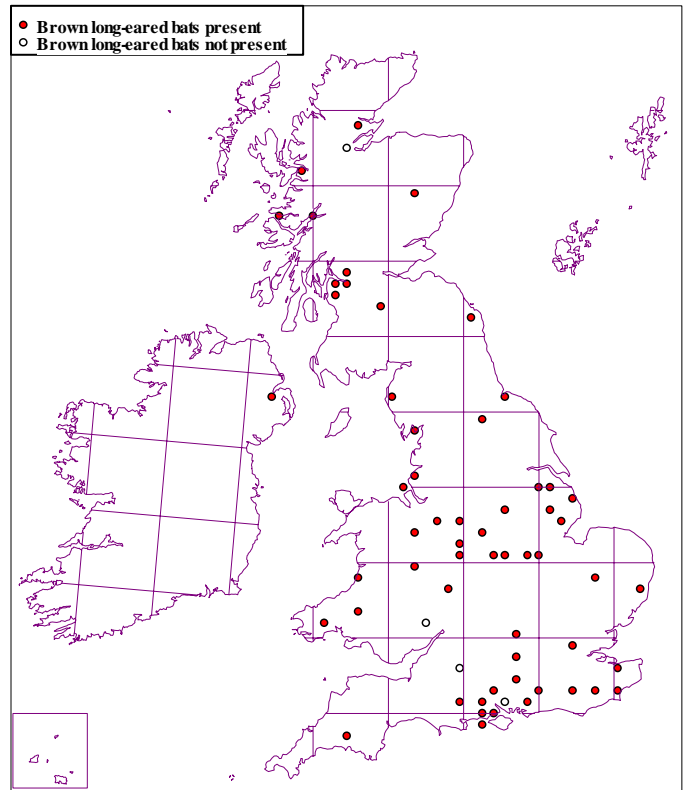
To find out more about how to get involved, go to <http://www.bats.org.uk/nbmp>, email nbmp@bats.org.uk or call BCT on 020 7501 3625.

Anne Youngman
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 Balallan House, 24 Allan Park,
 Stirling, FK8 2QG
 Tel 01786 447144
 Email ayoungman@bats.org.uk

SOME RESULTS FROM THE NATIONAL BAT MONITORING PROGRAMME 2004.

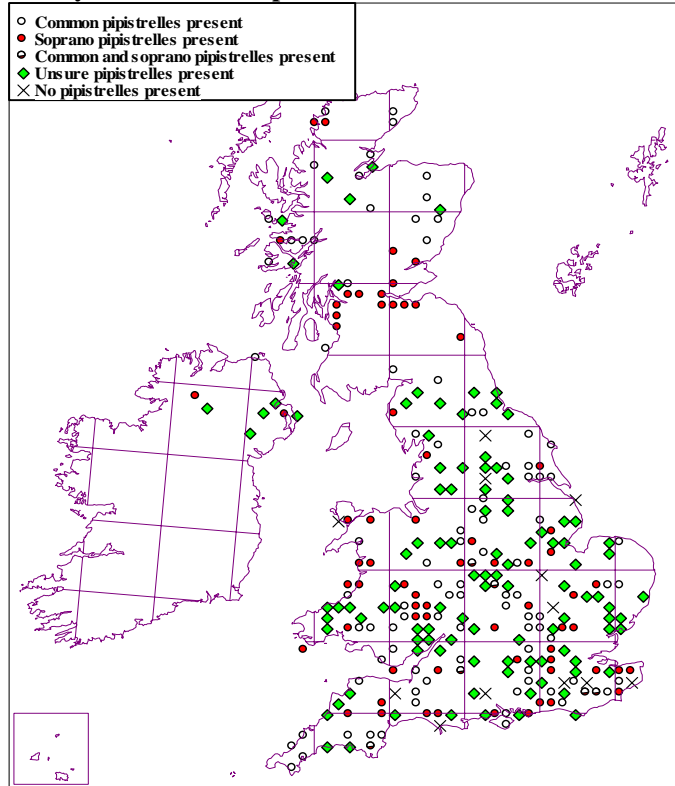
Philip Briggs writes:

We have had an excellent response from volunteers in 2004 with a large number of roosts and field sites being surveyed during the summer. A big thank you to everyone who has returned their completed survey forms. The maps below show the distribution of sites visited for each type of survey and where different species were found. (NSP = Noctule, Serotine, Pipistrelle)

