ADASTRA
2012

An annual review of wildlife recording in Sussex

published by
The Sussex Biodiversity Record Centre

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Printed and published in February 2013

by the

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Cover picture: The Latin moth, *Callopistria juventina* (D.F.J. Lee).

A foreword from Henri Brocklebank, manager of the Sussex Biodiversity Record Centre

Great expectations

Adastra means 'to the stars'….maybe some Sussex biodiversity data is floating round the stars in some sort of binary form as I type, as data flies around on the internet continually. When our Biological Recorders Seminar was first established in the late 1980's email wasn't even a glint in anyone's eye and computers took up the entire desk! Just storing Sussex data on databases probably seemed a bit excessive, 'What's wrong with a card index?'. Now, by comparison, four million species records can be searched in a matter of seconds and huge reports sent to recipients via the 'information superhighway'. As I have never really got my head round how the internet works, I am happy to just call it 'space' and accept a star trek transporter type explanation for the internet.

Biological recording is a perfect match for developments in technology and we forget how recent the common use of GPSs and online recording are. However, as well as facilitating so many fantastic opportunities for naturalists and conservationists (amongst others), the advances in the technology available to us also places very high expectations on everyone involved. Data has to be detailed, accurate and above all….INSTANT!! We laugh in the Record Centre about the term that is so casually used …'at the push of a button'. I will often use this term when describing one of our services to a partner organisation, but we all know that even though the end user may only need to push a button there was many hours of complex data manipulation and programming and hair pulling out to get to that point.

More to the point advances in data sharing and data flow means that recording groups are processing data more quickly and sharing it with ourselves and others more easily. Over the past decade data flow around Sussex has unravelled and is no longer a complex or controversial issue. The Record Centre enjoys positive data sharing relationships with all the Sussex recording groups and many individuals and many thanks to everyone that we work with. However, linking local data flow with national data flows remains a great challenge. We are required by Natural England and the Environment Agency to share data on the National Biodiversity Network but we are still trying to get to the bottom of issues such a duplication, data quality and access rights to data via national programs like the NBN.

We are on the cusp of launching 'LRC online' a tool partly funded by defra and developed by Charles Roper and John Van Breda. It is basically a 'data portal' for the Sussex species inventory data. Ten years ago we would have all had a good laugh about being a 'data portal', but now not only is it possible, but it is also an expectation.

The expectations are high on a record centre and this helps keep us on our toes regarding data quality and flow. There are still some thorny issues to unravel and these are largely concerning national data flow and sharing. May 2013 be a year of unravelling!

January 2012

FLORA - VASCULAR PLANTS

by county flora recorders Paul Harmes (East Sussex) and Mike Shaw (West Sussex)

Recording towards our new Flora of Sussex has continued in 2012 but in a more focused way with emphasis on refinding missing rare and previously recorded species. We have also targeted under-recorded tetrads and habitats. This will continue to be our theme in 2013 especially looking at aquatic plants in what is probably our last full recording year.

Much effort has been directed towards recording critical genera. Over the last 3 years we have been very lucky to have the expert help of David Allen with brambles, *Rubus* spp. He has not only spent many days in the field in West Sussex, identifying some 85 species including several new vice-county records, but has also extracted all the Sussex *Rubus* records from the BM herbarium. Many of these have been the result of his own re-determinations. Similarly David McCosh has kindly helped with the hawkweeds, *Hieracia*, by providing us with extracts from his database for VC13 and 14. SBRS members were urged to try and refind old *Hieracium* records, and collect vouchers of these and at new sites. These were sent to David and he provided us with over 70 determinations, including *H. argutifolium* (sharp-toothed hawkweed), last recorded in 1907, and *H. sylvularum* (ample-toothed hawkweed) which is new to Sussex. Little work has been done on the dandelions, *Taraxacum* spp., apart from some records submitted by Tim Rich, but we have no members with any real interest or knowledge in this genus. It is no surprise therefore that of the 33 records submitted by Tim, no less than 15 are new vice county records!

Along with recording much other work is being done towards the Flora. Photographs of plants and habitats are being collected to illustrate the book; herbaria including Brighton and Oxford have been visited to find Sussex records; species accounts and introductory chapters are being written; various historical datasets need validating then integrating with our main database. The Sussex Biodiversity Record Centre has identified some records not already shared with us and these await validation. We are now beginning to examine in detail the formatting and structure of the Flora and we are very grateful that David Streeter has agreed to join our Flora Working Group, bringing a wealth of experience for our benefit.

We have again taken part in the BSBI Threatened Plants Project and this year species monitored have included *Anacamptis morio* (green-winged orchid), *Hypochaeris glabra* (smooth cat's-ear) and *Tephroseris integrifolia* subsp. *integrifolia* (field fleawort).

Interesting finds this year in West Sussex include *Daphne mezereum* (mezereon), at 2 sites in Amberley chalk pit museum and believed native there. This is the only extant site in Sussex. *Viola* x *bavarica* (common dog-violet x early dog-violet) was found at Elsted, the first West Sussex record for over 100 years. We have only ever had one record for *Carex elata* (tufted-sedge) on the Adur near West Grinstead. The site was revisited this year but was overgrown and the plant gone, but happily one clump was found nearby on the west bank confirmed by the BSBI referee. More were seen further south, though there may have been some introgression with the nearby hybrid *Carex* x *prolixa* (slender tufted-sedge x tufted-sedge). *Hieracium angustisquamum* (red-tinted hawkweed), first recorded on Duncton Hill in the 1950's but last recorded in 1970, was found just persisting as one clump on a busy roadside. Last but not least, 5 spikes of *Himantoglossum hircinum* (lizard orchid) appeared in a coastal field at Chidham.

In East Sussex, the highlight of the year was confirmation by specialists at Wisley of a hybrid bramble, *Rubus cockburnianus* x *Rubus idaeus* (white-stemmed bramble x raspberry), first found in Brighton in 2010. There are no previous records for this taxon in the wild (it has only been cultivated in the laboratory) and Wisley have told us it is a new world record. Other significant finds include *Rosa obtusifolia* (round-leaved dog-rose) at Ewhurst Green, *Ranunculus tripartitus* (three-lobed crowfoot) from a newly excavated ditch near Norman's Bay and *Hieracium vulgatum* (common hawkweed) in Broadwater Forest. Also *Orobanche rapum-genistae* (greater broomrape) reappeared in Brede High Woods after a gap of nine years. This is the result of heathland restoration and the introduction of grazing by the Woodland Trust.

ORCHIDS

ORCHIDS IN SUSSEX, 2012

David C. Lang, recorder for orchids in Sussex.

For the third year running, we have experienced a very poor season for orchids, partly due to the very cold winter followed initially by drought and then torrential rain.

Early spider-orchid (*Ophrys sphegodes*) Numbers everywhere low, enlivened by a new site in Eastbourne town with three flowering plants (Pamela Clark)

Green-winged orchid (*Orchis morio*) did quite well , with a fine record of about 10,000 flowering at a site in Ditchling.

Fragrant orchid (*Gymnadenia conopsea*) flowered in all its regular sites, with *G. densiflora* on the Downs and *G. borealis* on Ashdown Forest producing good plants.

Musk orchid (*Herminium monorchis*) failed to appear at many of its known sites.

Bird's-nest orchid (*Neottia nidus-avis*) also failed to appear in most of the recorded sites.

Greater butterfly-orchid (*Platanthera chlorantha*) flourished at Wolstonbury Hill and a new site was recorded west of Horsham (Paul Harmes).

Bee orchid (*Ophrys apifera*) flowered reasonably well, with a fine colony near Bosham with 115 flowering plants, including several very close to var. *belgarum* in form.

Fly orchid (*Ophrys insectifera*) failed to flower in most of its known sites.

Lizard orchid (*Himantoglossum hircinum*) reappeared in its two known sites, but five fine plants flowered at a new site near Bosham with the bee orchids – an excellent record (per Ed Rowsell).

Burnt orchid (*Orchis ustulata*) did surprisingly well, with more than 1200 of the early flowering form in a prime site, and the late form *serotina* doing quite well at two sites, although absent from other known sites.

Broad-leaved helleborine (*Epipactis helleborine*). In Friston Forest many of the flowering spikes were coloured an intense dark red, a most unusual occurrence which can only be attributed to the weather!

Violet helleborine (*Epipactis purpurata*). Neil Hulme reported flowers in one colony covered in dozens of the fly *Hirtodrosophila cameraria*, but with no evidence of them acting as pollinators. See page xx.

Man orchid (*Aceras anthropophorum*) failed to flower in any of its known sites.

The **spotted orchids** of both species produced a reasonable crop of flowers, as did the **marsh orchids** at Ferring Rife, but numbers were below average at most other locations.

We can only hope for a reasonable winter and a 'normal' summer next year if we are to see our orchids once again in flourishing form.

BRYOPHYTES (MOSSES, LIVERWORTS & HORNWORTS)

by Tom Ottley, county recorder for Bryophytes

I must start by thanking Howard Matcham for his tremendous achievements as bryophyte recorder for the last quarter of a century!. Apart from adding numerous species to the county flora he was also a key member of the team that produced the Atlas, a quite remarkable document and a great help to me personally (but now sadly out of print). Howard wanted to retire to concentrate on an even more difficult group, the microfungi, at which he is already an acknowledged expert. I took over earlier this year and I would not try to emulate those successes. Because I live well inside the principality of East Sussex my own recording efforts will tend to focus there. But perhaps that gives an overall balance with West Sussex inevitably having received the most effort in the past with Howard, Rod Stern and Francis Rose all living near or beyond the far county boundary.

The year started well with *Amblystegium varium* (willow feather-moss) being refound in East Sussex, closely followed by *Amblystegium humile* (constricted feather-moss) only a few miles away. The latter is very scarce and hopefully it will be secure on a private golf course in what is no doubt described as a 'lateral water hazard'. In March, *Lejeunea lamacerina* (western pouncewort) was seen in what must surely be its easternmost locality in Britain, in Dallington, where it has now been found in two locations. It is perhaps surprising this had not been found previously as the area had been well worked by Francis but it's one of those species that can be difficult to identify in the field but easy microscopically and there's no suggestion that this western species is spreading.

Other good finds followed but rather than just present a list I want to illustrate the practicalities of bryophyte recording with an interesting, and possibly amusing story.

I had been looking at what species had been found in neighbouring counties but were apparently missing from Sussex. It was clear that *Platygyrium repens* (flat-brocade moss) really ought to be in East Sussex but it was not listed in the Census Catalogue for the vice-county and I wanted to find it. I had little real idea what it looked like, so I found a record in Kent that was quite close and well-localised and set off to find it there. It was described as being on a sloping alder by a stream and the six figure map reference was by a footpath where it crossed the stream. I went to the spot, stood on the footbridge and counted only the alders that could be described as sloping. There were three, but one was obviously a 'bryologist's tree', just the sort of place you would home in on. I examined this one tree in great detail and sure enough I eventually found it – much smaller than I had expected but quite distinctive. The Field Guide describes this plant as being slender; I would have said it was positively tiny.

The next day I headed to my nearest patch of woodland and looked for sloping alder trees. I found several and carefully examined every square centimetre I could reach but in spite of the habitat appearing perfect I could find none. Then just as I was leaving the wood I noticed my favourite elder tree with its fine colonies of *Orthotrichum pulchellum* (elegant bristle-moss) and I just stopped to look at them as I have done many times before. To my utter astonishment, there was a tiny piece of *Platygyrium repens* by the side of one the *Orthotrichum* plants. I would never have spotted it had I not taken the trouble to find out just what it looked like. I must surely have overlooked it a dozen times before. The little clusters of gemmae at the top of short erect stems are however easy to recognise, although any resemblance of the plant to Sideshow Bob as an American website suggests, eludes me (http://ohiomosslichen.org/mossID14.html).

The story doesn't end there. I contacted my colleague in Surrey, Howard Wallis, and asked if he had found it in Surrey and he hadn't so I invited him down to see it. I checked the day before that I could reliably refind it, not easy with such a small plant. It was there. Howard arrived and we walked down to the elder. To my amazement someone had sawn the top of the bush off! By sheer chance the *Platygyrium* was intact but it now resides as a 3 mm diameter patch only 4 mm from the top of the trunk, just below the cut edge. I have no idea why the tree was sawn, no other trees in the wood were touched or indeed have been since. Howard returned to Surrey and a week later found some on willow by the river Wey in an area he had worked many times before. I have since looked at all similar trees in the wood, elder, alder and willow but I can find no more - it is one of those rather sporadic species that never persist long in one place. Another is *Ptilidium pulcherrimum* (tree fringewort). This is in the same wood

and again restricted to a ridiculously small patch where it appears to be on its last legs, but it will turn up elsewhere. This area of woodland also has *Neckera pumila* (dwarf neckera), another very scarce species. But all this illustrates is that by getting to know a local patch piece of woodland really well, it is possible to find a good range of species, some of which will be quite unexpected. It definitely helps to have an illuminated hand lens when looking for small plants in woodland; these are now readily available (from Summerfield Books, for example) and are inexpensive.

I wanted to see what was in some of the private woodland that has been divided up and sold off so I joined the Small Woodland Owners Group. I don't own any woods myself but they accepted me into their world and I've visited six of them to date. I used to think this division of woodland would be mostly negative from a wildlife conservation point of view. But, at least as far as bryophytes are concerned, it's probably beneficial. I find most owners are very helpful and want to look after what they have. The woods are managed quite lightly and it tends to maintain a continuity of habitat. Areas that are wet and difficult to work in are left alone, ideal for these often delicate plants. I've been able to make a few really interesting finds too, maybe the best being a large colony of *Pogonatum nanum* (dwarf haircap) on a bank in a private wood near Heathfield. There are old records for this from East Sussex but it has been declining nationally in recent years for reasons unknown. I've drawn the owner's attention to it and now it will be cherished.

The BBS Southern Group held a field meeting at Wick Wood near Chithurst, expertly led by Bruce Middleton. We saw a very wide range of species including the fascinating *Riccia fluitans* (floating crystalwort), floating on the surface of a pond. The air chambers that keep it afloat can be seen with a hand lens. This liverwort also grows in large quantity on the Butterfly Conservation reserve at Park Corner Heath. Permission should be sought before pond-dipping!

I was prompted by Fran Southgate to get permission to visit one of the water board's sites near Offham. A previous survey had pointed towards the possibility of there being some unusual mosses there. After two visits to this small site, I'm now able to confirm that it is the only locality in East Sussex for *Plagiomnium elatum* (tall thyme-moss), a moss that is fairly frequent in calcareous fens in the north of Britain but not in our part of the country. That would be good by itself but there is also *Oxyrrhynchium speciosum* (showy bristle-moss) which is another exceedingly scarce species in Sussex. Both these plants are perfectly secure here, the site is going to be left alone and with high fences and padlocked gates there is no visitor pressure. The water board are justifiably proud to have such rarities on their land.

I have received records from a few other bryologists. Pride of place must go to Peter Howarth for refinding the miniscule *Discelium nudum* (flag-moss) at Crowborough. This was last seen at Crowborough Brickworks, its only locality in the county, but that site has now been lost to development. Using a bit of deduction Peter searched the stream banks upstream of the original site and eventually found it, a real achievement for such a small plant.

I recently came across a video on the internet which showed *Bryum pallescens* (tall-clustered thread-moss) growing by galvanised steel palings around an electricity sub-station. This plant is able to survive in soil contaminated with heavy metals, specifically zinc. I thought about places where I might find it and eventually hit upon the high-voltage pylons that march across our landscape. I found one in light woodland by a path and sure enough, under each of the four legs was a patch of dark green moss with the red stems of the capsules just beginning to form. It's probably widespread but it won't be officially accepted until a patch with ripe capsules can be found, probably about the time this is published. It would be worth looking for this by other galvanised structures; it apparently likes crash barriers. It's worth considering how there must be spores floating in the atmosphere, being washed down in the rain and then one of those raindrops strikes a pylon and runs right down to the base. Even then the spore still has to germinate of course. It's entertaining to speculate sometimes.

FUNGI

by Martin Allison

The weather of 2012 will be well documented elsewhere in Adastra, so no need to dwell on it too long here. It did do strange things to the fungi, which is worth recording. The exceptionally wet spring and summer led many to think that autumn would provide a bumper crop of fruiting mushrooms like no other. A dry spell followed, and come September and we were cancelling forays left right and centre due to lack of fungi! This scenario continued into October, but then the rains arrived once more. However, the earlier combination of saturation followed by dry conditions did not stimulate the fungi, which prefer prolonged moist and warm conditions (think of athlete's foot!). The strange outcome of all this was that when the fungi did finally show, they were dominated by litter and dead wood feeding species, and those associated with trees and shrubs (the mycorrhizal fungi) fared badly. **Brittlegills, milkcaps** and **boletes** were virtually absent from many sites. One exception was the genus *Cortinarius*, or **webcaps**, which proliferated and produced abundant fruit bodies, allowing the brave amongst us a rare opportunity to get to grips with this extremely difficult group of fungi. The reason why the webcaps and saprotrophic species fruited so well remains a mystery, at least to me.

There were a few early season highlights. Iona Fraser kindly showed me a species she had collected in the cemetery at Forest Row and identified as *Lepiota cortinarius*. This is an unusual *Lepiota* in that it sports a veil on the young caps, a unique feature for the genus. This is new to East Sussex and there are only four records for Kent and one for West Sussex. There is a good illustration of the species in the new Collins Fungi Guide. Shortly after, Iona found the scarce *Crepidotus cinnabarinus* amongst moss on fallen **ash**, *Fraxinus excelsior*, at Old Cellars, Ashurst Wood, and providing a second new County record.