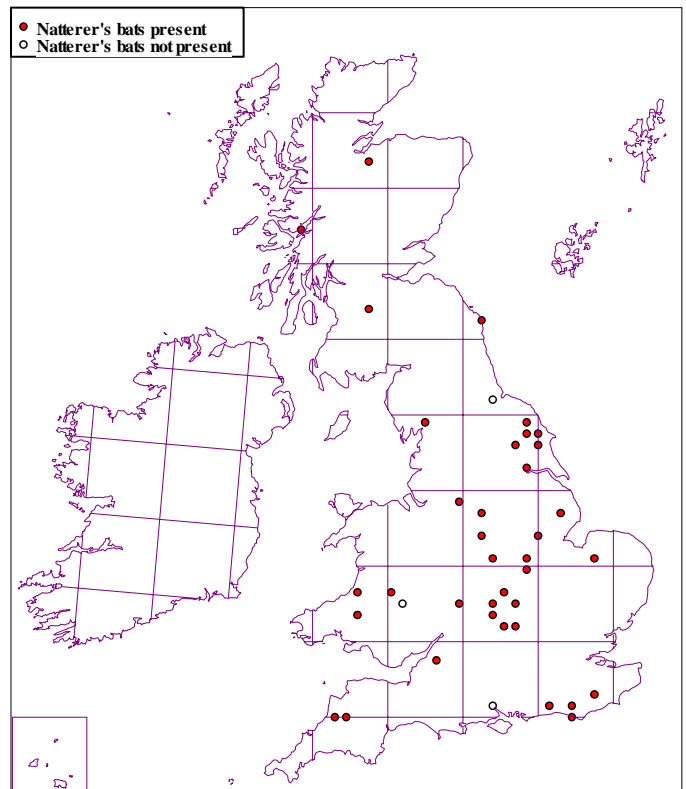


Brown long-eared Colony Count

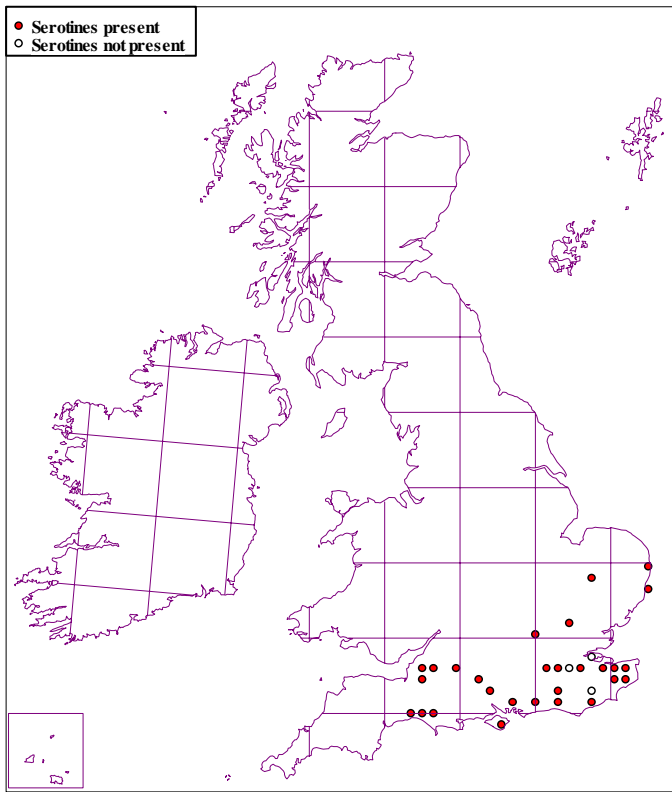
Survey distribution maps 2004



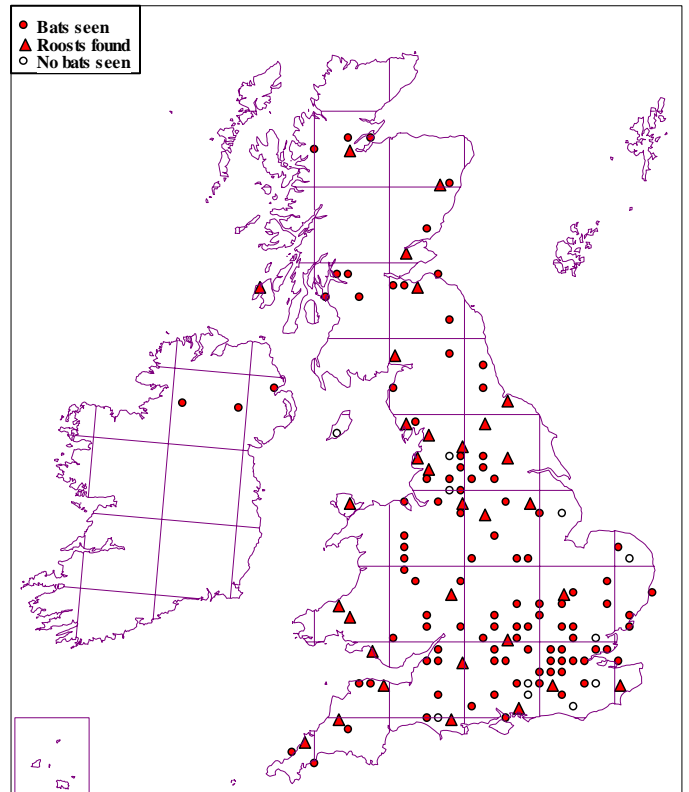
Pipistrelle Colony Count



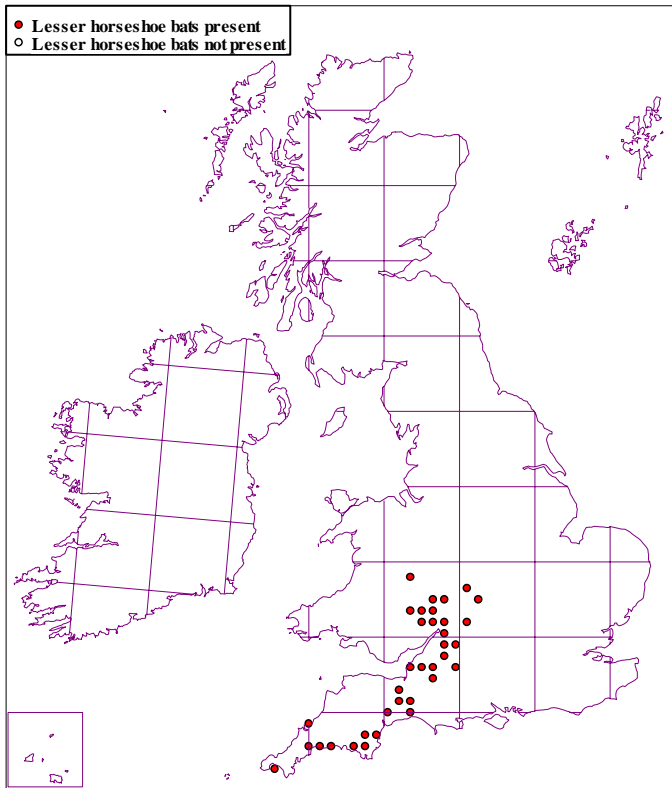
Natterer's Colony Count



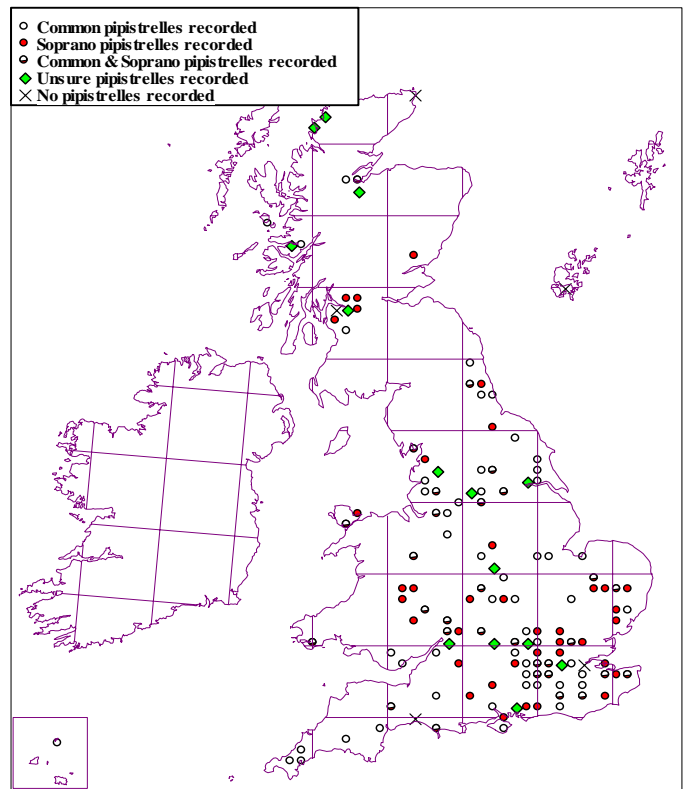
Serotine Colony Count



Sunrise Survey



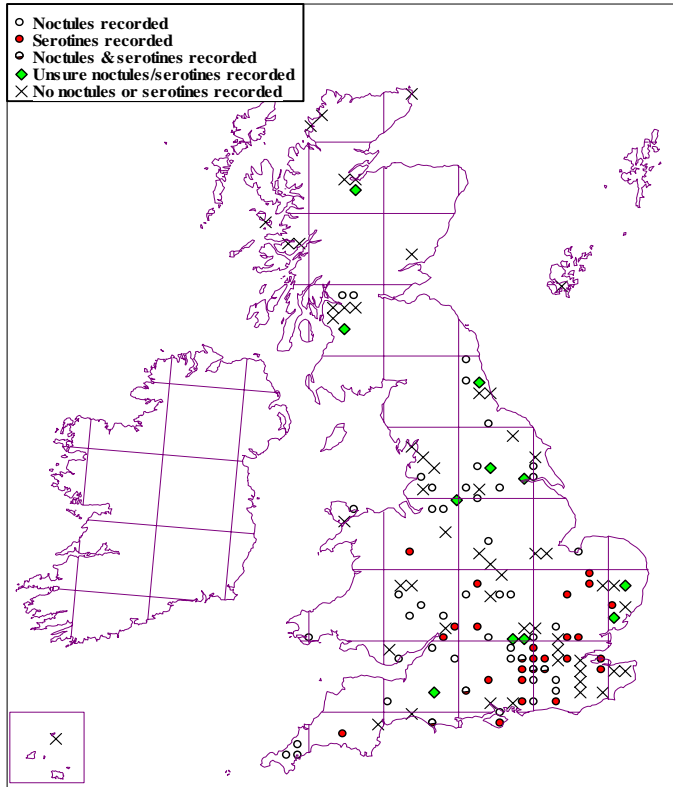
Lesser horseshoe Colony Count



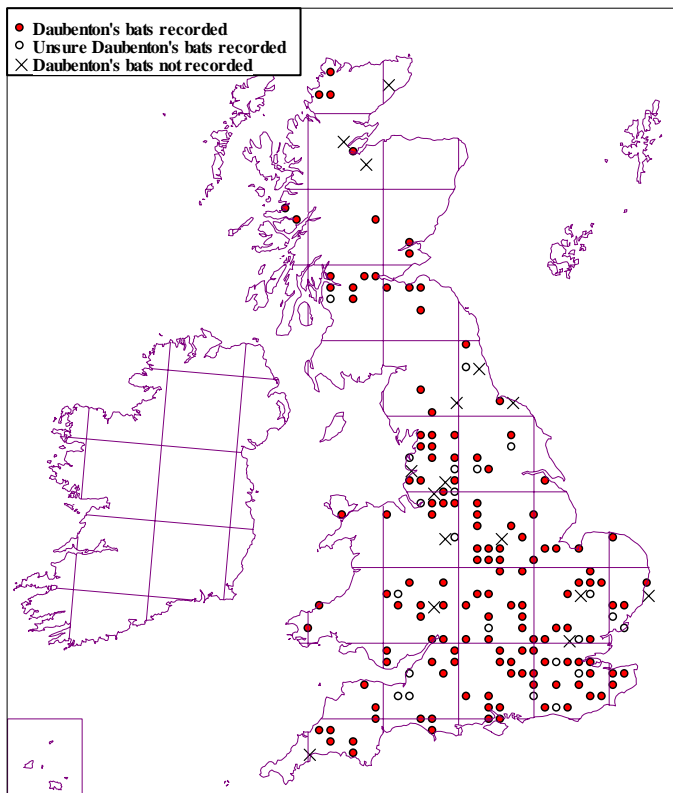
NSP Field Survey (pipistrelles)

Philip Briggs
 NBMP Survey Co-ordinator
 The Bat Conservation Trust , 15 Cloisters House
 8 Battersea Park Road, London SW8 4BG
 Direct Tel 020 7501 3625
 National Bat Helpline 0845 1300 228
 Fax 020 7627 2628

[Unfortunately, lack of colour in the hard copy of this newsletter makes the different dots on the maps less easy to read. If you do not already receive your copy of BRISC Recorder News in electronic format, it is now available immediately upon publication in the new Members Area of our website. For passwords and how to access this new part of the website see Andy Wakelin's article elsewhere in this newsletter. ed]



NSP Field Survey (noctules/serotines)



Daubenton's Bat Waterway Survey

This year's results have now been sent off to our statistician so that the latest population trends can be produced for each species. Keep checking www.bats.org.uk for further reports on this year's results.

visit our website at www.brisc.org.uk

LOOK OUT FOR COLOUR-RINGED WAXWINGS

Raymond Duncan, Aberdeen

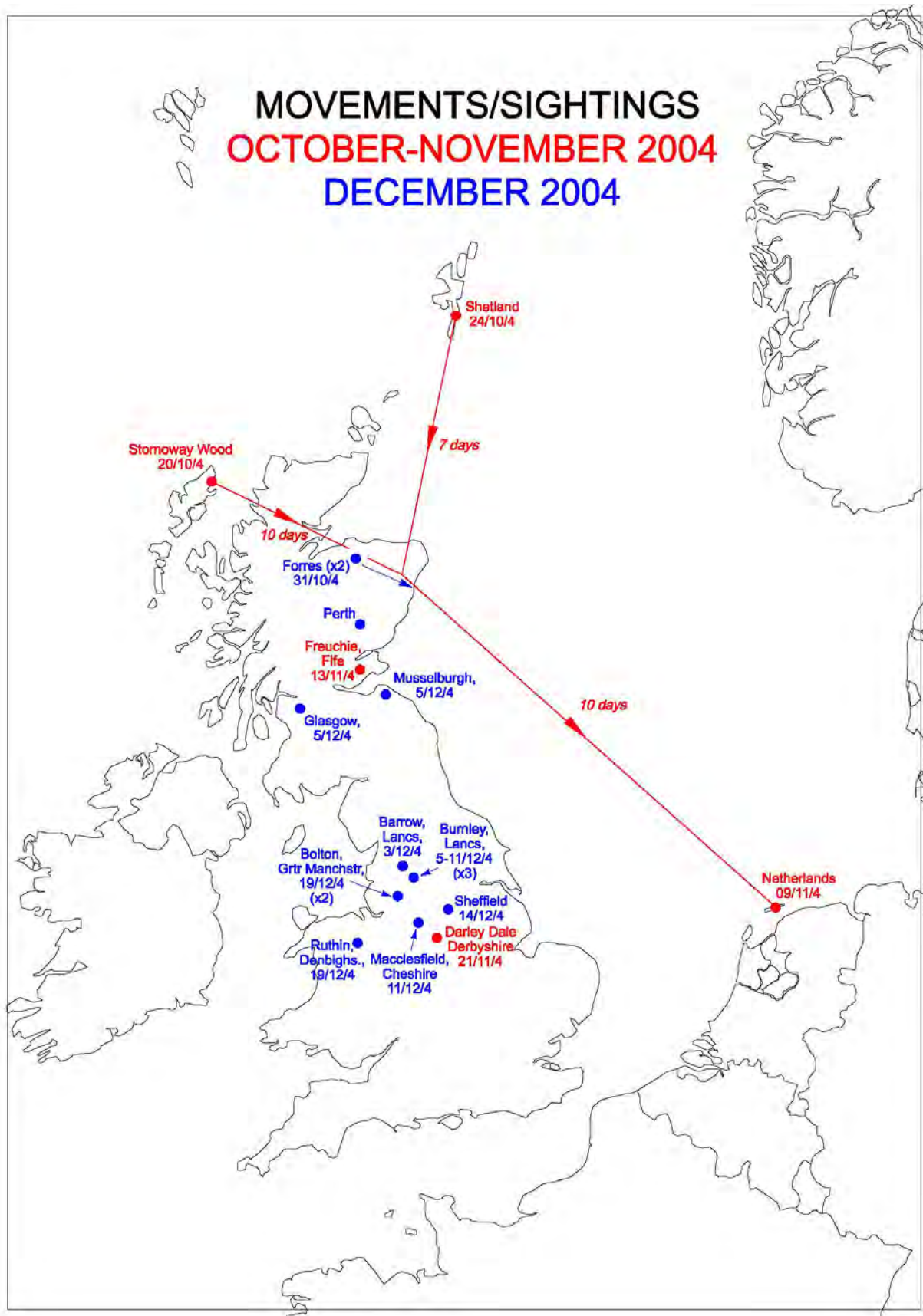
The number of waxwings arriving in Scotland in the autumn of 2004 suggested that we might be seeing one of the largest invasions ever recorded. By the end of October, flocks were appearing all over the northern half of the country, many containing several hundred birds. One incredible flock in Forres in Morayshire was estimated to contain up to 1,500 birds, perhaps the largest singly flock ever to be seen in Britain.