The highlight of my season was the opportunity to carry out a mycological survey at Lullington Heath. The grasslands, heath and scrub of this national nature reserve represent a challenge as many species found here do not occur widely across the county. One hundred and twenty two species were identified over six visits, with some deserving special mention here. There are I think three **Scot's pines**, *Pinus sylvestris*, at Lullington. One of them was found to support *Tricholoma batschii* as an ectomycorrhizal associate. It is amazing to find such a rare fungus growing with such isolated trees! The habitat is ideal, however, their preference being for Scot's pine growing on chalk soils. There are a maximum 20 records for this species in the UK, scattered widely across the southern half of England. It has not previously been recorded in Sussex or Kent, and at only one location in Surrey. *Sowerbyella radiculata* var. *radiculata* was recorded from short turf on the edge of **gorse**, *Ulex europaeus*, scrub. This rare ascomycete has not been recorded in Sussex since 1957, when it was found at Friston Forest very close to its current location. *Inocybe obsoleta* was tentatively identified with **willow** *Salix sp*, and would be a new county record. Its UK distribution to date is just nine records from Scotland, Ireland and Norfolk. This fungus has recently been elevated to specific rank from within the *Inocybe rimosa* complex, but not all mycologists will agree with this split. A herbarium specimen has been retained. Nine species of *Agaricus* at Lullington Heath was impressive and caused some head scratching at times.

I consider Brede High Wood one of the top mycological sites in East Sussex, one that turns up good species regularly. Two public forays at the woodland this autumn produced eight *Cortinarius* species, mostly from the daunting *Telamonia* sub-genus and including *C. acutus, C. obtusus* and *C. saniosus*. The first two appear to be new Sussex records, whilst the only recorded site for the latter is Ebernoe Common. Two species making a re-appearance after several years' absence from the field notebooks were **cucumber cap**, *Macrocystidia cucumis*, and **pipe club**, *Macrotyphula fistulosa* var. *fistulosa*. These are two of the more entertaining species found on public walks this year, in that the former smells overpoweringly of cucumber, whilst the latter looks like tall brown pipes growing out of the ground, in this case rising to a height of 20cm. *M. fistulosa* is a new county record for East Sussex, whilst cucumber cap has three records, with none after 2004. Finally from Brede, *Coriolopsis gallica* was recorded from felled **beech,** *Fagus sylvatica*, currently used as seating. This species has very much a southern distribution, and featured on the original draft red lists, but is possibly slowly spreading. It was accompanied by the **split crust,** *Schizophyllum commune*, an attractive species that has been absent on forays for several years, but was widespread in 2012.

Two public forays were held at Pulborough Brooks RSPB Reserve. Several mossy oak stems were investigated and found to support the delicate and delectable *Mycena pseudocorticolor*, a minute grey-blue 'bonnet' that only seems to fruit in very wet seasons, so this year was probably ideal! More often than not, and as at Pulborough this season, it is accompanied by the even smaller *M. corynephora*, a white-frosted *Mycena* which is so very easily overlooked. It is always a joy to discover these little gems. *M. pseudocorticolor* has only recorded twice in West Sussex. The pretty **pinkedge bonnet**, *Mycena capillaripes*, was also found at Pulborough Brooks this year and is yet another new county record for this relatively widespread fungus. Mycenas feed on leaf litter and woody debris and they certainly had a spectacular season in late 2012.

Broadwater Warren failed to produce many new records this year, but *Crepidotus versutus* was found there in October, being one of the scarcer species of the genus. It is new to East Sussex, has been recorded from St Leonard's and The Mens in West Sussex, and is absent in West Kent.

I have received some foray highlights from Nick Aplin of the Sussex Fungus Group. *Amanita lividopallescens* was a good new county find at Tilgate Park. This scarce *Amanita* is seldom recorded, but it will be interesting to see if records increase with the recent publication of several works on the *Amanita* genus. *Phaeogalera dissimulans*, a rather nondescript species, was recorded from Tilgate, Hawth Wood and Warnham Nature Reserve, being the first, second and third county records during the course of just one week. It was obviously a good year for this particular fungus. Several *Ascomycetes* were of interest, but in particular were *Helotium cruentatum* and *Schizoxylon alboatrum*. Both were from Tilgate Park and both are not just new county records, but also the 4th and 2nd UK record respectively. *S. alboatrum* was found in this instance on stems of **common figwort**, *Scrophularia nodosa*. It was previously known only on **raspberry**, *Rubus idaeus*, from Moidart in Westerness, Scotland. The host for *H. cruentatum* at Tilgate was **pendulous sedge**, *Carex pendula*.

It continues to surprise me that so many relatively widespread species of fungi remain unrecorded, at least officially, in East Sussex. Hopefully, we can turn this around with more concentrated systematic recording over the coming years.

MICROFUNGI, DEMATIACEOUS HYPHOMYCETES & AN ALGA FROM WEST SUSSEX

by Howard Matcham

The notes this year are confined to new and interesting microfungi, dematiaceous (darkly pigmented) hyphomycetes and a single alga new to West Sussex. Voucher specimens of all collections are either in my personal fungarium and if important first or second British records accessed at Royal Botanic Gardens Kew (K(M)). What is a hyphomycete and why am I studying these incredibly beautiful and diverse fungi?

A very basic description indeed is: anamorphic (asexual or imperfect) fungi belonging to the Deuteromycotina (Fungi Imperfecti) composed almost entirely of ascomycete affinity producing conidia from exposed conidiogenous cells arising from hyphae, or on conidiophores arising separately or aggregated in cushion-like or stalk-like synnemata; (composed of several or many tightly adpressed threads or filaments). There are about 1400 genera and 11,500 species. To the naked eye they appear as conspicuous black, brown, green or grey and white felts on the substrata. For example look at dead stinging nettle or hogweed stems where several species will be found, most particularly *Torula herbarum* which, despite only having two records on the Fungus Record Database of the British Isles (FRDBI) for vc13 and last recorded in 1999, is in fact ubiquitous! Few mycologists record this group. Hyphomycetes can be microscopic and composed of few cells, or macroscopic and easily seen such as the resin species found on conifer wounds that I mention below. Recently we have all heard of a hyphomycete, the anamorphic state *Chalara fraxinea* (asexual) and the teleomorphic or spore producing state, *Hymenoscyphus pseudoalbidus* which, we are led to believe, will decimate our ash trees.

Giving up bryology (see below for my 'autobryography') for another challenge in a different discipline was the next step, as to put it quite simply, I could not achieve any more than I have in the bryological discipline. I am a great believer in the 'more mature' keeping the brain active as long as possible; as hyphomycetes are absolutely abundant and found on diverse substrata and require the microscope for identification what better way of whiling away my

evening years? And I find using a microscope extremely therapeutic! My dog lies on my feet and I can tickle his ears.

The year began well. In December 2011 I had spotted a bushy orange growth on the trunk of a Norway Spruce, (*Picea abies*) which at first I assumed to be a form of the extremely common alga *Trentepohlia aurea* which clothes, especially smooth barked trees, in a blanket of orange. Closer inspection with a hand lens proved this not to be the case as I could see strands of hyphae and conidiophores bearing conidia. It also seemed to be confined to resin from wounds on the trunk; these had been made the previous year when machinery had thinned the plantation. Subsequently under the microscope I was not able to identify this extremely distinctive species which had prominent spiculose hyphae with branched septate conidia of varying lengths. I sent it to Alick Henrici (Kew) who passed it on to Dr Eliyathamby Punithalingam (Kew) and on the 13th February 2012, a phone call from Alick informed me that it was almost certainly an unknown species in the genus *Septonema*. Immensely excited at my first species new to science I realised that it was a good excuse to order a recently published book specialising in hyphomycetes and immediately ordered The Genera of Hyphomycetes, (2011) Seifert K., Morgan-Jones G., Gams W., Kendrick B. Utrecht. As a microscopist I have become so fascinated by these beautiful fungi that I ordered 'print on demand' two further volumes specialising in this group, Dematiaceous Hyphomycetes and More Dematiaceous Hyphomycetes both by the late Martin Ellis enabling me to identify most species that I am likely to find in Sussex. During April 2012 I looked at trunk wounds on European Larch (*Larix decidua*) and discovered another *Septonema* species; *S. fasciculare* is also a resin specialist and a second vc13 record, it was growing with another hyphomycete *Trimmatostroma scutellare*, the first vc13 record and the discomycete *Sarea resinae* with only one previous vc13 record.

Turning over a fallen beech branch I spotted an immensely attractive hyphomycete, synnematous, with emerald green slimy apices (conidiophores) looking like green matchsticks; *Dendrostilbella smaragdina* (synonym *Graphium smaragdinum*) has six previous British records on the FRDBI three of these from *Rhododendron ponticum* and one from *Pinus* so it is probably plurivorous (living on several hosts) and almost certainly overlooked. It is the first record from Sussex.

Browsing through Dematiaceous Hyphomycetes I came a across a description and illustration of *Stenella lythri*, strictly host specific to purple-loosestrife (*Lythrum salicaria*) and when I looked it up on FRDBI with only two British records, both from Denny Inclosure in the New Forest, first recorded in 1958 and the second record a year later in 1959, not seen subsequently. Maudlin Pond is very near to my home and has two clumps of Purple-loosestrife and in mid-October I went to look for the *Stenella* not believing for a moment that I would find it! *Stenella* is hypophyllous; that is, growing on the leaf underside not on the upper surface of the leaf. Turning over leaves I saw orange patches which under my hand lens looked as if they could belong to a hyphomycete. Sure enough under the microscope I was able to confirm that I had collected *S. lythri.* Walking back home I looked at mugwort (*Artemisia vulgaris*) as my eye had been attracted by obviously misshapen leaves (these were galls caused by the aphid *Cryptosiphum artemisiae*, with no previous records from Sussex at SxBRC) and looking at the underside of several leaves I saw that they were infected with the uncommon rust fungus *Puccinia tanaceti*, while between uredinia were conidia belonging to *Mycovellosiella ferruginea* host specific to *Artemisia*, all but one of the 32 British records are from *A. vulgaris*, the other from *A. verlotorum* (Chinese mugwort) which is extremely interesting as the published literature states that *M. ferruginea* is only recorded from *A. absinthium* (wormwood) and *A. vulgaris*. Why are there no specimens from wormwood on FRDBI, I wonder? Above are just a few examples of seldom recorded species collected within half a mile of my home an indication that specific searches produce results. Of the 70 new vice county records* I have recorded up until mid-December 2012, 35 are dematiaceous hyphomycetes (two are coelomycetes and the remaining 33 are microfungi – ascomycetes which include discomycetes and pyrenomycetes). Coelomycetes are mostly plant pathogens developing just below the outer plant tissue. The name is derived from the Greek word *koilos* meaning 'hollow' as it forms conidia in a cavity (acervuli or stroma). Species are abundant. See the single interesting example below.

Walking into a small copse at Goodwood, parallel to New Barn Hill, in June, I spotted on an oak tree, sheets of an unfamiliar pyrenomycete, extremely attractive and looking like minute tangerines; at first I struggled to find the identity of this species in the literature. Eventually I saw a coloured illustration in Dennis (1981) British Ascomycetes, of the non-British pathogenic fungus *Endothia parasitica*, a devastating introduced disease from Asia into the USA where it decimated the American Chestnut (*Castanea dentata*). I was then quickly able to identify my

collection as the congener *Endothia radicalis* at its second British location, this collection has been confirmed and retained by Kew. Hopefully this species will not spread and is not dangerously pathogenic. In December I revisited the copse specifically to look for the coelomycete, *Cheirospora botryospora* which is found mainly on ivy stems. In *Field Mycology* volume 13 (4): October 2012, the renowned mycologist Nick Legon had submitted an article entitled: *Cheirospora botryospora* – a very common rarity? Nick had come across this species and as it was unknown to him had identified it and then researched its distribution resulting in the aforementioned article. Only eight records on FRDBI were accompanied by voucher collections in K (Kew Herbarium) but Nick reports that a further 55 specimens in K had never been given an accession number for the herbarium database. Thus it is far more widespread than the FRDBI would suggest and subsequently Nick has found the species on numerous occasions. I found the species within ten minutes of entering the copse. * My 70 vice county records do not indicate rarity but simply may not have been documented on a database or are in notebooks known only to the collector or have not been searched for by a competent mycologist specialising in the group.

Looking at damp dead stems of hemlock (*Conium maculatum*) I spotted numerous microfungi and on a single stem found two rarely seen species, *Schizothecium squamulosum* and *Arnium apiculatum*. Both are in genera normally strictly associated with dung and both species have less than ten British records. Stinging nettle (*Urtica dioica*) has many species associated with its stems and *A. apiculatum* turned up in some quantity on stems in a derelict field at the top of my garden, not cultivated for more than thirty years it consists of a half an acre of nettle bed, this year the stems attained a height of over six feet and damp stems from last year have provided a wealth of species. Hogweed (*Heracleum sphondylium*) near my home had stems covered with the unusual cogwheel-like *Urceolella crispula* an attractive species easily overlooked and on the stem associated with the myxomycetes (slime moulds) *Didymium difforme* and *Physarum pusillum*.

The fimicolous species *Podospora excentrica* was collected from perhaps the most unusual substrate of this year; the dung of Bennett's wallaby at Leonardslee Gardens; after being in a moist chamber culture for a month (the dung not the wallaby!) four species were recorded.

One very interesting alga found by me on the upper surface of ivy leaves adjacent to the footpath leading from Halnaker Park, north to Open Winkins at Goodwood this year and looking like copper pennies is the subariel, sub-tropical *Phycopeltis arundinacea*, it is the first record for Sussex and a recent British and Irish colonist and I initially thought it was a rust fungus but as I was not aware of a rust species growing on ivy my next thought was that it might be the thyriothecia (more or less flattened ascomata) of the host specific *Microthyrium ciliatum* var. *hederae* which is similarly coloured. However, specimens sent to Kew revealed the true identity. The specimen has been retained as a comparison with the above ascomycete.

Patrick Roper sent me a record of *Septoria cornicola* from East Sussex, a species which is host specific on the living leaves of dogwood (*Cornus sanguinea*) it is the first record from vc14 and there is only one record from vc13 where it has returned on the same bush each season since 2009 when I first recorded it, there are only 44 records on FRDBI.

ASH DIEBACK DISEASE

by Patrick Roper

In February 2012 an outbreak of ash dieback disease was confirmed in Britain and in October it was also confirmed in the wider environment. This was followed by a huge amount of media attention to the feared loss of most of the country's ash trees and associated wildlife. Following the initial report, the disease was identified at scattered locations across most of Britain and Ireland, often among trees that had been imported from mainland Europe, but also in the wider environment. There have been records from both East and West Sussex.

Ash dieback is caused by a tiny fungus called *Chalara fraxinea* which induces leaf loss, crown dieback and bark lesions in affected trees. The main symptoms are illustrated by the Forestry Commission here:
http://www.forestry.gov.uk/forestry/INFD-92AHUK

Infection usually leads to the death of the tree and in some parts of mainland Europe around 90% of ashes are said to have succumbed. The fungus reproduces from small, whitish, spore-bearing bodies that develop on the leaf stalks of ash. This stage is called *Hymenoscyphus pseudoalbidus* (fungi of this group often have different scientific names for the different stages though they are the same species) and trees infected by the autumn spores show symptoms in the following summer and autumn.

Since its arrival in Britain many organisations have been working on an appropriate response to the disease but, judging from European experience, there is no realistic chance of it being stopped (though it might, of course, as some diseases do, suddenly lose its potency). It was discovered, as what was thought to be a new species, in Poland in 1992 though, since then, it has been found to be conspecific with a Far Eastern fungus associated with the Manchurian ash (*Fraxinea mandschurica*) though apparently there it does not have the same devastating effects. Looking at the European patterns of distribution, *C. fraxinea* has spread at a steady rate across central and western Europe and is now advancing across France from the east. It has also arrived in all the countries around the Baltic Sea and has 'ravaged' some of the Baltic islands that are farther from the mainland than England is from France indicating, unless imported infected trees were involved, that it is able to cross substantial stretches of ocean. In the UK, outbreaks in the wider environment are almost entirely on the eastern side of the country, many near busy seaports. There are two interesting isolated clusters: one around eastern Kent and north western France, the other involving Jersey, Guernsey and the neighbouring coast of Normandy perhaps indicating that shipping and its associated activities is sometimes involved in transmission of *C. fraxinea*.

The complexity of propagation of plants by spores is illustrated by Simon Davey's contribution (below) on the recent re-appearance in southern England of the golden-eye lichen (*Teloschistes chrysophthalmus*).

Current official advice on ash dieback is to report any outbreak or suspected outbreak, to the Forestry Commission. However, it is no longer suggested that infected trees are felled and burnt (as this will not significantly prevent the spread of the disease) unless they are a danger to the public or property: http://www.forestry.gov.uk/chalara
It should be noted however that since ash dieback has been found in Britain there has been almost continuous change in accounts of it and what to do about it and it is likely that this will continue for some time.

In countries that have had the disease for several years, it has been noticed that about 10-20% of ash trees have not succumbed to *C. fraxinea*. If these remain resistant, they could be the stock from which the ash recovers both as planted and self-sown trees. However, care needs to be taken that not too many plants are raised from genetically identical material as these might become susceptible to ash dieback and other pathogens at some time in the future. Fungi can evolve quite rapidly as, for example, with black-spot in roses where initially resistant plants are eventually attacked by a new strain of the fungus.

People often wonder why such vast quantities of young native tree species have to be imported from mainland Europe. One possible explanation is the large number of tree-planting activities that occurred in 2011 and 2012. There were the Olympic Games with the extensive Olympic Park that included Britain's largest wet woodland, plus any number of Jubilee Woods and other wood creation schemes that are currently in vogue. Many of these undoubtedly worthy endeavours are careful to specify plant material of local or British origin, but demand from all the other schemes where trees would have been called for anyway does not diminish and supply cannot be expected to cope with such sudden surges, nor could British nurseries be expected to expand to meet an exceptional, but brief, need for young trees.

In the longer term it seems that the ash and, probably, most of its associated wildlife will diminish considerably but survive in low numbers to build up again to its present levels. In the past the ash was not the commonest of trees and its spread has been largely due to the opening up of opportunities through human agency. However, the sudden appearance and rapid spread of a lethal pathogen reminds of how vulnerable both wild and domestic plants are. Suppose it had been apple trees or cabbages that had been affected by a previously unknown aggressive and deadly fungus. The years ahead offer an opportunity for recorders to track the progress of a newly arrived species and its effects and, maybe, to discover areas where it does not occur, areas that could be of great importance for ash comeback and an understanding of how better to protect other plant species.

LICHENS

by Simon Davey, Sussex Lichen Recorder.

In 1993, the late and great Dr Francis Rose organised a visit to list the lichens of Ashurst Church. He remarked on a powdery pink species on the north wall of the church, and that in his opinion it was distinct. There is a species of lichen *Dirina massiliense* which, in its common and non-fertile variety is extremely variable, and when a specimen of the pink lichen was sent off to the experts, opinion was that it was simply one of the many forms of the *Dirina*. Recently, a new species of lichen belonging to those that grow on the shaded north walls of churches has been described called *Llimonaea sorediata*. It is described as pink, forming an amorphous crust and similar to *Dirina*. In June this year I made a return visit to Ashurst churchyard and was able to collect a small piece of Francis Rose's pink material. I sent it off, and it was confirmed as *Llimonaea sorediata*, the first time it had been recorded in Sussex, or this far east. The north sides churches provide a study in themselves for lichenologists, having a very specialised flora. Some time ago, a lichen was found on a church in Dorset that looked very distinct. It was given the provisional name of *Opegrapha ecclesiastica*. Unfortunately, it turned out to be a very distinctive form of the rare *Opegrapha areniseda*, whose type specimen was found in the 19th century, "On a hovel in St John, Jersey." The original form of *Opegrapha areniseda* has never been found in Sussex, however the *ecclesiastica* form appears to be present on the north face of a number of churches. A species that was the subject of a biological action plan, *Lecanactis hemisphaerica* was an important Sussex lichen until it was found to be just a north wall form of *Lecanactis grumulosa*. (Its name has now been changed to *Lecanographa grumulosa*.) The new pink *Llimonaea sorediata* should be something that most could recognise, and it would be fascinating to know just how frequent it is in Sussex. At the same time, its presence may well indicate a north wall rich in rare species with a potential for new Sussex records.

In May a group calling themselves Pan Listers visited Parham Park. These are naturalists who do not restrict themselves to an interest in one group. There is a rather small, hollow ash tree in Parham Park that supports *Caloplaca flavorubescens*, a nationally rare species in the 'endangered' category that had not been seen in Britain since 2007 before it was found at Parham in 2011. In the year since it was found, it has flourished and increased magnificently on the tree. So have two other nationally scarce species, *Caloplaca ulcerosa* and *Caloplaca phlogina*. On the hollow inside of the tree, *Bacidia incompta* also has a small colony, and this is also Nationally Rare in the Vulnerable category and is a priority BAP species. What an important little tree this is, and with the onset of ash dieback disease, it could be severely threatened.

THE RETURN OF THE GOLDEN-EYE LICHEN

On 23 December 2012, Mark Jackson told Simon Davey, our Sussex lichen recorder, that he had found the **golden-eye lichen,** *Teloschistes chrysophthalma*, on hawthorn twigs at Woodingdean on the eastern outskirts of Brighton. This beautiful plant is a Critically Endangered species which has been turning up in one or two English sites recently. However, it had not been recorded in Sussex since the 19th century.

T. chrysophthalma grows on nutrient enriched twigs of rosaceous trees and shrubs such as hawthorn, blackthorn and apple. It has very distinctive yellow orange discs, the apothecia, up to 6 mm across and these are surrounded by grey fibrils giving the whole a somewhat flower-like appearance.

Simon Davey tells the story in full below, raising the issue of how it may have re-colonised southern England. As a species that propagates through spores there is a parallel with ash dieback disease and Simon's text illustrates how complex this can be.

It was Boxing Day 2012 and I had just enjoyed some most exciting natural history. On 23 December, I received an e-mail informing me that the lichen *Teloschistes chrysophthalmus* had been found on two hawthorn bushes on the outskirts of Brighton. The finder, Mark Jackson had recently become interested in lichens, and asked me about the status of *T. chrysophthalmus* in East Sussex. The answer was simple, it was the first recent

record for the county, there being three early records from the 19th Century from Shoreham, near Brighton and also near Lewes. On 23 December my knowledge of the recent history of *T. chrysophthalmus* in the British Isles was as follows: in 1994, it had been discovered at Slapton Ley, but the bush on which it grew was cleared as part of conservation scrub clearance. Next, it was found on a hawthorn bush on the shore of Drift Reservoir in Cornwall, but when the water level rose and submerged the bush, its only known site was once again lost. More recently it was found on a branch fallen from an apple tree in Herefordshire. Not a very promising situation for its continued survival. Shortly after that, it was found in County Cork and, as far as I know, that site is still extant. It also occurs on Guernsey on two bushes where I saw it recently. In Jersey however, it was last seen in an orchard back in 1966. A recent trip to the site confirmed that all the apple trees had gone. On Boxing Day, I met up with Mark Jackson, and he showed me the two bushes each with just one *T. chrysophthalmus*. We had a good look round at other trees, but found no more.

Since the 23 December, I have learned that *T. chrysophthalmus* has turned up recently in five sites on the Isle of Wight as well as single sites in Dorset, Hampshire and Kent, so the discovery in Sussex links up all the counties in the South Eastern quarter of England. In the past, it was thought that *T. chrysophthalmus* was probably the most pollution sensitive species, at least to sulphur dioxide, that occurred in Britain. Its recently discovered distribution however would seem to refute this. In Sussex, the site is no more than 400 yards from the edge of the Brighton conurbation. Until relatively recently, there was a power station downwind at Shoreham, and with the whole of Brighton and Hove downwind of the site, the air cannot be considered pure, even with the considerable improvement in air quality throughout southern England. Clearly *T. chrysophthalmus* is not behaving as the delicate, hyper-pollution sensitive species it was thought to be.

Outside Britain, I have some experience of *T. chrysophthalmus*. It is certainly rare in Europe. I first saw it on a twig at Amelie les Bains in the French Pyrenees in 1974. In 1993, I found it in Corfu, and these experiences made me believe that because of the dry atmosphere any sulphur dioxide would not be turned to sulphurous acid, the active compound that causes havoc to pollution sensitive lichens.

In 2004, I visited Texas and became aware of *Teloschistes exilis*. I found it, along with *T. chrysophthalmus*, on twigs that had fallen from the upper branches of suburban pecan trees in Fort Worth. I also found them relatively close by in Dallas. These are part of an enormous conurbation, known in America as the Megalopolis; certainly, not an area particularly noted for pristine air quality. In America, *T. chrysophthalmus* and *T. exilis* appear relatively unfussy about air conditions, *T. flavicans* is almost totally western and coastal, and requires clean air. This is mirrored by its requirements in Britain. In fact, it seems that the fertile species of *Teloschistes*, though rare, are less fussy about sulphur dioxide, at least in the atmosphere.

I was very struck on Boxing Day by the associated species growing with the *T. chrysophthalmus*. While there were hawthorn bushes relatively free of the bright yellow, and very common, species belonging to the genus *Xanthoria*, it was only on those whose twigs were golden with *Xanthoria* that the *Teloschistes* occurred. It was also noticeable that *Xanthoria polycarpa*, a species that relishes enrichment and high levels of nitrogen compounds was frequent on both bushes supporting the *Teloschistes*. In fact the flora of both bushes was characteristic of high levels of nitrogen compound enrichment. Could it be that an increase in average temperatures has encouraged *T. chrysophthalmus* into southern England? Could it also be that *T. chrysophthalmus* requires high levels of nitrogen compounds for its spores to germinate. If this is the case, with the use of catalytic converters on car exhausts creating high levels of ammonia, this could be what causes two of the *Teloschistes* species to occur so readily in the Dallas conurbation. Another intriguing question is where the spores come from? After all *T. chrysophthalmus* is a very uncommon species in Europe. Being a twig lichen, it must also be a rapid coloniser and relatively ephemeral.

Recorders are encouraged to look out for *T. chrysophthalmus*. It appears so far to have been found mostly on mature hawthorn, and perhaps a lesser extent on blackthorn, which are blasted by strong, coastal winds from the south west. It is astonishing how similar *T. chrysophthalmus* can look to the common *Xanthoria polycarpa,* and I suspect it may have been overlooked for this. The *Teloschistes* has brighter orange discs, or fruits, and they are always surrounded by hair-like cilia, or whiskers. These are never present surrounding the duller discs of *Xanthoria polycarpa*. There are plenty of pictures of both on the Internet.

DRAGONFLIES AND DAMSELFLIES (ODONATA)

by Penny Green

Despite the lack of good dragonfly watching weather in 2012 there were enough fine days for there to be some really exciting finds in Sussex.

A lesser emperor *Anax parthenope* was spotted on 18th August at West Rise Marsh in Eastbourne, and with only 17 previous records of this species in Sussex, the last being in 2006 at Rye, this was a great find. The lesser emperor had been recorded in this area before, 12 years ago almost to the day and seen by this recorder's brother! A few days later a pair of ovipositing *parthenope* were spotted in the same area, with an additional male who occasionally flew in to inspect. The lesser emperor oviposits whilst still in tandem, unlike the emperor *Anax imperator* whose females usually oviposit unaccompanied. We'd like to check for exuviae at the site where they were seen ovipositing to see if any have successfully bred, a long shot - but worth a look.

The RSPB has been carrying out a lot of tree clearance work as part of their heathland restoration project at Wiggonholt Common which has resulted in the unshaded conditions which the small red damselfly *Ceriagrion tenellum* favour. This species was recorded on the site for the first time in August and if they are proved to be breeding here it would only be the fifth site in Sussex for this scarce species. It is a national rarity which can be found on acidic pools and streams with sphagnum moss on lowland heathland. Its stronghold in Sussex is the Ashdown Forest, especially at the Old Lodge Sussex Wildlife Trust reserve. We would encourage recorders to keep their eyes peeled for this species if visiting any of the other western heathlands, such as Marley and Lynchmere Commons during its flight period of early June to September - let us know if you see any.

A fine female red-veined darter *Sympetrum fonscolombii* was photographed at Rewell Wood on 20th September, the only record we have received for this species in 2012. Black darters *Sympetrum danae* were discovered at two new sites for Sussex in 2012; a male was photographed near a stream at Lavington Common in July and in September it was found in good numbers, including copulating pairs, at a lake on a sand extraction site at Midhurst Common. A breeding population was confirmed at RSPB's Wiggonholt Common this year too, two years after a lone male was spotted there for the first time. One of the wardens saw a freshly emerged individual and on subsequent visits a thriving population of several males and females was revealed.

Scarce chaser *Libellula fulva* recording efforts are still going strong. In 2012 it was recorded the furthest upstream it has been found on the Cuckmere River as well as at a new site on the river Uck. Club-tailed dragonflies *Gomphus vulgatissimus* were not so well recorded this year due to bad weather during their flight season, this resulted in only one record of six teneral individuals on 23rd May at a site on the western river Rother. We're hoping that 2013 will be better weather-wise as we are aiming on having a concerted effort on surveying for this species to establish its distribution.

I've saved the best until last…after having not been recorded in Sussex for 17 years, a male common hawker *Aeshna juncea* made a star appearance at Black Pond on Iping Common SWT Reserve, on 11th August. It's a moorland species which was last recorded in Sussex in 1995 in the same spot.

At the time of writing we are preparing the Sussex Odonata records in order to send them to the British Dragonfly Society for inclusion in their forthcoming atlas. Thank you to all of the dragonfly recorders who have sent their records in over the years; you have helped to show how wonderful Sussex is for this invertebrate order.

BEETLES (COLEOPTERA)

by Peter Hodge, Sussex Coleoptera Recorder

The year 2012 will be remembered for the unusually warm dry period during February and March, followed by seemingly endless rain for the rest of the summer. These conditions must have favoured the Coleoptera because some startling records have been made, including three species of longhorn beetles new to the Sussex fauna. Credit must be given to the small but growing number of recorders who have acquired the ability to spot something different. This skill is something that develops over a long period of experience in the field and we are fortunate that so many Sussex naturalists are seeking to learn more about beetles.

First, I would like to mention a record of the fungus beetle *Triarthron maerkeli* that was found at Broadwater Warren near Eridge by Graeme Lyons on 30th May 2007. This small beetle is uncommon in Britain and although new to Sussex is quite likely to be under recorded. The remaining records discussed below are all for the year 2012. Heather Martin discovered another rare beetle on 23rd March that landed on a sheet on the washing line in her garden at Herstmonceux. A photograph sent to me by email confirmed that her determination as the 13-spotted ladybird *Hippodamia tredecimpunctata* was correct. This very rare species is associated with wetland habitats and may have originated on the nearby Pevensey Level. In the past this species has had mixed fortunes in Britain and at one time or another has been recorded from many parts of England. During the first half of the 20th century it declined drastically to the point of extinction and the last record until recently was from the Castle Museum grounds at Hastings in 1952. Recently the species has reappeared in several southern counties and it may be attempting to re-establish itself once more.

On 23rd April Ron Carr reported finding a specimen of the very rare fungus beetle *Scaphium immaculatum* in a pile of garden rubbish that had been deposited beside the road at Camber. This species resembles *Scaphidium quadrimaculatum*, a striking red and black beetle that is often found beneath fungoid logs, but it is entirely black in colour. It has only been recorded in Britain from two places, both in East Kent, at St Margaret's Bay between 1921 and 1936 and recently in moss on the sand dunes at St Mary's Bay. Also in April Graeme Lyons recorded a specimen of the longhorn beetle *Pogonocherus fasciculatus* that he had swept off heather at the Graffham Common Sussex Wildlife Trust reserve. The species closely resembles a bird dropping and is associated with dead pine branches. Formerly confined to Scotland and East Anglia, in recent years there have been a few records from other counties in the south of England.

In late May Mark Telfer reported in his blog that he had just tested his Autokatcher in Parham Park and among the beetles captured was a specimen of *Litargus balteatus* which proved to be the first for Sussex. There are a growing number of British records for this North American species but little is known about its ecology in this country. Chris Bentley sent me a photograph of *Paracorymbia fulva* feeding on a creeping thistle flower near Castle Water on the Rye Harbour nature reserve on 12th July. I was pleased to confirm this as a new county record but was surprised to receive a report from Penny Lynch stating that she had found the same species on a hogweed umbel in her garden at Boreham Street on 28th July. This is 17 miles west of the Rye sighting and it seems reasonable to assume that the beetle is attempting to establish itself in the coastal region of East Sussex. This spectacular longhorn was something I had expected to spread from its stronghold in east Hampshire but instead it may have arrived from the opposite direction. To my knowledge it is not currently established in neighbouring parts of Kent and one possibility is that it might have migrated from northern France where the species is common, but this of course is pure speculation.

On 31st May Paul Brock reported finding the Welsh oak longhorn *Pyrrhidium sanguineum* at Rewell Wood near Arundel which the first record for Sussex. This species looks superficially similar to the red-headed cardinal beetle *Pyrochroa serraticornis* but on close inspection the difference in the structure of the antennae is obvious. For many years the breeding centre was Herefordshire and parts of mid-Wales but recently there have been several reports for other English counties. Whether these are the result of introductions as a result of timber transportation is uncertain.

My own spectacular discovery was a weevil new to Britain, found as a direct result of a targeted search for the pollen beetle *Meligethes matronalis* that was discovered at Bookham Common by Roger Booth in 2011. This beetle is associated with the flowers of dame's violet *Hesperis matronalis* and Mike Edwards kindly obtained access permission for Hammer Wood near Chithurst where the plant was known to occur. Mike and I visited the site on 28th June and the first plant examined produced dozens of the pollen beetle by tapping the flowers over a net. After tubing a few specimens we went home, satisfied that we had added another species to the Sussex list that was also the second

British record. However, when the tube was examined under the microscope, an unfamiliar *Ceutorhynchus* weevil had also been accidentally collected and it was soon realised that this was something new to the British fauna. A quick Google search of "*matronalis*" and "*Ceutorhynchus*" produced an immediate result and the specimen was confidently determined as *Ceutorhynchus inaffectatus*, a species monophagous on dame's violet that occurs in many parts of mainland Europe. A return visit to Hammer Wood on 5th July with David Hance produced five further specimens of the weevil, effectively proving that it is well established at this site.

AUCHENORRHYNCHA (LEAFHOPPERS & PLANTHOPPERS)

by Alan Stewart, Sussex Recorder for Auchenorrhyncha

No one will need reminding how unseasonably wet the 2012 summer was. This curtailed field activity for a lot of people, so records for this group of insects were fewer than in previous years. Nevertheless, it is pleasing to report that three new species were added to the list for Sussex.

I recorded two males of *Scottianella dalei* in sweep net samples taken by Mark Vivian at a site near Etchingham, East Sussex in May. This tiny delphacid planthopper is usually found in dry sandy habitats, either on the heathlands of Surrey and Hampshire or on coastal dune grasslands. The exact food plant is not known, but most delphacids feed on grasses. Marcus Oldfield found the leafhopper *Sonronius dahlbomi* at Ditchling Common Country Park. This species is normally associated with willow herbs, *Epilobium* species and *Chamerion angustifolium*, but is far less common than its host plants might indicate. It seems particularly to favour marshy habitats but rather little is known about its exact requirements. Last year, I reported that this site had thrown up another new species for Sussex. Its diversity of habitats suggests this area would be worthy of further attention. Finally, Peter Hodge reported finding the leafhopper *Acericerus heydenii* in the grounds of Moulsecoomb Place where he swept a single female off a *Cupressus* tree in September. As the generic name suggests, this species is normally found on various species of *Acer*, including sycamore, *Acer pseudoplatanus*, but overwintering adults can often be found sheltering in conifers. *A. heydenii* was recorded for the first time in Britain as recently as 2010, suggesting that it is a comparatively recent immigrant from continental Europe.