Waxwings with colour rings (yellow over orange) was photographed by Arie Ouwerkerk in the Netherlands 10 days after ringing

More than 100 waxwings were individually colour-ringed in Scotland in late October, so please check all waxwings you see for colour rings. Interesting movements have already been recorded with a bird ringed in Stornoway being re-trapped ten days later near Aberdeen, 290km to the south-east. Another bird, ringed in Shetland, was re-trapped near Aberdeen the following weekend.

All colour-ringed waxwing sightings will be gratefully received: please e-mail details to Raymond@waxwing.fsnet.co.uk An acknowledgement with full history of the bird and an update of the project results will be sent to you.



EARWIGS AND EVOLUTION

[This article has been reproduced by kind permission of Dr Tomkins. It originally appeared in the University of St Andrews Staff Newsletter ed]

Usually found under our doormats and in our dahlias, the humble earwig or 'forky tail' can teach us crucial lessons about evolution. Dr Joseph Tomkins of the school of Biology, and his PhD student Gordon Brown, spent four years examining earwigs on numerous small islands off the British coast including the Farnes and islands in the Firth of Forth. The study, published in *Nature*, illustrates the different 'morphs' of earwig and the remarkable differences in morph frequencies, which can exist between populations living just a few hundred metres apart.

There are two male 'morphs' of the European or common earwig *Forficula auricularia*. Each is thought to have different reproductive tactics – either guarding females or, alternatively, sneaking matings with females guarded by other males. These different tactics are often accompanied by physical differences. In the larger of the two morphs, males are found to guard females with the 9mm forceps, while males of the smaller morph struggle to do so with forceps half that length.



A composite photo: The earwig on the left is the long forceped macrolabic morph that is more abundant on islands like those to the eastern end of the Firth of Forth, while the one on the right is the short forceped brachylabic morph that we are familiar with on the mainland. Photo J Tomkins

The team found that island populations have a greater proportion of the bigger, long-forceped morph than mainland populations. They also found that amongst the islands of the Firth and the Farnes, there is variation, ranging from populations with only one male morph to populations with two. Some of these islands support a phenomenal density of earwigs, the reason for which is obscure. The team also discovered that this high density has led to the evolution of the dramatic number of large-morphed males in these populations.

Dr Tomkins said:

"Darwin demonstrated how islands are fertile arenas for insights into evolution. We have shown how islands that were familiar to Darwin during his period of study in Edinburgh before he set forth to the Galapagos, also have a dramatic evolutionary story to tell. We know of no other species where such extraordinary variation occurs. Our work highlights how evolution is a process that takes place continually and close to home in species that are

commonplace enough to live in our gardens or under our doormats."

"In the 19th century, naturalists thought that the long forceped male morph was a different species, but it is now known that a developmental switch transforms the males that encounter good conditions while they grow to become large and develop into the long forceped morph."

"We have discovered that the size at which this switch activates has evolved across these island populations. We also show that, as the population density of earwigs on the island increases, so the threshold at which long forceped males are produced shifts to a relatively smaller body size. This has the effect of increasing the proportion of the long forceped males in the populations where earwigs are most dense. As the density of earwigs increases, so the likelihood of males engaging in combat over females increases, as they will encounter rivals at a higher frequency."

The team studied earwigs from two groups of islands. In Scotland, their studies took them to the Firth of Forth and to islands including Inch Garvie, Bass Rock and the Isle of May. In England, they studied populations from the Farne Islands and Lindisfarne, off the Northumbrian coast. The findings are of significance to researchers studying mating system evolution and related taxonomic and biological studies.

MEDAL FOR CHARLES WARREN

Members will be pleased to learn that Dr Charles Warren, senior lecturer in environmental management and glaciology at St Andrews University, was awarded the Royal Scottish Geographical Society's President's Medal on 25 October 2004 for "one of the finest contributions ever made by a geographer to land management issues in Scotland".

The award was partly in recognition of Charles Warren's book *Managing Scotland's Environment*, published by Edinburgh University Press 2002, which received outstanding reviews and has been described as a "masterly and balanced synthesis that deals informatively and even-handedly with numerous contentious issues".

Members will remember that Charles Warren took part in BRISC's annual conference 2002 in the Burrell Collection, Glasgow, where he gave an excellent presentation on 'Trends and change in nature conservation in Scotland'. His book, *Managing Scotland's Environment* was reviewed in the July 2002 issue of *BRISC Recorder News* (No 46)

The RSGS' medals and fellowships are amongst the world's most prestigious awards for outstanding contributions to geography and exploration, and I have sent our warmest congratulations to Dr Warren. AMS

A Pocket Guide to the Bumblebees of Britain and Ireland by Bryan Pinchen, Forficula Books, will be available in January 2005. Intended as a quick and easy-to-use ID guide, it covers all 22 species, illustrated in full colour and black/white. ISBN 0-9549349-0-3 64pp. pb £5.50. Orders and cheque payable to B J Pinchen, address 7 Brookland Close, Pennington, Lympington, Hampshire, SO41 8JE

NOTES FROM THE CHAIR

Readers will be aware that the Nature Conservation (Scotland) Act came into force on 30 November 2004, importantly placing a duty on public bodies to further biodiversity. The Scottish Executive (SE) is now preparing guidance for what this actually means in practice.