Records of these three new additions bring the total number of species of this insect group found in Sussex to 176. This represents less than 45% of the total Auchenorrhyncha fauna found in Britain (which is currently a tantalising 399 species), but this is almost certainly a gross under-estimate of the true total. Although Sussex has been quite well recorded for the Auchenorrhyncha over the years, there must be many more species in the county waiting to be uncovered. After all, Sussex is blessed with a very wide range of habitats, although some such as sand dunes and acid bogs are not as well represented as in neighbouring counties. It is also in a prime location for receiving all the new species from the near continent as the climate warms and species move north. Obviously, the only species we would not expect to find are those associated with northern and upland habitats. So, here's a challenge for 2013 – who can find the extra species that will take the total beyond 200 and 50% of the total British fauna? Contact me (a.j.a.stewart@sussex.ac.uk) if you want to know which species have been found in Sussex and therefore, by deduction, which species remain to be discovered!

If you are interested in finding out more about leafhoppers, planthoppers and related groups, have a look at the national recording scheme website (http://www.Ledra.co.uk) for further information about this group of insects in general, including basic identification keys, tips for beginners, references to the most important literature and upcoming free identification workshops.

THE ELUSIVE FRINGE-HORNED MASON BEE

by Rosie Earwaker

In recent years there has been much concern regarding the status of the rare **fringe-horned mason bee,** *Osmia pilicornis*. It is a specialist of open, coppiced woodland and was once widespread across the south of England and parts of South Wales. The loss of woodland and the widespread abandonment of coppicing in the 20th century are likely to be the main causes for its apparently rapid decline, such that since 2005 there are only records of this bee from three sites in Britain. I first heard about *O. pilicornis* last spring, shortly after I had started working for RSPB as

a trainee ecologist specialising in bees and wasps. At the time, there was only one known locality for the bee - Tudeley Woods in Kent and as this was one of RSPB's reserves I decided to find out a bit more about it.

Osmia pilicornis is a spring flier, usually seen in April and May, and forages on a number of flowers, but seems to have a preference for **bugle** *Ajuga reptans* and **ground ivy** *Glechoma hederacea*. It nests in existing holes in dead wood and inhabits warm, sunny areas such as woodland rides and clearings. Coppicing is therefore beneficial, helping to keep the canopy open and allowing the ground flora to flourish. However, it is not restricted to coppiced woodland; it seems to be reliant on the formation of clearings within woodland so, for example, is also found in clear-fell areas of coniferous woodland. When clearings become unsuitable due to shading, the bee appears to move to new clearings so is likely to be dependent on the cyclical pattern of clearing creation.

In early May last year, I went looking for our fringe-horned friend at Tudeley Woods with Grant Hazlehurst, a Kent entomologist. By a stroke of luck, that rare species of 2012 known as the sun had happily decided to show its face; perfect weather for bee hunting! We initially concentrated our search on areas where there were previous records, but we had no joy because the sweet chestnut coppice grows rapidly, shading out the ground flora and the habitat therefore becomes unsuitable. Instead, we focussed on areas of one and two year coppice, which were more open and flower-rich. Grant came across a lovely freshly emerged female, which was foraging on ground ivy. It was great to see this rare bee and be able to confirm its presence at Tudeley. A couple of weeks later, Ian Beavis, who originally discovered *O. pilicornis* at Tudeley, saw two females in a different area of the wood and George Else found three females at Rewell Wood in West Sussex. It was excellent to hear of these findings, particularly during such a wet spring.

Sussex was once a stronghold for *O. pilicornis* and it would be great to find more localities for it here and indeed in other counties. I am confident that there are more populations to discover (or rediscover) and that it is just a case of looking in the right place at the right time. Last summer I compiled a habitat suitability index (HSI) and a habitat assessment sheet (HAS) for *O. pilicornis* after visiting Tudeley Woods and some nearby woodlands in Kent and East Sussex. The aim is that these can be conducted by anyone, regardless of experience, and will help to identify potential sites and key habitat features within sites for *O. pilicornis*. Of course, it would be even better if searches for the bee itself could be carried out and I would encourage recorders to have a go at finding it this spring.

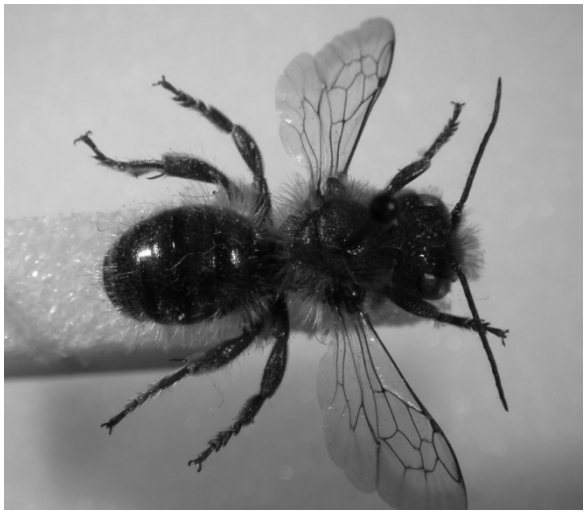
First, it would be best to find out if there are previous records from any of your local sites and start your search there. Good sites to investigate would also be those with **pearl-bordered Fritillary** (*Boloria euphrosyne*) records because this butterfly has very similar requirements to *O. pilicornis*. Failing these, are there any sites you could think of which might be suitable for it, given the above habitat details?

While it is quite a distinctive species, there are those that it could be confused with so I would like to highlight its key characteristics here:

- **Size**: 8-12mm long, not as wide as a bumblebee but with quite a robust build.
- **Colour**: females have a thorax covered with striking reddish-orange hairs, which extend on to the first few sections of the abdomen and they have a black body underneath with black hairs on the front of their face. Males are covered in silver-coloured hairs with a black body underneath.
- **Antennae**: males have quite long antenna, which reach back to the end of their thorax, and these are fringed with a row of hairs; hence the specific name.
- **Wings**: slightly dusky in colour with brownish veins. The forewing has two submarginal cells.
- **Legs**: clothed with black hairs in the female and grey hairs in the male.
- **Pollen-collecting hairs**: the pollen-collecting hairs of the female are black and are located on the lower surface of the abdomen.
- **Behaviour**: females are likely to be encountered foraging, particularly on flowers with long corolla tubes such as bugle and ground ivy. Males are likely to be seen flying low and fairly rapidly between patches of such flowers in search of females.

The photos below will give an idea of what to look for, but it is worth being aware that the hair colour fades and hairs will be lost so the appearance of individuals can be quite variable. One species that it might be confused with is the red mason bee *Osmia bicornis*. The females of *O. bicornis* can be distinguished from those of *O. pilicornis* by the pair of black "horns" protruding from the front of their face. The males of *O. bicornis* also have long antennae, but they have metallic reflections on the surface of their abdomen unlike *O. pilicornis* and have reddish-brown or golden hairs on top of the abdomen, contrasting with the silvery hairs of *O. pilicornis*. The other species that could cause confusion is *O. bicolor* males, but these can be distinguished from *O. pilicornis* by the length of antennae – shorter for *O. bicolor*.

Female *Osmia pilicornis*, Tudeley Woods, Kent



Male *Osmia pilicornis*, Natural History Museum, London

I am very happy to provide further information about this species, including the HSI and HAS, so please feel free to contact me if you would like to know more or get involved with the search. For records of *O. pilicornis*, please contact Mike Edwards.

Acknowledgements

I am grateful to Mat Allen, Ian Beavis, Grant Hazlehurst and Steve Wheatley for aiding me with my search for *O. pilicornis* and to Geoff Allen, David Baldock, Mike Edwards, George Else, Steven Falk, Andy Foster, Matthew Oates and Stuart Roberts for providing me with further details and records of the species.

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TWO-WINGED FLIES (DIPTERA)

The fruit fly and the orchid

On 31 August 2012 Neil Hulme, our conservation adviser to the Sussex Branch of Butterfly Conservation, was in the southern part of Rewell Wood north west of Arundel when he noticed many small flies that had gathered around a flower spike of a violet helleborine orchid, *Epipactis purpurata*. There were around 50 specimens on the largest spike. These were still in attendance in lower numbers when he paid his last visit to the plants almost two weeks later and also during interim visits made by several of his friends. The flies were identified by Dr. J.W. Ismay, FRES (Honorary Associate Curator, Oxford University Museum of Natural History) and B. Ismay, MSc, DPSI. As *Hirtodrosophila cameraria*, fruit flies of the family Drosophilidae.

H. cameraria is common all over Sussex and larvae of *Hirtodrosophila* live in fungi. Its attraction to the violet helleborine is currently unexplained and it does not seem to act as a pollinator. There appears to be nothing in the

literature, nor any direct experience among experienced entomologists or botanists, of this kind of behaviour in respect of the violet helleborine or any other species of *Epipactis*, though Neil Hulme searched for close-up images of violet helleborine flowers on the Internet and soon found additional images showing attendance by *H. cameraria*. Also by using the Internet, I found a paper on *Hirtodrosophila* spp. attending orchid flowers in the cloud forests of Ecuador. One of these orchids apparently has a faint fungus like perfume. Worldwide there are various orchid species in different genera that are attractive to fruit flies, some of which do act as pollinators

The violet helleborine is, of course, much less common in our area than *H. cameraria*, so there must rarely be the opportunity for the flies to gather in this way (they do not appear to be congregate around other flowers). This episode is also a good example of 'cross-pollination' by recorders from, in this instance, wildflowers, butterflies and diptera. I hope that in 2013 *Epipactis* flowers will come under scrutiny here and elsewhere by other recorders. (a paper of these flies and the orchid is already in preparation for the national journal *Dipterists Digest*). I am quite happy to give whatever help I can with fly identification if necessary.

Falk on flies

For six years between 2003 and 2008, Steven Falk, one of Britain's leading entomologists, made 100 site visits to fifteen chalk grassland and chalk heath sites within the South Downs of Vice-county 14 (East Sussex) to record various groups of insects. His paper *A survey of the flies (Diptera) of fifteen chalk grassland and chalk heath sites within the East Sussex South Downs* was published in 2012. This included a list of just over 900 fly (Diptera) species and revealed the comparative frequency of different species, the comparative richness of different sites and provided a basic insight into how many of the species interact with the South Downs at a site and landscape level. Numerous rare and uncommon species were encountered. Two species of fly were added to the British list, the tachinid *Cylindromyia auriceps* (Meigen) and the sarcophagid, *Macronychia agrestis* (Fallén). One species of muscid, *Musca osiris* Wiedemann, was recorded in Britain for the first time since 1875 and a species of tachinid *Huebneria affinis* (Fallén) was recorded in Britain for the first time since 1921.

The full report is scheduled to be published on the Sussex Biodiversity Record Centre web site in 2012: http://sxbrc.org.uk/ alongside his 2011 report on the bees and wasps of the same South Downs area.

AN URBAN TWITTEN - A LITTLE PIECE OF NATURE

by Stephen Savage, Environmental Educator and Wildlife Author.

I have always had a great fascinating for urban wildlife. As a child, my garden was the first semi-natural habitat I was able to explore and the twitten[1] that ran past the end of our garden. However one thing I discovered as a child was that you did not need a big garden to attract wildlife. That many birds and insects travelled from place to place to find what they needed. So even a garden like ours with few natural features could attract and encourage wildlife to visit, a bird feeder and bird bath (the latter home made from a flower pot saucer), a few attractive flowers that flowered at different times of the year and so on.

Over the years I have become increasingly fascinated by the way animals travel around the patchwork of habitats that make up out unban environment. My childhood interest continued into adulthood and over the last few years has included the twitten that runs past our house in north Portslade, a tiny (but important) piece of the local green patchwork.

As with many such twittens it is a mixture of wild flowers, such as borage, dead nettle (red and white), yarrow, tree mallow, ivy and many others along with a variety of garden plants. The latter appear to be largely from small plots that were once deliberately planted but in recent years have become overgrown from neglect. Small trees and bushes such as buddleia and climbers like honeysuckle and clematis growing in adjacent gardens overhang the track in places. The prolific bramble is a remnant of the land's original use as a farm, in fact the flint wall that runs along part of the twitten is also a remnant of this past. Our house is on a corner at the southern end of the twitten so, unlike all the other properties, our house faces it and has a natural vista.

[1] A *twitten* is a widely used Sussex dialect word for a pedestrian path between hedges, fences or walls. According to the Oxford English Dictionary the word is related to the German *twete* (plural *tweten*) meaning the same as *twitten* and implying a link between two (Low German *twee*) places. It is also reflected in our Englsih word 'between'. *Tweten* seem to be as common in north Germany as *twitten* are in Sussex. *Ed.*

There are many such routeways that crisscross our urban landscape, many people give them little thought, but like many our twitten supports a thriving wildlife community. When the dog walkers and people taking a short cut have long gone, it is used by foxes on their nightly rounds and at least one pair breeds in an adjacent garden most years. Hedgehogs and a badger also use the twitten occasionally, along with both various species of mouse. My favourite mammal visitors are the pipistrelle bats which are a delight to watch as they forage for insects for about 30 minutes before they move on. I often stand by my garden wall and they fly past close enough to touch, often just above my head as they turn and head back up the twitten. I have not yet discovered where, or even how far away, they roost.

Many small birds use the twitten, some are passing through such as gold finches and green finches, blue tits, great tits, chiff chaffs and pied wagtails. In the winter, they are joined by long tailed tits, gold crests and, when it gets very cold, red wings. One snowy night a couple of years ago I also encountered a sheltering woodcock. Other birds seem to be resident. These include blackbirds, robins, wrens, starlings, and house sparrows. Wrens, robins and blackbirds have regular singing posts in the twitten. Some nest nearby and some forage for food for their young. On occasions I have watched them feeding newly fledged chicks.

Invertebrates include various species of ladybird -adults, larvae and pupae; *Oedemera nobilis* beetles are also common. There are many hoverfly species, lacewings, bee flies, common wasps, sawflies, parasitic wasps, ground beetles and white lipped snails. Bee species I have been able to identify include buff and white tailed bumble bees, brown carder bees, red tailed bumble bees, garden bumble bees, early bees, wool carder bees, tree bees, honey bees, red mason bees, hairy footed bees, tawny mining bees, leaf cutter bees and two *Nomada* species *N. goodeniana* and *N. lathburiana.*

Butterflies include red admiral, large white, tortoiseshell, painted lady, holly blue, meadow brown, gatekeeper, speckled wood, comma (caterpillars one year) and ringlet. I have observed the bees, butterflies and hoverflies visiting a wide range of flowers: bramble is particularly popular and many of the bees also visit the tree mallow. Many of the small solitary bees visit the dandelion flowers which provide a good early nectar source, whilst in the summer and autumn the plants attract goldfinches when they produce seeds. Some years ago now, during one of the seminars at Adastra Hall, I listening to a fascinating talk by Tony Whitbread. He was explaining about the importance of natural corridors providing connectivity between habitats which is exactly what we see on a small scale within urban environments.

In 2010 we returned home one afternoon to find a community service gang had mowed down all the flowers and bramble (which were in full flower) and had hacked off the branches from the overhanging bushes and trees. I mentioned the wildlife and they said they had looked before they started but did not see any! They also said they were providing a service for the community so people could access their back entrances. However all the bottles, cans and other items that people had thrown into the bushes were now uncovered but the removal of this eyesore did not appear to be part of the service. Also, few people use their back entrance for access. This had a great affect on the birds that I saw in the twitten and over the next couple of months I had only a quick occasional glimpse of a bat passing through.

Far fewer bees and butterflies were seen in my garden in the following months. In 2011 a community service gang returned but we managed to talk to them before they started and they left the big bramble patch and wild flowers near our house but the same decimation occurred in the remainder of the twitten. I do believe that some careful management would be advantageous and help to increase biodiversity.

It is worrying that the same thing may be happening to other wildlife rich corridors in urban areas and while I think community service is a great idea, there is a need for awareness of the importance of such places and the importance of management. I did write to the council in 2011 and although I did not receive a reply we did not have a community service visit in 2012.

As I write this piece I can see a flock of long tailed tits pass along the twitten and yesterday a gold crest visited our garden. Maybe, as part of the urban BAP, people living adjacent to such places could be encouraged to adopt them as miniature 'nature reserves', focusing on the area adjacent to their property and in turn monitor and enjoy the wildlife that passes through.

The great thing about urban wildlife watching is that it becomes an almost daily habit. My environmental education work with both adults and children has been to encourage them to focus on their own local patch. With schools I encourage them to explore the connectivity between their grounds and the surrounding area and to encourage more wildlife. I give the same advice to people wanting more wildlife into their gardens. There is an increasing concern that children are losing their connection with nature and engaging them with their own local patch may in part help reverse this. Many adults also need to be reconnected, if only to ensure that knowledge and excitement that was once passed through families from grandparents or aunties and uncles to children is strengthened and continues.

In 2007 I started a weblog to encourage people to explore their local patch by discussing and photographing the wildlife encountered locally. More information about my observations including the twitten and my garden can be found on my weblog: http://urbanwildlifejottings.blogspot.co.uk/

RECORDING DAYS 2012

by Penny Green

Butterflies and a bolt out the blue

We tried something a little bit different for the recording days in 2012 by teaming up with the Sussex branch of Butterfly Conservation to target an area which has surprisingly few butterfly records. In two recording days, one in May and one in August, we were attempting to fill some blank squares with records for the Sussex Butterfly Atlas. We had a mammoth task on our hands though as we had to somehow get around nine tetrads - that's 36 x 1km squares!

On the May recording day we were blessed with perfect butterfly watching weather and 19 lepidoptera-loving volunteers. We all meet up at Brinsbury College to plan our attack, with maps spread across tables and recording forms handed out to those waiting in line, Michael Blencowe showed the group pictures of species that they were likely to encounter during their exploration.

Binoculars, clipboards and ID charts in rucksacks the small teams scattered out to the allotted squares across Broadford Bridge, Gay Street and North Heath – all in the Billingshurst area.

We recorded a good spread of spring butterfly species including grizzled skipper and dingy skipper, and a purple hairstreak caterpillar was tapped out of a tree adding another new species to the day's records. A few groups were serenaded by nightingales as they surveyed and dragonflies, such as the white-legged damselfly, day-flying moths and wild service trees were noted down. After all our hard work we met at the pub for a cooling drink and to round off the day, comparing what we had all seen.

The August butterfly recording day was a completely different story - the weather looked like it was going to be perfect butterfly recording weather with blue skies forecast for the whole day - it was pretty hot before we'd even got going. As there was a small group of us we decided to zoom around the tetrads in two car loads, exploring likely-looking woods, road verges and hedges on our way. The rain and heat had produced a bumper year for horseflies: I know I'm supposed to love all wildlife, but I'm afraid I don't have much love for horseflies anymore. I should have worn trousers rather than shorts, I now know that too.

As time ticked on the weather got more humid, not even the butterflies liked it. As we did a circular walk to take in a few grid squares we could see everything was steaming in the humidity, and in the distance we heard a rumble of thunder. We picked up the pace as the air pressure grew and the rumbles started to draw in on us and were pleased to make it back to the cars before the heavy hail started.

We drove on and recorded at a couple of verges, then pulled over to discuss where we'd have lunch. We all jumped out of our skins as a bolt of lightning came down a couple of hundred metres away. Later on in the local pub we found out that it had hit a farmer's sheep trailer, hence the loud crack – needless to say the farmer was drinking at the bar to calm his nerves…

After a bit of pub grub we dispersed in to different squares to look for purple hairstreaks dancing around the top of trees at dusk, and so this species was added to a couple of tetrads but more needs to be done in that area to bring further records in. We found some nice spots on our adventures around the area, and recorded painted lady, holly blue, plenty of meadow browns and others, but we really struggled with some of the summer species that we should have been seeing. If you're in that neck of the woods and see some butterflies please do send your records in.

If you would like to get involved with the Sussex Butterfly Atlas recording effort, your help would be very much appreciated. Please get in contact with Michael Blencowe at sussexgrayling@aol.com or visit http://www.sussex-butterflies.org.uk/atlas/

MOLLUSCS

by Martin Willing , County Recorder for Mollusca

2012 produced a number of interesting items of molluscan news. Although not native to the British Isles, there is reasonably strong evidence to indicate that **Roman snails**, *Helix pomatia*, were actually introduced by the Romans about two thousand years ago. Unlike many alien species, *H. pomatia* has not become a pest, but coexists (as it does in similar habitats in Western Europe) with native species in calcareous grassland and scrub in its main UK centres of distribution on the North Downs, Chilterns and Cotswolds. In the former area there is an almost continuous scattering of populations running along the 100 mile length of the chalk between Farnham and Dover. Surprisingly this situation is in marked contrast to that on the South Downs where only two populations of this snail have been recorded. Early in 2012 I was shown a freshly dead *H. pomatia* by Sebastian Anstruther on the South Downs at a site south of Petworth; other shells were present in the vicinity. This species had not previously been verified by the Conchological Society (Conch Soc) in West Sussex and so this is a new Society vice-county record (VC 13). Unbeknown to the Conch Soc, the Sussex Biodiversity Records Centre (SBRC) had two earlier *H. pomatia* reports from the same area, one made in 1997 by Glyn Jones and more recently, another by Paul Fit in 2004. Later in 2012 I was also sent a picture of a live *H. pomatia* taken by Malcolm Ritchie, from approximately the same area as the previous records and so providing further evidence of a thriving population in the area. The SBRC database has no *H. pomatia* records for East Sussex although the Conch Soc has one, made by David Holyoak in 1975, two from an East Sussex downland site in the Cuckmere Valley area. A task for 2013 will be to check-out these old records to see if population is still present nearly forty years later. Since 2008 Roman snails have had full protection in England under Schedule 5 of the Wildlife and Countryside Act. This measure was introduced chiefly to reduce the damage caused to this easily collected snail by amateur 'gastronomes'. I have not mentioned the specific locations of these two Sussex Roman snail sites as it is Conch Soc. policy to restrict site location details of this species to minimise the risk of 'snail poaching', something that has occurred to a number of previously large populations on the North Downs since legal protection was established. I would welcome details of any further possible Roman snail sightings in Sussex. For further information on this species visit http://publications.naturalengland.org.uk/publications/91033

In 2012 Natural England commissioned two surveys of Pevensey Levels ditches, targeting the little whirlpool ram's-horn snail Anisus vorticulus (an EUHSD Annex IV protected species - see also Adastra 2004: 16-19; 2006: 20; 2008: 19-20; 2011: 15 – 17). The first survey, undertaken in late winter 2012, targeted areas in the centre of the Levels where the species had last been reported in the 1970s. Although only ditches judged potentially suitable were surveyed, out of 50 sites, only two adjoining ditches produced new populations of the snail. Later in the year further surveys for the snail concentrated on ditches close to, or directly infested with, invasive floating pennywort Hydrocotyle ranunculoides. Out of 37 additional sites the snail was only found in one. These studies demonstrate A. vorticulus rarity and therefore vulnerability over much of the Pevensey SAC.

The Medmerry scheme lies between Selsey and Bracklesham. This is a coastal realignment project managed by the Environment Agency. Major new sea defences will, as well as providing flood protection for hundreds of homes, also create important wildlife habitat, with large new intertidal areas inland of the current gravel beach. Work on the scheme started in 2011, works were completed in late 2012 and the breach allowing seawaters to enter is planned to take place in March 2013. When completed, the RSPB will manage access and the newly created habitats in the area.

This sea water flooding provides a unique opportunity to study faunal and floral successional changes as marine and brackish water species colonise the newly flooded area. In many ways this new area will resemble Pagham Harbour, which lies a short distance to the north-east on the Manhood Peninsula. Interestingly Pagham Harbour was also formed in a similar, though natural way, when, about 100 years ago, sea water broke through a breach in the coastal gravel embankment to flood the area of farmland behind. In order to study these faunal changes the RSPB

commissioned some short studies in autumn 2012 including one to identify which brackish Mollusca are currently living in the relatively small areas of saltmarsh, brackish pools and saltwater seepages lying on the landward side of the gravel beach in the area to be flooded. Surveys located a single small population of the common saltmarsh snail *Myosotella myosotis* and the fairly local *Ventrosia ventrosa* in a number of brackish ditches. One surprising discovery were very low numbers of the **swollen spire snail**, *Mercuria similis*, (formerly *Mercuria confusa*) living in a slightly brackish pool lying close to the proposed breech site (see also Adastra 2006: 20). This snail is a UK BAP priority species and one that, elsewhere in Sussex, is present in abundance in some parts of the tidal river Arun, probably representing one of the largest populations of this snail in the UK. The *M. similis* living at Medmerry are unusual in that they are living permanently submerged in a non-tidal situation whereas those on the Arun spend much time on upper banks of the river, only being submerged at high tide. One can speculate that this Medmerry population may have been carried to the site from the Arun on the feet or feathers of waders or water fowl. Mollusc species that may colonise the Medmerry shores following saline flooding include *Truncatella subcylindrica*, *Leucophytia myositis* and *Caecum armoricum* (see also Adastra 2005: 23-24; 2008: 19; 2011:15), all of which are present in Pagham Harbour.

To learn more about the Medmerry scheme visit: www.environment-agency.gov.uk/homeandleisure/floods/109062.aspx

I am particularly grateful to Sebastian Anstruther for discussions relating to Roman snails and also to Tim Callaway (RSPB), David Heaver and Kate Jackson (both Natural England) for allowing me to use selected information from survey reports supported by their organisations.

BUTTERFLIES

A Summary of the 2012 Butterfly Season in Sussex

by Neil Hulme, Conservation Adviser, Butterfly Conservation Sussex Branch

The relative fortunes of each species during the 2012 butterfly season are assessed against average abundance and distribution for the period 2000 onwards. These comments are much generalised and the success, or otherwise, of each species varied from site to site, sometimes markedly so.

GOOD SEASON

Chalkhill blue: This species emerged in unprecedented numbers (by modern standards) at Friston Gallops and in the valleys south of Amberley, with a combined peak day estimate for the two sites being 1 million butterflies. When less active during cooler periods counts reached 33 per metre square, and considerably more when concentrated in evening roosts. **Red admiral:** 2012 was the best year for Red Admiral this century. Those which over-wintered successfully, mated in the spring and their progeny were seen egg-laying across much of Sussex during the summer. Towards the end of August, through September and into October the next brood emerged, with numbers further bolstered by immigrant butterflies. Approximately 1000 were seen in an orchard at Ticehurst and large numbers collected on buddleia and flowering ivy across the counties. A southwards migration was noted, although numbers heading for mainland Europe were significantly lower than during the autumn exodus of late 2011. Given a mild 2012/2013 winter this species could continue its current success.

AVERAGE TO POOR SEASON

Dingy skipper: This species coped well with the dull and wet spring weather and was seen in good numbers on many sites, perhaps falling on the better side of average. Only a handful of second brood butterflies was seen, which is the situation in most years. **Small heath:** Spring and early summer numbers were quite high, but this good start was followed by an indifferent late summer brood and there was no indication of a third wave in the autumn. **Meadow brown:** Although some sources, such as the Big Butterfly Count (BBC), suggest a very good year nationally, Meadow Brown numbers were slightly down on the excellent 2011 showing in Sussex, which followed on from a significant dip in 2009 and 2010. Although only an average performer, this ubiquitous species was still seen in the hundreds and even thousands on the best sites. **Ringlet:** One of several species for which the lush growth of grasses (larval food-plant) was potentially beneficial (BC national website). Despite some national indicators of performance (BBC) it was, however, no better than average in Sussex. The Ringlet has never been particularly bothered by grey clouds and rain. **Marbled white:** This is another species which might have benefited from exceptional grass growth. However, contrary to some indicators of performance across the UK (BBC) it was no more numerous than average in Sussex. **Wall:** This species usually produces approximately three times as many adults in the second brood as the first. In 2012 the difference was even greater, with a relatively poor spring showing

being followed by a quite good summer brood, particularly behind Seaford where it was locally strong. With the butterfly calendar running late (by modern standards) from July onwards, the wall failed to fit in a third brood, even on the warmest sites; only a single autumn specimen was seen. **Gatekeeper:** Another of several species for which the lush growth of grasses was theoretically beneficial in the larval stage. Nevertheless, it performed no better than average in Sussex. **Grayling:** Another grass-feeder which had an average year. Encouragingly, several specimens were sighted at High & Over. Bearing in mind that male butterflies were photographed, it seems likely that these emerged on site, suggesting an adventurous female had wandered over from Windover Hill in 2011. **Speckled wood:** This species can over-winter as either caterpillar or chrysalis, so emergence of the adults is always rather protracted through the spring and early summer. Poor weather may have strung out early stage development even more than usual, so 2012 saw a slow release of modest numbers throughout the season, with poorly defined abundance peaks. Fewer were seen than in 2011, with the early days of June being best. **Large skipper:** Yet another species to suffer a season which was at best average. However, in isolated pockets its numbers were reasonable. **Wood white:** Numbers in both the spring and summer broods were significantly lower than in the previous couple of years. However, bearing in mind that the Sussex population dropped to a dangerously low level prior to those better seasons, it is encouraging that a viable colony persists on our side of the Chiddingfold complex. **Brimstone:** Numbers were down on 2011 and the summer emergence was two weeks later than in recent years. The brimstone was another very average performer. **Green-veined white:** A poor showing in the spring was followed by a better emergence in the summer. Very few third brood butterflies appeared in 2012. **Orange tip:** Following a couple of good seasons, numbers were significantly down in the spring. Isolated sightings in the late summer occur in some years, but the discovery of a mating pair was unusual. **Large white:** Numbers were quite low throughout the spring and summer, although a modest influx from mainland Europe bolstered their ranks along the coastal plain in September. **Small white:** This followed a similar pattern to its larger relative and failed to show in any numbers until later in the summer. An August influx of migrant butterflies was noted at Thorney Island. **Holly blue:** This species suffered a very slow and faltering start, although numbers increased during the third week of May, triggered by a spell of warm sunshine. It is difficult to assess the impact of poor weather on this species, bearing in mind that its numbers are largely controlled, on a cyclical basis, by the host-specific ichneumon wasp *Listrodomus nycthemerus*. No third brood butterflies were seen. **Silver-studded blue:** A relatively poor season was suffered by this species, with significantly reduced numbers at Iping and Stedham Common in comparison with recent years. **Adonis blue:** A poor spring brood was followed by lower than average summer numbers on all but the warmest, driest sites, probably due to the unfavourably lush and bushy growth of horseshoe vetch; this was far more to the liking of the chalkhill blue. However, summer brood numbers were quite good at Malling Down and Mill Hill. **Brown hairstreak:** Numbers were slightly down on 2011. However, the weather was favourable through much of the flight season and the species had ample opportunities to lay plenty of eggs, which bodes well for 2013. **Silver-spotted skipper:** Although numbers were lower than last year, warm and calm anticyclonic conditions during the flight period will hopefully have encouraged its attempts to move further through the Sussex landscape. **Grizzled skipper:** This is yet another species which appeared in lower numbers than in recent years. However, it was encouraging to see that it has spread onto the BC Rowland Wood reserve, including specimens of the highly distinctive aberrant *taras*. **Small skipper:** Another 'below par' performer, although reasonable numbers were seen on some sites. **Essex skipper:** It is always difficult to assess the numbers and distribution from our records due to the difficulties in identification and tendency to 'lump' the species with its close relative. Where both species are present it is quite challenging to determine their relative abundances. However, it certainly had a season no better than average. **Comma:** In line with the other hibernating species, numbers were quite low through the early spring period. A relatively poor midsummer brood followed, but the butterfly rallied in the autumn, with good numbers emerging from early/mid September onwards. **Peacock:** Post-hibernation numbers were disappointing and noticeably lower than in recent years. The over-wintering species (excluding red admiral) all seemed to struggle this spring, probably due to the mild and dry winter; this unusual meteorological combination is unfavourable to those species which are best kept in a state of deep torpor. The summer brood was at least two weeks later than the modern day norm. However, this delayed mid August emergence was not much worse than average and the majority of butterflies soon tucked themselves away for the winter. **Small tortoiseshell:** This species continues to struggle and both post-hibernation and midsummer brood numbers were again disappointing. However, mid August saw a better emergence, with more than a dozen on a single buddleia on farmland in West Sussex. Numbers increased again in late August, possibly bolstered by immigrant butterflies. **Pearl-bordered fritillary:** The PBF had a significantly poorer year than of late, although this should be seen in the context of a run of very good seasons. However, this species is capable of making the most of even the shortest spells of sunshine and the reduced numbers do not give cause for concern. **Silver-washed fritillary:** Another quite poor year for this species, with numbers much lower than during its last good season (2010). **Dark green fritillary:** A very patchy performance with relatively poor numbers on its best sites at Cissbury Ring in the West and Friston Forest in the East. Better numbers were seen along the East Sussex coastline and particularly at Ewe Dean near Wilmington. **Small pearl-bordered fritillary:** Numbers were lower than in recent years, making its colonisation of the recently acquired Rowland Wood even more vital in securing its future in Sussex. **Duke of Burgundy:** The Duke of Burgundy had a poor season and numbers were down by between 50% and 75% on most sites, which would qualify as a 'very poor'

were this comparison being made with any other year than 2011 (the best for several decades). Emergence was significantly delayed by the inclement weather, with a few warm and sunny days at the end of May and through early June rescuing the situation from potentially much worse. **Purple emperor:** Numerically a poor year, with very low levels of occupancy at most master trees in its stronghold woodlands. Despite this it was seen in a surprisingly wide spread of locations, probably due to increased recording efforts further afield. The season started (and finished) much later than in any year this century, returning to the calendar of the 1980s and earlier. **Painted lady:** 2012 was a poor year for migrants in general and this included the painted lady. A few freshly emerged specimens were seen from mid August onwards, these being the progeny of the dribs and drabs which had made it across The Channel earlier in the year. **Clouded Yellow:** This had another poor year; it is, however, normal to experience at least half a dozen of these between significant invasions.

VERY POOR SEASON

Green hairstreak: Although the first specimens were seen in early April, this species never really got going. Compared to 2011, numbers were pitifully low. **Purple hairstreak:** Although elusive and relatively difficult to record before its evening flight commences, there can be little doubt that it had a very poor season. In most seasons it is one of our most numerous butterflies, but in 2012 it started late and numbers subsequently failed to reach anything like normal. **White-letter hairstreak:** This species had such a poor season that even in the most reliable locations it was often necessary to invest several hours effort for a single sighting. **Common blue:** Although this species has always demonstrated numerical peaks and troughs from year to year, 2012 was a spectacularly poor season. In some areas at least, it was the rarest of our Blue species. **Small blue:** The first brood was modest and the second almost non-existent on some sites. Unsurprisingly there was no third brood this year. **Brown argus:** This had its worst season for many years. In some locations, where it usually occurs in low numbers, it failed to show. On some normally well populated downland sites numbers were down by between 50% and 75%. As with the small blue, the occasional third brood failed to materialise. **Small copper:** A very poor first brood was hardly bettered by the second. The strong third brood usually seen during October on sites such as Cissbury Ring and Kingley Vale was non-existent in 2012. Only High and Over (Frog Firle) in the East and Thorney Island in the West produced more than a tiny number of autumnal butterflies. **White admiral:** Following a poor 2011 season numbers crashed further. At Southwater Woods where daily counts reached 50 in 2010, it was difficult to find more than 10% of that number.