The much discussed Environment Information Regulations (EIR) came into force on 1 January 2005. Guidelines are on SE's website at www.scotland.gov.uk/library5/environment/ This EU Council Directive is to broaden the scope of the Freedom to Information directive and aims to encompass as many environmental data as possible, including those held by privatised utility companies, such as water or waste companies. All hinges on what constitutes a 'public body' and what funding private bodies receive from the public purse, and because of this the EIR have caused concern, not least to the NBN and LRCs. To inform and help clarify these issues, BRISC invited some key individuals to a seminar on 19 January at Falkirk, where Amelia Morgan outlined SNH's interpretation of the regulations. This was followed by a useful discussion, identifying points needing further clarification. BRISC was charged with preparing some general guidelines pertinent to all sectors of our membership, though nothing can be legally binding till it is tested in court. BRISC is firmly of the view that the EIR should be seen as a constructive and useful driver for data.

On a completely different tack, I want readers to think about midges. Are these little critters now on a relentless march to all parts of Scotland? I read in the autumn edition *SEPA View* that there are 37 species of midges, though it is mostly just one, *Culicoides impunctatus*, which affect humans. It breeds in astonishing numbers, with a hectare of land able to hold up to 24 million larvae, and in one study, 500,000 midges were collected from an area just two metres square!

A £50 million five star leisure resort on the shores of Loch Lomond spent over £100,000 last year on special midge-electrocution machines and claim they killed 40,000 midges a day with a single machine in a bid to rid its resort of them. Leaving aside my opinion about the appropriateness of such leisure centres within the national park, it reminded me that, when I gave a talk about bumblebees at Innerpeffry Library last summer, several people in the audience mentioned midges having become quite a nuisance, and the owner of the nearby campsite at Auchtermuchy, where we spent the night, maintained that midge bites there was now a real issue, unknown ten year ago. I am therefore keen for readers to tell me if they have found midges spreading into areas where they were absent less than ten years ago. Please email me at amsmout@aol.com or write to me at Chesterhill, Shore Road, Anstruther, Fife KY10 3DZ

Scottish Environment LINK is launching another **EVERONE** campaign in the lead-up to the election to the Westminster Parliament, likely to take place in May 2005. As an active member, BRISC supports all LINK's efforts to push environmental issues up the political agenda. **Do visit www.everyonecan.org** and find out who are your prospective candidates and follow up this up with a letter to each one. You can even use the suggested letter text!

BRISC CONFERENCE AND AGM will this year take place in St Andrews on **Saturday 9 April**. The venue is a comfortable lecture theatre in the Bute Building, kindly provided by the University's School of Biology. A buffet lunch will be served in the Bell Pettigrew Museum, where many interesting exhibits will entertain the delegates. A choice of excursions is also on offer, and the programme and booking form is included with this mailing. Please help us by **booking especially early and by 28 March at the latest**. Further copies are available from me or the website.

In order to raise extra funds, we will run a **raffle** on the day. Some very good prizes are already in hand, but extra prizes brought along by participants will be warmly welcomed. Other **donations** to BRISC funds are also highly welcome.

The minutes of last year's AGM were published in *BRISC Recorder News* (No 53). It was here announced that I am now standing down, having occupied the chair since 1998 and it is high time for a change. Ordinarily, someone already serving on the committee should have been groomed for this office, but as no one felt able to take it on we had to look elsewhere for a candidate.

I am delighted to announce that the committee has come up with a nomination for the new chair. Patrick Milne-Home, recently retired operational manager for SNH, has the unanimous support of the committee. Patrick has a number of useful skills, and we strongly recommend that members support this nomination. The AGM is of course where the chair presents the annual report, finances and future plans are discussed, the election of honorary office bearers and committee members takes place, and where any other relevant matters can be raised. The AGM offers a real opportunity for members to influence BRISC activities.

It is therefore appropriate here to remind members of our constitution, also available for downloading at the new 'Members Area' on our website (see below for how to access this area), or as printed copies from Alan Cameron at BRISC c/o BTCV, Balallan House, Allan Place, Stirling.

Section 5 states that all paid-up members are eligible to stand for election to Committee and that all nominations must be supported by a **proposer** and a **seconder**, who must themselves be paid-up members. Nominations for office bearers should be submitted to the chair at least 24 hours prior to the AGM, whereas nomination for the committee can be made from the floor. If there are more candidates than vacancies, the result is decided by a show of hands. Every member has one vote, whether individual or corporate. In case of a tie, the chair of the meeting has a full casting vote.

To comply fully with our constitution, a voting paper has been included in this mailing, with nominations for two office bearers: Patrick Milne-Home for chairperson and Allan W Brown for treasurer. **If you plan to be at the AGM, you can cast your vote there.** If not, you have the opportunity to offer your support by post, or indeed to make other nominations. Postal votes should be sent to the chair (i.e. me) to arrive no later than 24 hours prior to the AGM.

I hope to see you there.

Anne-Marie Smout

HOW Does HE Do It?

Dr Gordon Corbet, long standing member of BRISC, has in the last few years been recording diptera on SWT's Dumbarrie Links reserve, a mainly calcareous dune grassland site in east Fife, for which Dr Corbet is the voluntary warden. Of the 282 species he recorded here, 175 appear new to Fife, while 6 are new to Scotland! An article describing his finds has been published in *Dipterists Digest* 2004 II 127-143. Gordon Corbet tells me that he has added another 15 species since the article was written, making the total just short of 300! AMS

IT PAGE

New MEMBERS' AREA on the website

Andy Wakelin

The Committee have been considering carefully the benefits of membership and ways of making it more attractive in an effort to increase the number of members to BRISC. One idea was to provide a specialised information service via the website that only BRISC members could get access to, using a password.

This idea has been implemented and anyone going to the Membership page of the website will see a link to the Members' Only Area. On clicking this link a window will appear asking for a username and password. Currently the Username is **recorder** and the Password is **brisc**. These will change with each edition of the *Recorder News* so always check for the details.

The Members Area has its own menu and the header of each page in the Members Area is different from the main pages. Clicking on the BRISC name (top left) will take you back to the opening page of the Members Area. To return to the main website click on the BRISC logo (top right of screen) or the *Leave* link at the bottom of each page in the Members Area.

The content of the Members Area is open to suggestion from the members, but the Committee has made the following decisions to get things started.

The sections are:

- Surveys – a list of the current surveys in progress and on-line submission of details.
- Papers – a stack of reference material relating to the operation of BRISC. Currently it contains Committee Minutes, Constitution, Annual Reports and Strategic Plan.
- Archive – this will be the place for Newsletters and Conference details. These will be removed from the main website with only a few old Newsletters as a teaser to entice people to join.
- Committee – this will contain the current committee members and their details. The main website will only have details for the nominated BRISC contact person.