THE 2012 MOTH YEAR

by Colin R. Pratt, County Recorder of Butterflies and Moths for East and West Sussex

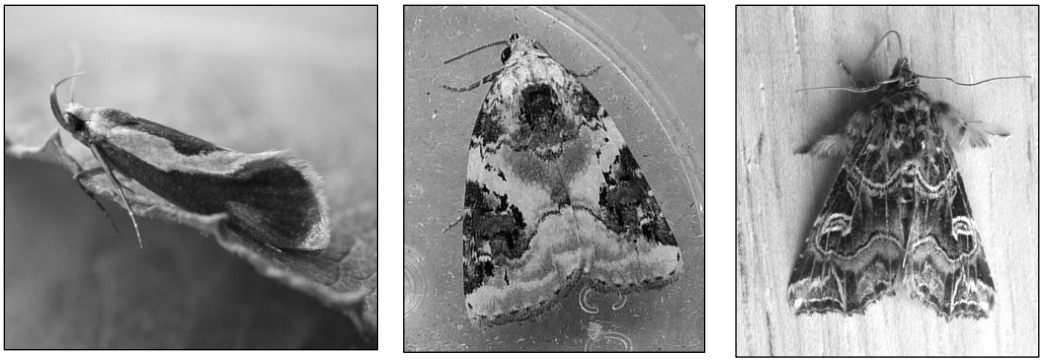
2012 was a skeletal year for moths - the number in flight during the opening half was the lowest for at least 40 years. The position then improved considerably, although as a whole the season was still the poorest since 2008, both in the volume of moths and in their diversity. Nonetheless, and despite the generally miserable weather, members of the Sussex Moth Group added a large number of records to the Sussex Biodiversity Record Centre's database and to the distribution maps on their website at www.sussexmothgroup.org.uk

In an unusual success story for 2012, one of the most interesting hunts focused on the highly elusive and nationally rare **plumed prominent** *P. plumigera*. Known from Duncton since the 1960's but last detected in 1998, after several unsuccessful expeditions over the years, a November visit confirmed the insect's continued presence on the hill.

While native insects generally struggled, Sussex is a front-line county for the detection of continental immigrant lepidoptera and their colonising offspring - and just such a series of migrations made landfall all along the Sussex coast on hot southerly breezes during August. It was these incidents that provided most of the entomological excitement this year. For the first time ever in the county, the network of mercury vapour-sourced moth traps snared the famed **three-humped prominent** *N. tritophus* at Icklesham, the **shining marbled** *P. candidula* at Findon Valley, the **pale-shouldered cloud** *A. hyperici* at Eastbourne and the **Jersey mocha** *F. ruficiliana* at Walberton and Crawley. *Prays peregrina* at Ferring was a similar first amongst the smaller-sized micro-moths - this species was initially discovered in London in 2003 and declared completely new to science four years later. The beautiful **Latin** *C. juventina* at Bracklesham and the **tamarisk peacock** *C. aestimaria* at Bexhill were the second trapped here since Victorian collectors scoured the county at the middle of the 19th century. Best of all, the tiny *Harpella forficella* was encountered amongst ancient woodland at Ardingly, this being only the second ever identified in the whole of the UK.

Recent decades have seen more fabulous foreign species making colonising footholds here than ever before. The **flame brocade** *T. flammea* is still doing well at Beachy Head, as is the **Bloxworth snout** *H. obsitalis*, **Jersey tiger** *E.*

quadripunctaria, and the **tree-lichen Beauty** *C. algae* along other parts of the coast. **Clancy's rustic** *P. kadenii* and **Dewick's plusia** *M. confusa* continue to be run into in southern areas, **four-spotted footman** *L. quadra* occur across the county away from the north-western corner, the **red-headed chestnut** *C. erythrocephala* and **pigmy footman** *E. pygmaeola* breed in the far east, the **scarlet tiger** *C. dominula* between Arundel and Eastbourne, **splendid brocade** *L. splendens* and **Langmaid's yellow underwing** *N. janthina* near the shore in the far east and far west, **small ranunculus** *H. dysodea* between Worthing and Eastbourne, and at Horsham, **pale-lemon sallow** *X. ocellaris* in the far south-western corner, **olive crescent** *T. emortualis* and the fabulous **Clifden nonpareil** *C. fraxini* in the east, **plumed fan-foot** *P. plumigeralis* along the eastern coast, and **Blair's mocha** *C. puppillaria* along the western seashore. Further exotic macro-moths are currently making attempts to settle, such as the **Portland ribbon wave** *I. degeneraria*, **orache** *T. atriplicis*, and the **red sword-grass** *X. vetusta*. Conversely, after three years of increasing numbers of the **Rannoch looper** *I. brunneata*, to the point where it was locally commonplace, there has not been a single confirmed sighting during 2012.



Left to right above: *Harpella forficella* (D. Green); shining marbled, *Pseudostrotia candidula* (M. Snelling); the Latin, *Callopistria juventina* (D.F.J. Lee).

BIRDS

The Sussex Ornithological Society's report for 2011 by David H Howey, Recorder.

The number of records submitted to the Sussex Ornithological Society (SOS) for 2012 is not yet known as they are still being received. The total of nearly 184,000 records received by the Society for 2011 was the second highest ever and came from 948 observers. Atlas data helped to boost the numbers in 2011 and it is anticipated that the total for 2012 may be slightly lower now that the Atlas surveys have been completed.

Over 310 records of scarce and rare birds were received in 2011 of which 239 were accepted by the SOS Records Committee and a further 18 by the British Birds Rarities Committee.

During 2011 there were six additions to the Sussex county list. The first was a **Blyth's reed warbler** trapped at Pett Levels on 10 June and seen only by the few observers present at the time. A **pallid harrier** at the Burgh was more obliging and remained in the area from 15 September to 7 October during which time it was admired by visiting observers from all over the country. This was followed by a **citrine wagtail** at Cuckmere Haven on 25 September which was only present on that one day but a few lucky observers did manage to see it before nightfall. However a **buff-bellied pipit** found at Newhaven on 9 October was seen (and photographed) only by the finder. The **isabelline wheatear** at Crowlink on 14 October was another one day wonder although many observers were able to see it. The sixth addition to the Sussex list was not actually seen in 2011 but resulted from the decision of the British Ornithologists' Union Records Committee to classify **Siberian stonechat** as a species in its own right and no longer as a sub-species of European stonechat. Prior to this decision Siberian stonechat had been recorded in Sussex on four occasions – in 1994, 1998, 2001 and 2004. The addition of these six species brought the Sussex County list to 397 on 31 December 2011.

Other rare species recorded during 2011 included the **red-breasted goose** at Pett Level on 1 January (first seen on 26 December 2010), a popular **little crake** at Arundel WWT on 9-12 April (only the third since 1962), a **gull-billed tern** at Pulborough Brooks RSPB on 8 May, a **spotted sandpiper** at Swanbourne Lake, Arundel on 10 June (4th county record) and a **dusky warbler** trapped and ringed at Pett Levels on 22 October (6th county record).

Also of note were a **purple heron** at Southease and Rye in April, an **ortolan bunting** at Birling Gap also in April, a **cattle egret** which roamed around the Pagham/Chichester Harbour area from July to November, a **black stork** flying over Beachy Head in August, a **black-crowned night heron** at Weir Wood in August/September, a single **buff-breasted sandpiper** at Rye Harbour in September, a **bluethroat** at Pett Levels in September, a **glossy ibis** which moved around the east of the county in October, a **penduline tit** at Pett Levels in October and a **little bunting** at Steyning in November. Other records of scarce species included totals of six **great white egrets**, two **black kites**, two **rough-legged buzzards**, ten **common cranes**, six **grey phalaropes**, seven **Sabine's gulls**, six **European bee-eaters**, seven **red-rumped swallows**, seven **Pallas's warblers** and three **barred warblers**.

For many species it was a poor breeding season although there were some successes. Five **honey-buzzard** active nests were recorded; there was confirmed breeding by nine pairs of **peregrine falcons** (eight in 1910), two pairs of **marsh harriers** raised a total of five young, two pairs of **red kites** raised a total of seven young and a pair of **goshawks** reared two young. The numbers of **little egrets** breeding was 29-32 pairs, slightly down from the 36 in 2010.

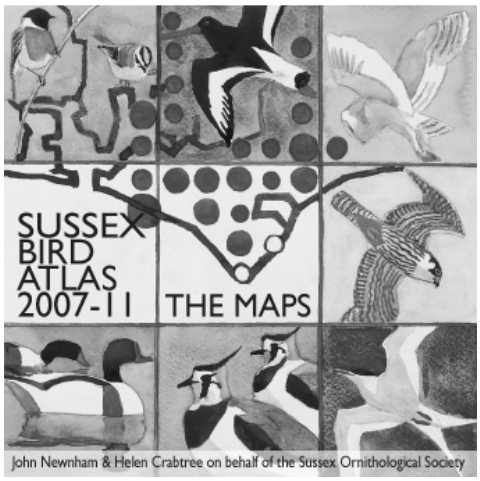
After deserting their original nest sites, two pairs of **stone-curlews** raised a total of three (possibly four young). Ten **avocet** nests suffered from predation but 43 other pairs raised a total of 51 young but there were only eight records of breeding **little ringed plovers** raising just four young. **Oystercatchers** fared better with a high success rate from 64 recorded nests.

The number of **Mediterranean gulls** was also down. At one site 26 pairs built nests but then deserted the area. At a second site the total of some 100 pairs was down from 185 in 2010. A single pair of **common gulls** nested but, unfortunately, their two chicks did not survive. On a more positive note, the number of apparently occupied **kittiwake** nests at Seaford Head increased from 850 to 1130. Nesting terns suffered greatly from predation from gulls, kestrels and possibly badgers. At one site 500 out of 850 **Sandwich tern** nests were predated. Only three of 17 pairs of **little terns** bred successfully and, although there were over 300 nests of **common terns** recorded in the county, very few young fledged successfully.

The number of churring **nightjars** on the heathlands showed a major increase from 104 in 2010 to 181 in 2011. **Common swifts** were confirmed to be breeding at 115 sites and although confirmed breeding of **common cuckoos** took place at only three sites it was probable at 65 others. **Spotted flycatchers** were confirmed as breeding in 41 tetrads and **yellow wagtails** in six tetrads. **Tree sparrows** were confirmed as breeding in only two tetrads and their future as a Sussex breeding species does not look good. The fate of **willow tits** is even bleaker – with no sightings in 2011 it is quite possible that the species is already extinct as a breeding species in the county. However, to end on a more positive note, there was a significant increase in the numbers of **firecrests** which were confirmed as breeding in four tetrads and probably bred in a further 14 tetrads.

Further details of all these and other 2011 records can be found in The Sussex Bird Report 2011 published by the Society. Further details about the SOS including updated Recent Sightings and other features can be found on the Society's website: www.sos.org.uk

Sussex Bird Atlas Maps CD



Helen Crabtree and John Newnham are pleased to announce that the CD publication "Sussex Bird Atlas 2007-11: The Maps" was published in early November and is now available.

After four years of detailed fieldwork in Sussex by many volunteers, all of the extensive results of the Sussex Bird Atlas 2007-11 project are presented on this CD. Winter and breeding season distribution maps for most species occurring in Sussex are presented alongside historical maps redrawn from the results of previous atlas fieldwork in Sussex. Relative abundance maps are also included, as well as maps demonstrating changes in distributions over time. The PDF files contain 2167 maps and also further supporting information and data tables.

If you would like a copy and have not yet ordered one, please complete the order form available on the Sussex Ornithological Society website (www.SOS.org.uk). You are invited to make a small donation to the SOS (suggested £5) to cover the CD printing and postage costs. Please contact Helen Crabtree at hcrabtree@gmail.com or on 01444 441687 if you have any questions.

SEA MAMMALS

Stephen Savage, Sussex County Recorder of Sea Mammals and Sea Watch Foundation Regional Coordinator

Another interesting year for sea mammal sightings. As with previous reports the inshore sightings (within 200m of the coast) of bottlenose dolphin *Tursiops truncatus* remain low compared to a few years ago. This is especially so in the coastal waters between Worthing and Brighton and this is still thought to be the increase in water sports and other recreational activities since the start of monitoring back in 1991. These dolphins may be present further offshore but it is difficult to monitor them in the same way as we have the coast where we have a much better understanding of their movements. We continue to receive offshore sightings through Sussex Fisheries, dive clubs and other individuals but these are recorded when opportunities arise.

Bottlenose dolphin *Tursiops truncatus*

Our earliest bottlenose dolphin sighting in 2012 was in March when two different observers sent in information of 6 bottlenose dolphins at Ferring, two of the dolphins appeared to be smaller possibly juveniles. The dolphins were heading east. However 4 Bottlenose dolphins, one which may have been juvenile, were spotted of Ferring the following day. This may have been the same group which remained in the area due to the abundance of prey.

There were two offshore sightings in March, 6 bottlenose dolphins and a solitary individual near Beachy head. 10 bottlenose dolphin were again reported at Selsey Bull 16th September.

In April we received reports of dolphins off Selsey Bill. This seemed to involve a group of 10 bottlenose dolphins first seen on 6th April. What appeared to be the same group was also recorded in the same general area on 7th April and the 8th April. 5 bottlenose dolphins were seen on 9th April. Again, possibly an abundance of prey is the reason they remained in the area. A group of three dolphins took up temporary residence in the nearby Looe Channel back in 2005 from February to September so maybe there are good underwater habitats for feeding. On 13th April, two bottlenose dolphins were reported offshore at Selsey Bill. A group of 30 bottlenose dolphins were observed off Fairlight Beach (East Sussex) on 30th June and 10 bottlenose dolphins were observed back at Selsey Bill on 16th September. It is likely that this is the same group of dolphins due to their low numbers in the English Channel.

Harbour porpoise *Phocoena phocoena*

Harbour porpoises were once common in the Channel and then declined. However national sightings are showing an increase of this species and this is reflected in our local sightings as well. Two harbour porpoise sightings were recorded in February, an offshore sighting on 25th and a coastal sighting near Seaford on the 28th February. A harbour porpoise was also recorded at Seaford Head on 23rd March and at Splash Point 28th April. A porpoise was seen in the outer area of the Brighton Marina on 21st September. At least two dead strandings occurred for this species in 2012.

Minke whales and common dolphins

Fisherman reported a group of between 5 and 7 minke whale, *Balaenoptera acutorostrata*, off Hastings on 29th May. Minke whales are the smallest of the baleen or rorquals. A distinctive white patch is often (but not always) present

on the pectoral flipper. This is quite unusual for Sussex and a fascinating report.

Common Dolphin *Delphinus delphus*

A common dolphin was seen close to the Shore between the Brighton Pier and the Brighton Marina on 22nd September. This is unusual for a deepwater species but is recorded in Sussex from time to time. British Divers Marine Life Rescue kept an eye on the dolphin which was seen the following day at Seaford where it was feeding and 'playing' on the shallows with another common dolphin. Following stormy seas the dolphins moved along the coast to Eastbourne.

SEALS

There have also been many fascinating seal observations again this year. The following sightings do not include the resident common seals in Chichester Harbour area or the grey seal which is also recorded in that area. Anecdotal sightings have only been included where they relate to a more detailed sighting.

Common Seal *Phoca vitulina*

Common Seal are observed throughout the year, the earliest was in the river Adur on 24th January and several anecdotal sightings suggested it spent a few days in the river. In early March a common seal spent several days in the outer Harbour at Eastbourne. A 5th March sighting confirmed that the seal that visits the river Ouse each year (we now call this the "Ouse seal") is still visiting. The rescued seal "twinkle" that spent much of 2011 along the Sussex coast and rivers was also sighted in March (5th) near Newhaven. A common seal that was recorded on 23rd March at Seaford Head could also have been 'Twinkle'.

We received a number of sightings of a common seal (probably the same individual) in and around Eastbourne Harbour during April, May and July. In August, September and October the seal was also seen around Pevensey. A common seal was spotted close to shore at Lancing on 24th August, Ovingdean on 30th August and off Hove beach on 26th September.

Tagged Seals

A dead common seal was washed ashore near Shoreham 7th December. At time of writing I am still attempting to track the origins of the seal by a yellow numbered flipper tag (60630). I did also get a tag request from a seal that was seen in Dorset (outside my area) in early November this year. It turned out that the seal had been rescued in France at Mont St Michel" on 14th July 2007 and eventually tagged and released at the same place on 5th November 2007. Interestingly a French tagged seal visited Sussex in December 2007, so Sussex receives visits from seals from further afield on occasions.

Seal Rescue

A common seal pup was rescued on Eastbourne beach on Oct 7th by British Divers Marine Life Rescue medics and was transported to RSPCA Centre at Mallydams near Fairlight.

The pup had an injury to one of his flippers, which was infected and also puncture marks on his belly and tail (probably bites from other seals). The male seal pup underwent rehabilitation at Mallydams until his successful release on last Tuesday, Dec 11th.

Grey Seals *Halichoerus grypus*

A grey seal was observed near Pagham Harbour 5th May and is possibly the same grey seal seen in Chichester Harbour area. On 27th May, two grey seals were spotted close to shore and a single grey seal was observed hear the Brighton Marina on 29th May eating several large fish.

Future monitoring

We are keen to create links with coastal sites to increase our mammal recording and possibly increase volunteer monitoring in these areas. This will also include sharing sightings that can be posted at the sites to provide feedback to local people and visitors. Anyone at coastal sites or individuals interested in this, or who may have a sighting to report, can contact me on stevep.savage@ntlworld.com More detailed information and photographs of local sightings can be seen on my weblog http://sussexmarinejottings.blogspot.com/

MARINE SURVEYING AND THE USE OF IMAGES

by Dr Gerald Legg, Hurstpierpoint; gerald@chelifer.com

Natural sciences survey work presents all kinds of problems but probably of all the habitats to survey marine underwater ones must be the most challenging. In the not too distant past the way we learnt about the life and habitats under the sea was by going out in a boat and dropping nets, grapples, grabs and all manner of other devices over the side in the hope samples of animals, plants, rocks and sediments would be brought to the surface for identification. This is a bit like hovering over an area of downland and blindly dropping a net on to the grass and pulling up what it had caught in order to understand chalk grassland ecology. Little wonder we had a poor understanding of what was on the seabed and how it lived; even now our knowledge is far behind that of terrestrial habitats. The marine world is hidden away beneath that grey mass of water. Few have the opportunity to visit this wonderful and poorly understood world. In the old, but still useful and amazingly illustrated, Ray Society Monographs on different marine groups you often read that species are only recorded from specific sites – reflecting where samples had been taken; there was no understanding of their real distribution.