Any other suggestions for content would be happily considered by the Committee.

visit our website at www.brisc.org.uk

RECORDER 6 SEMINAR

Report from Alan Cameron

On 3 December 2004, BRISC and the Lothian Wildlife Information Centre were pleased to host a workshop conducted by Hannah Betts, JNCC Biodiversity Information Specialist, on the new version of the Recorder software. The workshop was held in Edinburgh at the LWIC, which provided an excellent venue, and attracted representatives for a number of other Local Records Centres along with staff from the Scottish Wildlife Trust, SNH, and the Forestry Commission Scotland.

The workshop was convened after some Recorder users had approached BRISC to indicate that they would like more information on Recorder 6. A priority was information to assist LRCs in planning for the transfer when Recorder 6 replaces Recorder 2002. A summary of the presentations and discussions is presented below.

The latest upgrade to Recorder is undergoing usability testing at the moment and is due to be released in 2005. Recorder 6 marks a significant development of Recorder 2002, which it will replace. The backend database has been upgraded from ACCESS 97 to either MSDE (Microsoft SQL Server Desktop Engine) or to the full Microsoft SQL Server, depending on how the database is installed. There are also a number of useful enhancements to the functionality.



Hannah Betts at the Recorder 6 seminar at LWIC Photo Alan Cameron

For those using Recorder 6 installed on a standalone PC, installation or upgrading from Recorder 2002 will be very straightforward and should not require any technical assistance. The programme will come packaged with MSDE, which is free and will increase the capacity of the database to 2 GB (around 2 million records). Those wishing to install Recorder on a network will require a separate CD. For small networks of up to five concurrent users the MSDE version of Recorder 6 can be used. Corporate users, larger recording schemes and LRCs with very large volumes of data may purchase and install SQL Server, which has virtually unlimited capacity and can be used on a larger network. Installing Recorder 6 does not automatically upgrade from Recorder 2002 but installs a separate programme to which you can transfer data when satisfied. Uninstalling has now been made into a completely clean process.

The file structure of Recorder 6 is almost exactly the same as Recorder 2002 and can be accessed via ACCESS 97, ACCESS 2000, ACCESS XP, and ACCESS 2003. In most cases Recorder 6 requires new versions of add-ins although rucksacks and recording cards that have been set-up in Recorder 2002 will be fully compatible with Recorder 6.

Recorder is designed as a distributed database system, which requires that any given record be editable by one, and only one, person (the record 'owner'), thus preventing multiple versions of the same record (duplicates) from being in the system. Recorder 6, however, enables the originator of a record to transfer 'ownership' rights over all, or parts, of their data; this may be particularly useful if an LRC or other data manager takes over custodianship responsibilities for data entered by others and has need to edit those data.

The report wizard incorporates a new 'snapshot' facility, which allows the user to design and create a temporary, simplified, version of the database in MSDE, which can then be used as the basis for reports and analyses or linked to other applications, such as GIS. Users of ArcGIS 8 or 9 will be able to link the snapshot directly to the GIS. This should provide speed increases by an order of magnitude over existing methods of linking Recorder to GIS. The report wizard now allows records with missing fields to be displayed and multiple measurements (such as the number of juveniles and the number of adults) to be reported for a single taxon occurrence in a single row. System managers can also now choose to export 'confidential' records.

The import wizard is now fully integrated into the programme, providing a unified system for importing data, no matter what the source (e.g. other Recorder users, Access databases, Excel spreadsheets, etc.). Data for import are now held in temporary files, with the option to display only rows containing errors, thus making it easier to make corrections. An important improvement is the ability to handle abundance information on a record; for example a record containing the abundance data '3M, 4F' within a single cell in Excel can now be easily imported with these data attached. Recorder 6 also allows users to confirm more easily that a record has been supplied by a new recorder and then to add their details if required.



Appreciative audience at the Recorder 6 Seminar – photo Alan Cameron

Significant changes will also be made to the way in which the species dictionaries work. Whilst the changes are too

complex to describe fully here, they will enable current records to be entered against the presently favoured taxonomic list, thus relieving the user the task of manually selecting a list to use – a task that has led to confusion in the past. The ability to select a list manually - should the user require - in order to enter or report on data (e.g. for historical data), will remain as an option. The new dictionaries will allow for a greater degree of flexibility when searching for taxa: species can be found by searching for their historical names and synonyms, while common misspellings or variations of names can also be searched on. For example, the names *holly blue*, *holly-blue* and *hollyblue* would all correctly return the taxon *Celastrina argiolus britanna*.

For anyone interested, there is an email group dedicated to solving Recorder software issues. To join this group, go to [<http://www.smartgroups.com/groups/Recorder>].

LRC News

Scottish Borders Biological Records Centre News Items January 2005:

Jon Mercer

There are now over 10000 recorded taxa in the SBBRC database. The 10,000th species chosen to represent this milestone was the red-necked footman *Atolmis rubricollis*, a macromoth with a southern distribution, recorded by regular contributors Neil Dickson and Sonali Ghosh in July 2004 from Scotch Kershope. This is one of the first Scottish records, the first of several sightings in the Borders last summer, and is possibly indicative of climate change.

SBBRC have been running a pilot project with Forestry Commission Scotland to screen all new plantings in the region that arise through the Scottish Forestry Grant Scheme. SBBRC are also to screen all sites selected for future development in the Scottish Borders draft Local Plan 2001-2011 in conjunction with Scottish Borders Council Planning and Economic department.

SBBRC have completed the digitisation of all potential Local Wildlife Site boundaries, surveyed by SWT over the last 8 years, in the region and are now leading on the assessment and notification process.

Work has started on a project, coordinated by the Southern Upland partnership, to improve black grouse habitat in the wider Yarrow Valley area (an upland region between Moffat and Selkirk). To date ownership boundaries for over 40 holdings have been digitised by SBBRC and maps produced for circulation to landowners along with a questionnaire on grouse and land management.

A recording scheme aimed at primary schools, organised by the red squirrels in South of Scotland project, has been supported by SBBRC. Laminated distribution maps of both red and grey sightings within a set distance of 10 schools located close to priority areas for red squirrel conservation have been produced. Children can add stickers to the maps to record their own sightings and this helps them learn about squirrels, recording and map reading.

A consolidated inventory of wetlands in the region has been produced and added to a growing suite of GIS tools used for

screening for wildlife sensitivity by SBBRC. This uses a core database compiled by Chris Badenoch, former area officer with SNH.

SBBRC ran a series of training events on butterfly identification in conjunction with Borders Organic Gardeners (BOG) at their demonstration garden at Woodside, Ancrum. The aim was to encourage organic gardening for wildlife, with a series of alternative planting schemes on display. We were fortunate in that the garden was regularly visited by Comma *Polygonia c-album* during the target period in September, along with a good range of other butterflies, bees, hoverflies and even dragonflies.

In a long-running project with local BSBI vice county recorders SBBRC have finally finished the digitisation of scarce plant records, dating from the 19th Century to the present, for Selkirkshire and Roxburghshire, kindly contributed by Rod Corner. Plant records for Berwickshire had previously been graciously supplied by Michael Braithwaite.