Things have changed a lot, especially in the past 30 years with the extensive use of direct observation: divers physically surveying sites, as well as with the development and use of electronic sonar, towed video and other equipment to analyse the structure and features of the seabed. The advent of reliable SCUBA[2] has enabled recreational divers to participate in surveying. Back in 1992 the Marine Conservation Society's *Sea Search* programme was initiated. Much of the original development being carried out in Sussex. Recreational divers have proven invaluable in providing first-hand survey data after they have received relatively simple training. Their data are eventually entered into a national system and uploaded on to the National Biodiversity Network making the information available to all.

Marine surveying has many problems for the amateur and professional alike. Things that must be considered include tides, currents, weather, underwater visibility, distances to sites and costs (boat hire is not cheap; neither is equipment). It is not a simple matter of looking at the calendar and deciding to go out next Tuesday, but if the weather's a bit wet then try on Thursday, as one might if you were surveying Ditchling Beacon. Things to take into account include tides, past and present weather conditions (previous stormy weather will stir up sediment and make visibility poor), time of the month (dives are easier if the tides are on or around the neaps; so avoid diving around full and no moon days – tidal ranges are greater which makes currents stronger and reduces the safe periods to survey).

Consequently survey dates are carefully worked out and planned. 2012 turned out to be a real bomber as far as surveying was concerned as the weather frequently 'blew-out' dives: they had to be cancelled or abandoned. Any dive is therefore a precious thing and as much information as possible has to be recorded and as safely as possible. On average, a survey might last about 30-50 minutes (excluding dropping down to the site, finding it, and getting back to the surface with the necessary safety stop(s). Those precious minutes must be spent wisely – you may only get one or two chances in a year (actually half a year as the winter generally means murky, rough water). A good memory is important, notes can be made on an underwater slate and photographs and video taken. A diver doesn't

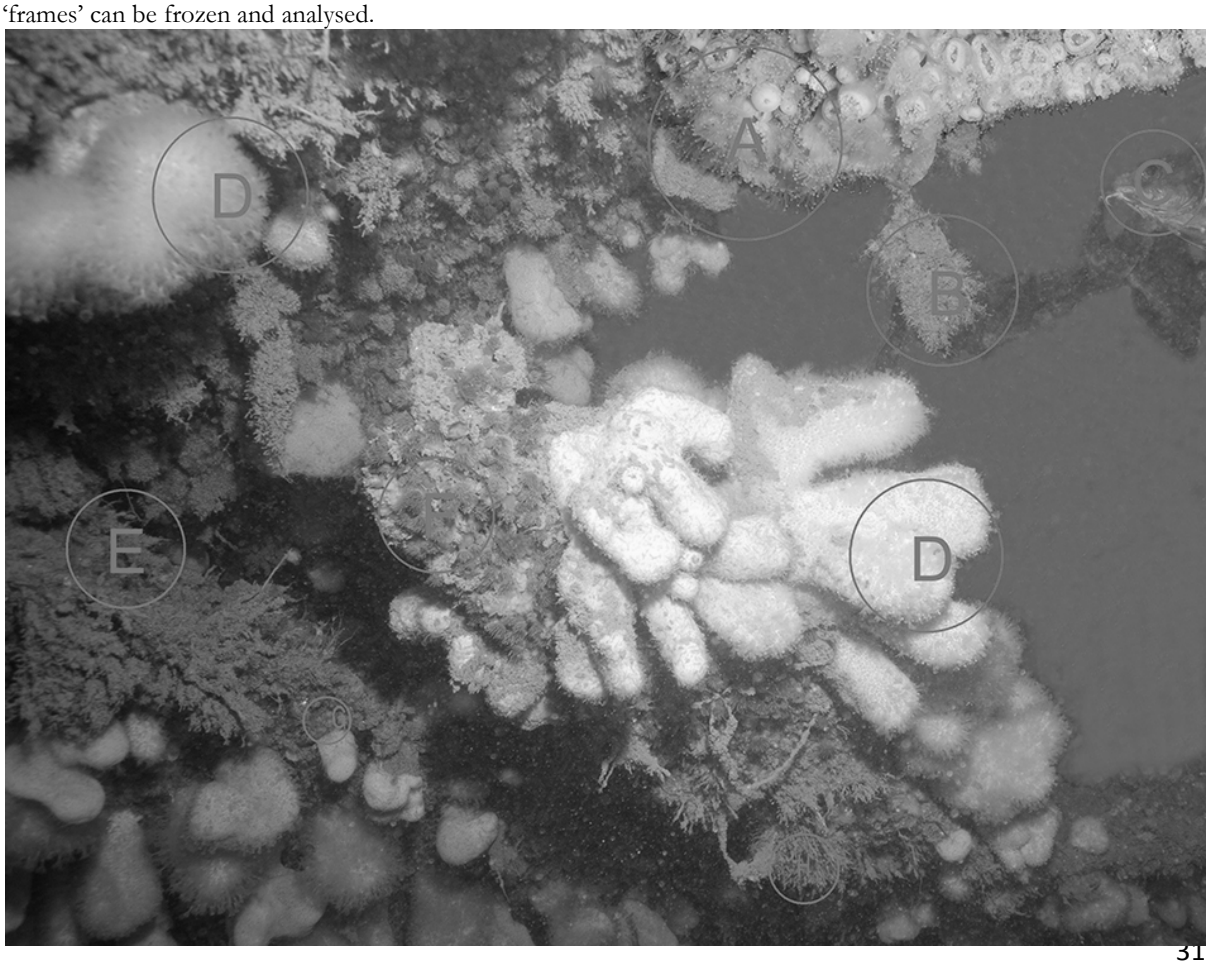
[2] 'SCUBA' is an acronym for 'self-contained under water breathing apparatus'. Ed.

have to do a great deal of work, they can carry out a cursory survey and complete an *Observation Form* once back on dry land. This can be either a simple record of a species found, for example this past year the anemone prawn *Perclimenes sagitiffer* on a snakelocks anemone, *Anemonia viridis* was 'observed' near the Outer Mulberry (a wrecked caisson from the Mulberry Harbour destined for D-day). Or it can be a much fuller record with a description of the site and a list of the species found. For those with more experience and training a full and detailed *Survey Form* can be completed which details specific features of the habitat in great detail (e.g. % cover of rock, fine sand, mud etc; quantities of burrows, crevices and so on) and generally a much fuller species list is provided too.

Although a diver should be relaxed it can still be stressful. He or she is already having to monitor and control his/her depth, air consumption, be aware of hazards like discarded fishing line, as well as keeping a look out for of other divers especially their 'buddy'. Safety is paramount so only experienced divers can safely survey. Consequently surveying under water increases the diver's workload considerably.

Anything that might help to reduce the pressure on a diver is welcome. The advent of high-resolution digital cameras has been a boon. Prices have come down making it more affordable. Either custom underwater cameras, or 'land-cameras' protected from the hostile pressurised world of the sea in a housing, are used. Photographs of the overall habitat provide important ecological information in the same way as images of downland do - 'a picture says a thousand words'. Getting closer in can provide images of specific species or groups of individuals and if thought through and carefully done can provide images that can be analysed post-dive and yield all kinds of information. The obvious species can be seen whilst diving, but many of the smaller species may not be immediately obvious until the image is enlarged on the computer and carefully examined. By 'snapping' close-ups (in focus!) time can be saved in trying to see and record species, and time rapidly runs out when diving.

Divers need to be advised what to do when they go down with a camera in order to obtain the most useful results. Most divers like to take pictures of the nice pretty things, fish, sponges, anemones etc. They have to also know to take pictures of what might at first appear as a mass of 'grey weedy stuff' on the side of a chalk reef. Not just one picture either, digital cameras can take a lot of images so don't stint on clicking the shutter. It is amazing what can appear in an image when someone with the knowledge starts carefully looking at it. Even videos can provide data as 'frames' can be frozen and analysed.



The image above shows an area of 'animal turf' growing on part of the wreck of the *Lancer II* off Brighton. Some of the species later identified from the image are circled: A. Jewel anemone, *Corynactis viridis;* B. Leathery seasquirt, *Styela clava;* C. Bib, *Trisopterus luscus;* D. Deadman's fingers, *Alyconium digitatum*; E. Oaten pipes hydroid, *Tubularia indivisa*; F. An anemone, *Diadumena cincta;* G. Sponge, *Microciona* species; H. Seafir, *Eudendrium album.*

This piece of the wreck has many species present, which would take time to recognise, and note-down, but simply taking a picture takes relatively no time at all. One problem that can arise and must be addressed before the dive, is that a diver taking pictures can be distracted and make a rather boring 'buddy' as they can get absorbed in what they are doing. Don't buddy with someone who wants to zoom around looking for lobsters to catch – any incident that might occur (e.g. either of the partnership having problems with their air or buoyancy) might go unnoticed leading to a potentially dangerously fatal situation. There is a code of practice for underwater photography which includes things like ensuring equipment will not damage the environment, to be able to hover without having to grab and damage surrounding marine life/features, not to frighten or invade the personal space of species etc. For one species in the UK protected by law, seahorses, divers must not use flash, touch or otherwise disturb the animals – they get the same sort of protection as nesting white-tailed eagles.

As an alternative and adjunct to photography samples can be taken for later microscopic examination. This presents its own problems and is not encouraged by the MCS, however there is a place for it. In the past few years several species new to science have been found off Sussex from tiny samples taken from the chalk reefs. Together, the combination of images and specimens can prove invaluable in determining the identity and understanding the habitat and ecology of a species.

It is very important to know what species are found in particular places. Marine species inhabit 'biotopes' which are equivalent to 'habitats' on land. In order to rationalise the complex associations of species, substrate and conditions a system of biotope classification has been developed so it is very important to know the key species present when surveying. The system is somewhat akin to the National Vegetation Classification (NVC) system used on land to describe habitats. Unfortunately, unlike the NVC, there is no simple computer program available easily to quantify a biotope by inputting key species/features.

The knowledge we gain from marine surveying has and is providing important evidence for the designation of Marine Conservation Zones (MCZs). Unfortunately at the time of writing this, the government is failing to take up the challenge of designating all 127 recommended MCZs and procrastinating over which ones it will accept.

SUSSEX WETLANDS

by Fran Southgate, Sussex Wetland Landscapes Officer, Sussex Wildlife Trust.

WETLAND SPECIES

Otters

Otter activity in Sussex remains negligible, and locations which previously showed otter activity also appear quiet. There are still no confirmed reports of any resident otter populations in the county, although there have been unconfirmed reports of possible transient animals on the rivers Adur and Ouse.

Water vole

Water voles also remain threatened and vulnerable in Sussex. The three remaining core landscape populations appear to remain stable but no new populations have been discovered. Work to expand the Chichester and Manhood population is supported by the Manhood Peninsular Partnership, the Arun valley population is supported by the Arun and Rother Connections (ARC) project, and it is hoped that the Brede/Romney populations will soon be supported by a similar landscape partnership based in the High Weald AONB.

The main water vole populations of the South East, currently form part of a Brighton University PhD study which hopes to identify the benefits of vertical habitats such as fen and reedbed to water vole populations, and to analyse DNA relationships within and between existing populations of natural and re-introduced animals.

Black poplars

Sussex is host to 38 mature native black poplar trees (*Populus nigra* ssp. *betulifolia*), comprising 5 genetic clones. A few mature trees are being investigated as potential black poplars at the time of press. Around 6000 young black poplar trees have been planted throughout the county, including a number in restored floodplain woodlands throughout the bounty.

Non Native Invasive aquatic plants

Improvements in technology are enabling much better monitoring of the current location and spread of invasive non native (aquatic) plant species in Sussex. As information increases, of a list of over 10 species such as giant hogweed, Himalayan balsam and Australian swamp stonecrop, it is obvious that the majority are common, widespread, and causing damage to a wide range of (wetland) environments in Sussex.

A free phone app called Plant Tracker (planttracker.naturelocator.org) which allows records to be submitted to shared national databases supported by the Environment Agency and record centres is now available. In 2008 a Non Native Invasive Species Secretariat (NNISS) prepared a government strategy to meet the challenge posed by non native invasive species in the UK. The NNISS website provides up-to-date information on non-native invasive aquatic species: https://secure.fera.defra.gov.uk/nonnativespecies/home/index.cfm

Sussex Wetland Habitats

Sussex has lost a large proportion of its natural wetlands, and much of the remaining habitat is fragmented, degraded and in some cases, at risk of disappearance. The county nonetheless hosts some unique and fascinating wetland habitats. Updates on the known areas of habitat (according to SxBRC GIS layers) are summarised below.

Lowland fen and swamp communities – 320 ha. Pure fen under 100 ha.
Pure reedbed – 176.6 ha
Coastal and floodplain grazing marsh – 14,610 ha (much of grassland element is of poor habitat quality)
Ancient floodplain woodlands – less than 200 ha
Gill woodlands – Require further mapping (Particularly outside High Weald)
Ponds – 18,477 mapped on the Sussex pond inventory
Saltmarsh – 422 ha (EA LS3 data)
Coastal and estuarine mudflat – 2386.3 ha (EA LS4 data)
Saline lagoons – 35 recorded, around one third of which are not man made
Rivers in Good Ecological Status – Less than 20%

Other updates and wetland information of interest

Has anyone seen a knuckerhole?

A knuckerhole is the term for a large, land based pit, probably directly linked to a groundwater aquifer, which is full of fresh water and which appears bottomless (i.e. is very deep). Apparently Sussex hosts some of these unique and curious phenomena at Lyminster, Binstead, and Sompting. We are unaware of any research into these unusual wetland features and would be interested to hear from anyone who knows more about them, or their ecology.

Chalk Streams

This year, a survey of bryophytes at of one of the rare Sussex chalk stream spring heads has revealed over 65 species at one site including species such as *Oxyrrhynchium speciosum*. This makes the spring head one of the top wetland sites in Sussex for bryophytes.

Cave shrimps (*Niphargidae*) have been recorded on the Upper River Lavant. It is thought that they colonise with incursions of spring water from the chalk until other macro-invertebrates recolonise, at which point they get excluded/eaten and probably retreat back through to the aquifer via the hyporheic zones.

Wet Heath

A survey of wet heaths in 2012 (by Frances Abraham) identified at least 27.2 hectares of wet heath across no more than 27 sites in the Arun and Western Rother river catchments. In addition 1.75 hectares of rare valley mire was identified at 6 sites. Approximately 20 characteristic and 'notable' species were recorded during the survey, along with the RDB species *Lycopodiella inundata* (Marsh club-moss). Further survey of wet heath bryophytes has been recommended. Although a few sites showed a marked decline, in general the majority of sites have improved or maintained condition.

Floodplain Grasslands

In addition to recent surveys of floodplain land in the Arun valley, this year 573 hectares of floodplain grassland were surveyed to NVC standard in the Western Rother valley. The vast majority of the floodplain grassland communities surveyed were of low botanical interest. These were comprised of wet grassland NVC communities MG9 and MG10, and to a lesser extent agriculturally improved fields (MG7/ MG7d NVC habitat).

Pockets of more diverse and valuable habitats within the floodplain were found, including wet flushes within un-improved pastures, relict herb-rich and un-improved grasslands, and patches of swamp, fen and wet woodland. Of all the communities noted the most interesting for their less common occurrence, specificity to particular conditions and that they offered good potential for rare plants and fauna include MG5a, S3, S19, A5, OV30, OV31, OV32 and OV35. All the communities found are common within Southern England except for MG5a.

Springs

Sussex has some unusual geology (e.g. greensand and chalk) from which rise some important seasonal and permanent water springs. If you know of any unusual or important springs, we would welcome any details so that they can be recorded as valuable wetland features at the Sussex Biodiversity Records Centre.

SUSSEX AMPHIBIAN AND REPTILE GROUP

Welcome Back to SxARG

2012 saw the revitalisation of the Sussex Amphibian & Reptile Group (SxARG) following a relatively dormant period. Individuals associated with the group have continued to work hard within their fields and with the renewed vigour and active committee things have begun to move forward.

At the helm we have a new Chairman, Pete King who is pushing the group forward. Since the re-establishment we have been working to establish what the role of SxARG should be and with a clear vision now in place we are enthusiastic about growing at a realistic pace.

The highlight of 2012 was the long awaited decision to designate Groombridge Lagoons in East Sussex as an SNCI, the first in East Sussex for over 20 years. Barry Kemp, who continues to be a vital member of the group, has worked very hard along with numerous individuals to see this site designated for its reptile and amphibian interest. We, as a group express our utmost thanks to all those who have been involved in this long process. Looking forward to 2013 SxARG are looking at how we can manage the site and continue to improve it for reptile and amphibian populations.

During 2012 a number of individuals within the group have been working on the Knepp Castle Estate just south of Horsham in West Sussex which has been undergoing a re-wilding project. As a result of this SxARG have been approached to see if we would like to undertake a reptile survey and establish projects within the 3000 acre estate. This is a very exciting prospect for the group who have not had this scale of surveying and recording to undertake in some considerable time. During the final months of 2012 we have been planning a strategy to survey this large area which will facilitate the gathering of data that will prove useful for this site and which may be transferable to other reptile and amphibian sites. The group has purchased some refugia to be used in these surveys and it is hoped that recording will begin with the start of the reptile season.

In 2012 we attended various events across Sussex which have boosted our profile and brought the group back into the public eye. We have developed some more family friendly activities which will be brought to our stands in 2013; these aim to increase awareness of reptile and amphibian species as well as educate on some of the habitat and dietary requirements of each.

The first year of the 'new' SxARG culminated in our AGM at the end of November. We were fortunate to have Trevor Beebee giving a talk on 'Factors influencing the successful introduction of common toads into garden ponds'. This was a fascinating presentation which revealed some interesting facts regarding introductions and the effects on common toad genetics. As Professor Beebee has recently retired and is moving out of the area this talk was followed by a presentation of some original Collins Artwork to say thank you for all the support which Professor Beebee as shown to SxARG over the years.