Out on the Berwickshire coast, the St Abbs to Eyemouth Voluntary Marine Reserve, managed by rangers from the National Trust for Scotland, has been running recording schemes for divers. Two schemes, a Diver Exit Form and Wolf-fish sightings project have been operating, and SBBRC have digitised these data. It is hoped that as well as encouraging marine conservation amongst the growing diving community, these records can make a contribution to our knowledge of the wealth of species in these waters.

The Recorders Group, now has a membership of over 100, and met recently to discuss a programme of events for 2005. A fascinating talk was given by local recorder Alec West on his herpetological expeditions to the deserts of Utah.

Fife Environmental Recording Network

Julie Bett is leaving FERN at the end of January to work for Dundee Museum. Lucky Dundee! but we hope to keep in touch with her in her new post as Heritage Officer (Natural History) in McManus Galleries. Julie will be hard to replace but FERN is advertising for a new Information Assistant. Deadline for applications 21 January.

Highland

On behalf of Highland Biological Recording Group and funded by SNH, Murdo Macdonald has been working on updating their aculeate and mammal datasets and has already put a trial syrphid dataset on NBN gateway. Until a potential partners/customers meeting is called later in the year, the future will be uncertain. The Highland Council is still to decide how it will support biological recording, and there is no further news on establishing a LRC for Highland.

SPRING WATCH The BBC and the Woodland Trust are going into partnership to promote **PHENOLOGY** and get the public recording. To find out what is involved, go to the phenology website at <http://www.phenology.org.uk/>

New publication from Peter S Maitland:

Keys to the Freshwater Fish of Britain and Ireland, with notes on their distribution and ecology. This book is based on his earlier Key, published by Freshwater Biological Association in 1972, but is extensively enlarged and updated. There are keys to 23 families and 62 species of adult fish, species distribution maps, line drawings and 48 photographs in colour, mostly from live specimens.

Published by Freshwater Biological Association, ISBN 0-900386-71-1, it costs £22.00 (incl. p&p)

BOOK REVIEWS

Davies, C., Shelley, J., Harding, P., McLean, I., Gardiner, R. & Peirson, G. (compilers and eds). (2004). *Freshwater Fishes in Britain: the species and their distribution*. BRC and Harley Books. 184pp. ISBN 0-946589-76-3, hbk. £25.00 + postage.

Order on-line from www.harleybooks.com; or tel: 01206 271216 or fax: 01206 271182

The Database and Atlas of Freshwater Fishes (DAFF) in Britain is a project which ran from 1996 to 2002, and was supported by the Centre for Ecology and Hydrology, the Environment Agency and the Joint Nature Conservation Committee. The study involved contributions of data on fish distribution from many people and this volume outlines the results. The book consists of three preliminary chapters on fish distribution (one of which is an account of the DAFF project), a major chapter with accounts of most of the freshwater fish species found in Great Britain, and a final chapter on conservation and management. There are four Appendices, a Glossary, a Bibliography and an Index.

This volume is well produced and has a number of interesting features. The species accounts have been written by 31 different authors, only two of whom are editors. Most of the illustrations have been taken from Francis Day's 1880 classic *The Fishes of Great Britain and Ireland*, supplemented by new drawings in the same style by Michael Roberts and a few vignettes from W Yarrell's *A History of British Fishes* (1859). The Appendices include an annotated list of publications on British freshwater fish, legislation relating to these fish and to the control of non-native fish, and websites of relevance.

This publication will be of interest and value to a wide range of people and the current distribution maps – its *raison d'être* – are especially valuable. So too are the various Appendices which will be useful to conservation workers, specialist and non-specialist, across the countries of the UK.

Disappointments, from the point of view of those interested in distribution, are that there is no coverage of Ireland and that the standard 10-kilometre dot maps are smaller than those normally produced by NERC, so that the original transparent overlays (of river systems, watershed, etc.) cannot be used.

Although 60 species are included in the check list, only 54 of these are covered in the individual species accounts. Introduced Silver Carp, Pink Salmon and Rock Bass, the

Irish Pollan, the extinct Houting, and the native Sea Bass are not dealt with individually. There is some inconsistency in this treatment, for example the exclusion of Sea Bass, a native species for which there are 189 records in the database, but the inclusion of the Redbelly Tilapia, an introduced species with only one record (though two sites are mentioned in the text). Surprisingly, the Common Goby, with 178 records in the database, is not included in the check list nor given further mention. Some readers will also be puzzled by the mention of *Metriaclima* in the database records but no explanation elsewhere that this is one of the African Rift Valley cichlids.

Although the reader is immediately confronted with an erratum slip for the picture credits, the book is well edited and errors are relatively few. The name of one of the authors is wrongly spelled in the Contents list. There are notable omissions in places, for examples the names of Robin Ade and Keith Linsell from the list of fish artists. The old chestnut of river zones named after fish, fine for southern England and much of continental Europe, is totally inapplicable to Scotland where three of the four fish which characterise the zones are aliens and absent from much of the country. The individual species accounts are useful and mostly factually correct, though further editing would have helped consistency here. For example, some of the authors give useful references to further reading, whereas others do not – in spite of the availability of valuable publications of relevance.

All those with an interest in British freshwater fish should have this book on their shelves, as should those with responsibilities for the conservation and management of fresh waters in Britain. Whilst the reviewer would personally query the claim that this is the first book ‘to deal with the detailed occurrence of freshwater fishes in Britain’, the new maps and the future availability of some of the data through the Internet Gateway of the National Biodiversity Network are a valuable contribution to our knowledge of the distribution of freshwater fish in Britain. The final paragraph promises a belated review by JNCC of threatened fishes ‘using the latest IUCN Red List Criteria’ – something the reviewer has requested for over 15 years.

Peter S Maitland, Fish Conservation Centre

Moran, Robbin C. (2004). *A Natural History of Ferns*. (Foreword by Oliver Sacks) Timber Press, Portland & Cambridge. 301 pp. ISBN 0-88192-667-1, hbk. £22.50

This is an elegantly written and consistently fascinating book by the Curator of Ferns at New York Botanical Garden. Robbin Moran is one of those rarities in the scientific world who can both write entertainingly and also explain the complexities of his subject in simple terms without being patronising. As such he has produced an intelligent introduction to ferns with something of interest for both the amateur enthusiast and the professional pteridologist in every chapter.

He does not give a guide to fern identification nor does he specifically cover British ferns: his sweep is broader and in

any case there are plenty of other sources for that information. His aim, rather, is, as he explains in his preface, to examine the biology of ferns, “...how they grow and develop, reproduce and disperse, adapt and evolve...how they interact with their environment,” [and] “how they affect the lives of people.”

The book is divided into six sections covering such subjects as ‘The Life Cycle of Ferns’, ‘Adaptations by Ferns’, ‘Fern Geography’, etc., each consisting of half a dozen short chapters. This is botany in biteable chunks and makes for easy and enjoyable reading. Did you know, for example, that a single frond of *Dryopteris carthusiana* (a Scottish native) produces upwards of 7 million spores? No wonder ferns are such successful survivors. Or that the royal fern, *Osmunda regalis*, may be named after Osmund of Loch Tyne who hid his wife and child in a clump of this fern when the Danes invaded Scotland. Quite how dangerous bracken is I will leave you to find out for yourself.

Moran devotes a whole chapter to the disproportionately large number of ferns (many endemic) of the Robinson Crusoe islands (more correctly Archipéago Juan Fernández) where Alexander Selkirk, on whom Crusoe is based, was stranded for four years. Some of these ferns originated in Australia, Tasmania and New Zealand, a quite remarkable story of spore dispersal. Native to Juan Fernández are *Lophosoria quadripinnata* and *Thyrsopteris elegans*, which, although taxonomically tongue-twisters, are among the most beautiful ferns on the planet. Despite their rarity they are lovingly cultivated and propagated with great success at the Royal Botanic Garden Edinburgh.

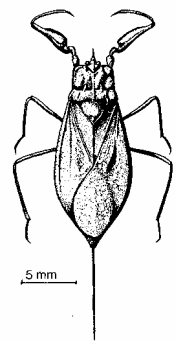
Another chapter explores the fern craze of Victorian Britain that drove certain species such as the Killarney fern and *Woodsia ilvensis* through over-collection to near extinction on these islands and from which they are still struggling to recover. He discusses how some *Trichomanes* species, including the Killarney fern, have survived vegetatively perhaps for centuries in their gametophyte form without developing sporophytes i.e. what we would normally recognise as ferns. He explains that modern DNA analysis has shown that horsetails (usually described as fern allies), seed plants, and ferns themselves are more closely related to one another than any of them are to that other group of fern allies, the club mosses. But I must not give too much away.

The chapters are self-contained and could be read in any order. The book is beautifully illustrated with colour plates, black and white photos, and lots of line drawings and explanatory diagrams. I only have one small quibble: the editing or proof-reading (if such an activity still exists) is poor with on several occasions a word, luckily usually inconsequential, missing from the text. The funniest example of this is a quotation from Oliver Sack’s Foreword wrongly reproduced on the book cover, which says the book “is stimulating, enthralling, a beautiful companion for any fern.” So give this book to your favourite fern as a companion – but read and enjoy it for yourself first.

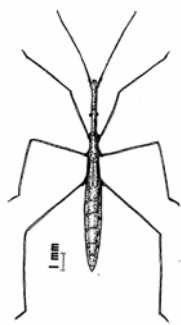
Frank McGavigan (frank@mcgavigan2.demon.co.uk)

Huxley, T. (2004) *The Water Bugs of Fife & Kinross (Vice-County 85). Fife Environmental Recording Network. 50pp. ISBN 1-872162-21-5, pbk £5.00.*

This atlas is a follow-up in greater geographical detail to the *Provisional Atlas of British Aquatic Bugs (Hemiptera, Heteroptera)* (Thomas Huxley, 2003), published by the Biological Records Centre. It also provides many additional records to the SNH report on *The Distribution of Aquatic Bugs (Hemiptera-Heteroptera) in Scotland* (Thomas Huxley, 1997). It is similar in structure to these publications, and has everything one would expect from a quality regional atlas, being in fact one off the most practical and most logically structured you will come across. This is due to the author being almost entirely responsible for every aspect of the publication, from recording to editing. The text is also less sterile than one may be used to, and one gets a great sense of the personal enthusiasm and investment by the author.



The *Introduction* section begins with an account of the development of the project, full acknowledgements, and a checklist, detailing hierarchy and authority. This is followed by an introduction to water bugs, notes on identification and phenology, recording methodology, logistics, and conditions. The section concludes with a description of habitats, and a brief overview of freshwaters in Fife.



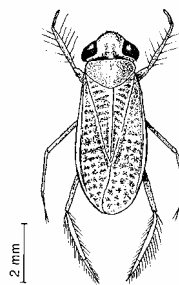
The *Species Accounts* section provides information on distribution and habitat of 32 individual species with some helpful hints on their identification. All species accounts are accompanied by maps, Huxley's own beautiful drawings of the species, and at least one habitat photograph. There are comprehensive appendices: a gazetteer of locations and grid references, a glossary, frequency and coincidence maps. The publication concludes with references.

There is no frustrating flicking between keys and text and jargon is kept to the minimum. On reading the atlas, one almost wants straight away to go out and find the location in the photo and search for a specimen. Water bugs are not the most fashionable or intensely studied of recording subjects, and perhaps the biggest compliment to Thomas Huxley is that, within a couple of weeks of working with him on the publication, I was kneeling beside a puddle with my newly purchased hand net in one hand and the atlas in the other. It has now become difficult to walk past a puddle or pond without stopping and marvelling at the speed and behaviour of these graceful little insects.



The atlas works well on a variety of levels. It is an excellent theoretical introduction for those with little or no knowledge of the sub-order; it is a comprehensive guide to the water

bugs in Fife, a good record of freshwater bodies in Fife, and a valuable recording aid for anyone interested in looking at species in the field. The study of such an under-recorded group should be encouraged at every opportunity, to identify emerging trends and ensure a continued supply of quality data to inform future conservation. Recording these insects also provides a valuable opportunity for monitoring the condition of important small water



bodies that may otherwise be lost, and this atlas provides an invaluable baseline. Thomas Huxley should be congratulated for his great personal investment in the atlas and its contribution to the national recording community. In reading the atlas I guarantee that next time you pass an old tire track or puddle, it will be very difficult not to stop and eaves drop on the fascinating world of the water bug.

Simon Scott (FERN)

DATES FOR THE DIARY February – April 2005

Saturday 5 February - Moth Recorders' Gathering 2005 at the Cowane Centre, Stirling. Contact Butterfly Conservation Scotland, Tel 0870 7706151 or Scotland@butterfly-conservation.org

16 February The role of large Herbivores in shaping the Upland Landscapes of Britain – at Battleby. Contact Dr James Fenton, The National Trust Scotland, tel. 01463 732628 or jfenton@nts.org.uk

Friday 4 March 05 - NFBR Annual conference and AGM on Green Spaces, Living Spaces: biological recording and urban policy in the UK. at St George Hotel, Harrogate, Contact John Newbould Tel: 01305 837384 or check out www.nfbr.org.uk NFBR members £30; non-member £35 before 20 February.

Saturday 9 April 05 – BRISC Annual Conference and AGM – Bute Building St Andrews University – programme and booking from Anne-Marie Smout Tel 10333 310330 AMSmout@aol.com or check out www.brisc.org.uk

New 'Members Area' on the website

Please note that two passwords are needed:

username recorder

password brisc

Both will be changed from time to time and published here, so watch this space!

Deadline for next issue is 16 March 05

all material to Anne-Marie Smout, preferably in electronic form to AMSmout@aol.com or by post to Chesterhill, Shore Road, Anstruther, Fife KY10 3DZ