Looking forward to 2013 the group is looking to further develop its opportunities to undertake surveying and recording across new sites in Sussex. In addition we are looking forward to undertaking work at Groombridge Lagoons and surveys at Knepp. We are also looking at ways that these surveys may incorporate training opportunities for SxARG members as well as the general public, allowing a greater amount of recording to be undertaken across the county. One of the first jobs will be to get our 'Newtsletter' back into publication in order to keep our members informed of our activities and findings.

As important as ever is the website which is once again up and running, allowing information to be sent to our Webmaster who is adding new information all the time. The website also functions as a central point for people to contact SxARG as well as a hub for sharing important information from within the group.

We look forward to reporting on our findings and recording success next year and in the meantime information will be posted on our website: www.sussexarg.org.uk

THIRTY YEARS' BRYOLOGY: AN AUTOBRYOGRAPHY

by Howard Matcham

Leaving school in 1958 aged fifteen without formal qualifications was not the disaster then as it would be today as every school-leaver found a job. As my father worked on a farm as a shepherd it was decided by the secondary school I attended that 'O levels' would be a waste of time as I would work on the farm! I did so and aged eighteen had had enough and yearned to see more than the back end of a cow. I joined the Royal Navy. My twentieth birthday was celebrated in Sabah, North Borneo and an opportunity arose to spend a few hours in tropical rainforest. An incredible journey through life had begun!

In 1970 after my nine years in the Navy I re-trained as a welder, as submarine detection was a tad difficult in Civvie Street; 1973 and my father wished to retire but not easy to do so on a farm where he lived in a tied cottage and aged thirty I left The British Steel Corporation and moved in with my father to take his place on the farm. I had returned to my roots. I began to study botany and Louise who was to become my wife gave me the Reverend Keble Martin's 1972 edition of The Concise British Flora in Colour and we went for long walks over the downs looking at wild flowers; for the subsequent decade I studied vascular plant botany in Sussex. As a farm labourer I had ample opportunity to study the plants found on the farm where I worked.

On the 5th March 1983 I joined the Sussex Botanical Recorder Society and a seminal moment in my life met Rod Stern and the late Ted Wallace; both were to introduce me to bryophytes on a field meeting in woodland in the Horsham area later in that year. Ted walking through the wood pointed to a moss and remarked '*Catharinea undulata*.' 'How do you know that?' I asked. 'Experience' was his reply! This moss is now known as *Atrichum undulatum* (Common Smoothcap) and is very frequent in woodland on clay and sandy soil. This chance remark was to dominate my life for the following thirty years as with a child's microscope I began to look at bryophytes. I still have that microscope but find it hard to believe that I was ever able to use it to begin a discipline that would take me to ten countries collecting and studying the bryophyte flora.

My first vice county record came the following year in 1984 when I looked at a small ghyll in the Buriton area of South Hampshire, vc11. *Mnium stellare* (Starry Thyme-moss) is exceptionally local in southern England and stimulated me to spend much of my spare time devoted to studying bryophytes, new vice county records became more frequent with *Tortella nitida* (Neat Crisp-moss) at its most easterly point in England and found on the mortar of a flint wall at Halnaker an exceptional find. Louise gave me reference books on birthdays and at Christmas to make my life easier identifying these beautiful plants. Holidays were spent with our son Robert in Scotland, Wales and northern England increasing my knowledge with a particularly memorable holiday on the Isle of Mull where we watched Golden Eagle and White-tailed Sea Eagle flying together.

In 1993 I met Professor Jeff Duckett, then Professor of Botany at Queen Mary, University of London, on a southern group meeting of the British Bryological Society. This chance meeting completely changed my life as Jeff convinced me to apply for a position as a consultant bryologist for a Sussex firm of landscape architects specialising in contracts with the Department of Transport. Having applied I was stunned to be given the position and immediately left farming for good.

At the end of 1993 Jeff told me that he had been invited to the University of Lesotho situated at Roma in the Kingdom of Lesotho as an external examiner and would I like to accompany him as on a previous visit he had noted that it had a rich bryophyte flora and he was convinced that it would be a start point for me to specialise in a specific and little known area. He had approached the British Council on my behalf and they had agreed to fund the trip! Collecting permits were obtained and in April 1994 I made the first of three visits with Jeff to Lesotho (1995 we were accompanied by Nick Hodgetts then JNCC), and 1997, this latter visit had a memorable morning when I found the moss *Brothera leana* on a log and Jeff found the thalloid hepatic *Asterella abyssinica* on a ditch bank about ten feet below me and both were new to southern Africa. Jeff had correctly surmised that the bryophyte flora would be rich and varied and largely unknown as very few visits had been made by bryologists to Lesotho. After returning from the first visit I was able to identify from my collections that many species had been recorded new to Lesotho and several were first records for Africa, for example, the moss *Leptodontium proliferum* previously known from single collections in Bolivia and Mexico was frequently found growing amongst tussock grasses at between 3000 and 3480 meters in the high alpine basalt Drakensberg mountains or Maluti mountains as the native Basotho name them. Brief visits were made into South Africa for a comparison with the flora. In 1999 Nick, Jeff and I published the results of our study in the Journal of Bryology – Bryophytes collected in Lesotho, the Natal Drakensberg and the Orange Free State, southern Africa. Twelve species (2 hepatics and 10 mosses) were new to Africa with a further one moss new to sub-Saharan Africa, (12 hepatics, nine mosses) new to southern Africa and 84 (43 hepatics and 41 mosses) new to Lesotho. I made two further visits with my wife Louise, recording the South African flora in 1999 and 2001 finding two additional species to the South African moss flora, *Syntrichia amphidiacea* and *Entodontopsis nitens*; and a final visit with Jeff to Botswana in 2006 where among species we collected from the bank of the Limpopo River we found *Physcomitrium spathulatum* var. *spathulatum* an addition to the Botswana moss flora.

At the end of 1994 I had left my employment as a botanical consultant and became a self employed botanist also taking out Private Hire and Hackney Carriage licenses to supplement my income and to be able to spend more time identifying my African collections. This was a wise decision as the number of collections I had accumulated grew and it had became increasingly obvious that many were important new range extensions and more and more scientific papers were being written by myself and with other contributors, totaling fifteen by the end of 2010.

In 1996 the Tropical group of the British Bryological Society had applied for a British goverment Darwin Initiative grant to make three visits to Uganda. I went on two of these; Bwindi Impenetrable Forest in 1996 on the border with The Democratic Republic of the Congo where my thoughts inevitably returned to my earlier life and entering rainforest in Borneo so many years previously in 1963! Visiting the Ugandan side of Mt Elgon on the border with Kenya in 1998, we spent three weeks under canvas on the mountain. Several papers to which I contributed were published in The Journal of Bryology and Tropical Bryology from these visits, 51 hepatics and 46 mosses were reported new to Uganda, including one moss new to Africa, one hepatic and two mosses new to mainland Africa and two hepatics that are otherwise known only from their type collection.

In 2005 I was invited by the Natural History Museum (BM) cryptogamic department to identify their unidentified moss collections from sub-Saharan Africa and was able to do so by travelling to London once or twice a week

having been awarded a generous travel grant from the British Bryological Society; concentrating on a collection from Uganda which had been gathered by the late Francis Rose in 1961, Francis had a wonderful eye, many species he found were not collected prior to 1961 and have not been collected post 1961. Extraordinarily, Francis collected on Mt Elgon on 18th September 1961 which was the day I joined the Royal Navy! Who would have thought then that I would follow in his footsteps? At the NHM I undertook a worldwide revision of two tropical moss genera, *Codonoblepharon* and *Levierella* with Brian O'Shea, both revisions were published in the Journal of Bryology. I also revised (identified and synonymised where necessary) the collections held in the herbaria of the institutions Paris (P), Missouri Botanic Garden (MISS), Edinburgh Royal Botanic Gardens (E) and Cape Town (BOLUS) of the species in the genus *Fabronia* from Africa, reducing the 36 species down to ten species.

In 2006 I joined yet another Darwin Initiative expedition with Jeff and this time to South America; journeying down to south-western Patagonia in Chile, where we added two species to the South American flora, *Aloina brevirostris* and *Pterygoneurum ovatum* and collected *Vittia elimbata* previously known only from the type collection. The Brunswick Peninsula proved very rich and many interesting collections were made; we then flew north to Isla de Chiloé and recorded bryophytes in temperate rainforest. The more important records were published in the Journal of Bryology in the series: New National and Regional bryophyte records

My final expedition was to Réunion Island in 2008 with the Tropical Bryology Group collaborating with other international bryologists on a workshop of Mascarene bryophytes. We added 35 new taxon records (18 hepatics and 17 mosses) five were new African records and one previously only known as an endemic to Madagascar. The results were published in the Journal of Bryology in 2010.

In 1994 I was asked by the then Editor of the Journal of Bryology, Jeff Bates, if I would consider proofreading the journal, although proofreading can be a thankless task I agreed to do so, a task I continued to do for sixteen years. I eventually became Managing Editor of the Journal in 2006. I then had the responsibility on behalf of the publisher to take the journal into the electronic age of the 21st century with online submission of manuscripts. Daunting! However it was a great success and now many scientific journals are managed this way. In June 2012 I decided to retire from active and herbarium bryology and to concentrate on recording microfungi and dematiaceous hyphomycetes in West Sussex, so after 27 years as vice county recorder for Sussex and 22 years as the British Bryological Society General Referee helping beginners place their collections into the correct genera I passed on these positions to others in the society.

Hopefully I have made a useful contribution to our knowledge of bryophyte distribution, particularly in sub-Saharan Africa and aged 70 I still have not a single academic qualification!

SURVEYS, MONITORING AND RECORDING ON SUSSEX WILDLIFE TRUST RESERVES IN 2012

by Graeme Lyons with Rye Harbour contribution from Chris Bentley

Stedham and Iping
A survey of invertebrates, with a concentrated effort on spiders, was made at Iping and Stedham to show the benefits of conservation grazing by the author and Andy Phillips. Four spiders new to Sussex were recorded during the survey being ***Hygrolycosa rubrofasciata***, ***Zelotes petrensis***, ***Philodromus predatus*** and ***Satilatlas britteni***. In addition to these species, many scarce and charismatic spiders were also recorded such **Araniella displicata**, ***Araneus angulatus***, ***Ero tuberculata*** and ***Aellurilus v-insignatus***. The quality of the site for spiders is well known, being documented on the SSSI notification but with the addition of 44 species in 2012, the full spider list now stands at 204 species, an impressive 30% of the UK fauna!

On the 30 May, a single plant of **marsh club-moss** was recorded on a new area of Stedham, the first time this key species has been recorded on the site in over 10 years. **Wood tiger-beetle** was recorded by Jane Willmott at Iping on the 23 July confirming that this introduced species is still present.

The rove beetle ***Playdracus fulvipes*** (third record for Sussex) ran across the path at Stedham and the 'Notable a' **heath dor-beetle,** ***Trypocopris pyranaeus*** was recorded several times at Iping on the 5th July. A single **common**

hawker was recorded by Dave Sadler on the 11th August at Black Pond (see Penny Green's dragonfly section for more information).

Graffham Common
The 'Notable b' longhorn beetle ***Pogonocherus fasciculatus*** was recorded as a first for Sussex during ad hoc recording by sweeping heather underneath pine trees. On a single fallen birch tree covered in **razorstrop fungi**, three rare saproxylic beetles were recorded at the end of May:***Diaperis boleti, Colydium elongatum*** and ***Ampedus (cinnabarinus?)*** were recorded in a sunny clearing showing that this site already has some interesting species and will benefit from being opened up over the next few years.

Amberley Wildbrooks
A joint project between the RSPB ecology team and SWT was completed in 2012. Vascular plants were mapped across the ditches completing a project that started in the summer of 2011.

Malling Down
A single **chalk carpet** moth was recorded in the green pits during a vegetation survey in July. Tom Ottley recorded some interesting bryophytes on a small south-facing section in the green pits in December. These included two nationally scarce species ***Microbryum starckeanum*** (first record in Sussex for over 50 years) and ***Pleurochaete squarrosa***. ***Microbryum rectum*** and ***curvicolle*** were also recorded.

Ebernoe Common
A comprehensive survey of bats at Ebernoe has been carried out in 2012 using both passive techniques in the form of Automated Recording Devices and active techniques; radio-tagging and roost counts. This work has been carried out as a new baseline in order to gauge the effects on the bat assemblage of the management planned at Ebernoe over the next five years

Burton Pond
Casual sweeping of ***Molinia*** grass around the bog at Black Hole, Burton Pond on the 15 June produced the striking 'Notable b' orb weaver spider, ***Araneus alsine***.

Butcherlands
A **honey buzzard** was recorded during a vegetation survey of the fields on the 22 May. The amount of woody vegetation is impressive, with an approximate 56,400 woody seedling and saplings growing in the fields of which 19,300 (34%) were oaks. Open-grown **wild service tree** seedlings were a surprise as was the lack of any **beech**. A single specimen of the unusual nationally scarce tortrix moth ***Commophila aeneana*** was recorded by Sean Foote on the 13 June. Interesting vascular plants growing in the fields included **zig-zag clover**, **common spotted orchid** and **stone parsley**.

Woods Mill
An aquatic invertebrate survey of the lake prior to the planned removal of the carp was carried out in late September 2011 and summer 2012. Identification to species level concentrated on beetles, bugs, crustaceans, damselflies, mayflies and molluscs. Very few species were found at all with only four species of water beetle, the largest being the 4.5mm ***Noterus clavicornis***. Perhaps most striking was the lack of molluscs and dragonfly nymphs or many invertebrates of any appreciable size. The most abundant damselfly nymph was **red-eyed dasmelfly**. The only nationally scarce species recorded was a carabid swept from the reedy margins of the lake, ***Demetrias imperialis*** (Notable b) during May. On the 14 December 2011, a very small patch of the attractive moss ***Leptodon smithii*** was recorded on a ***field maple***.

Rye Harbour
Marsh harriers have bred at Rye Harbour since 2008, but 2012 was the first year in which more than one female successfully raised chicks to fledging, with two birds raising two and three young respectively. 2012 also saw the first breeding records of **pochard** on the reserve for over 20 years, with a female and two chicks at Castle Water in early July.

This year saw the addition of two Red Data Book species to the Rye Harbour list: the long-horn beetle ***Paracorymbia fulva*** (RDB3) and the gout-fly ***Polyodaspis sulcicollis*** (RDB1), bringing the number of RDB species recorded from the reserve to 101. According to Peter Hodge, the Sussex beetle recorder, ***P. fulva*** is new to Sussex, and the National Biodiversity Network site suggests the same is true for ***P. sulcicollis***. Other notable invertebrates recorded this year included the jumping spider ***Pellenes tripunctatus*** (RDB1) and the parasitic fly ***Erynnia ocypterata*** (RDB2), both new to Rye Harbour and Sussex last year, the hoverfly ***Lejops vittata*** (RDB2), a species of brackish ditches with deep mud, the ground beetle ***Polistichus connexus*** (RDB2), recorded at Rye

Harbour for the first time last year during monitoring of the new saltmarsh re-creation project, and the horsefly ***Atylotus latistriatus*** (RDB3), a saltmarsh specialist at its only known East Sussex site. 2012 also saw the first record of the RDB2 money spider ***Trichopterna cito*** at Rye Harbour since 1998 when an adult male was found at Castle Water on 30 April.

New or unusual surveys planned for 2013
New Invertebrate in house surveys by the Trust are to be conducted at Old Lodge and Filsham Reedbed in 2013. A repeat survey of mapping orchids is planned for Malling Down, building on work conducted in 2008 and originally set up in the 1990s by David Lang. An NVC survey of Rye Harbour, staggered over the next two years is also planned.

Blogs

There are various blogs and other sites on the Web that give a running picture of what is going in Sussex biodiversity and a selection of some is given below. If you would like to feature here next year, please get in touch with the editor.

Many organisations and groups do, of course, have their own web sites and weblogs and these are given after their names and addresses below.

Paul Lister has two sites:

This is a daily record (whenever the trap is run) of mothing in Mid-Sussex. http://www.sussexmothdiary.co.uk

Photo galleries of butterflies, dragonflies, miscellaneous insects and a lot of other wildlife, both in Sussex and abroad. http://www.thesussexwildlifer.co.uk

Graeme Lyons is the SWT ecologist and this is his own wildlife blog:
http://analternativenaturalhistoryofsussex.blogspot.com/

Stephen Savage: has two blogs:

Sussex Urban Wildlife http://urbanwildlifejottings.blogspot.com/

Sussex Marine Wildlife Jottings http://sussexmarinejottings.blogspot.com/

Patrick Roper has five wildlife blogs:

One about Brede High Woods north of Hastings: http://bredehighwoods.blogspot.com/

One about the square metre nature reserve in his Sussex garden: http://squaremetre1.blogspot.com/

One about the wildlife of a Sussex window box: http://windowboxwildlife.blogspot.com/

One about trees of the genus *Sorbus*: http://rowanswhitebeamsandservicetrees.blogspot.com/

And a general one about wildlife, mainly in Sussex: http://ramblingsofanaturalist.blogspot.com/

SUSSEX COUNTY RECORDERS 2012/13

If you are not already sending your records to a particular local recording scheme or society, records of any plant or animal species can be sent to the Sussex Biodiversity Record Centre who will store them in their database and pass them on to the relevant groups listed below. Any record can be kept as confidential on request.

Sussex Biodiversity Record Centre (SxBRC)
Woods Mill, Henfield,
West Sussex BN5 9SD
Tel: 01273 497553
Email: info@sxbrc.org.uk

Sussex Wildlife Trust (SWT)
Woods Mill, Henfield,
West Sussex BN5 9SD
Tel: 01273 492630
Email: enquiries@sussexwt.org.uk

Vascular plants
PAUL HARMES
(Sussex Botanical Recording Society
East Sussex)
Flat 7, Park View,
5 Offham Terrace,
Lewes, East Sussex BN7 2QP
Tel: 01273 474797 Mob: 07740 438306
E-mail: pharmes@btinternet.com

MIKE SHAW
(Sussex Botanical Recording Society
West Sussex)
mshaw@doctors.org.uk

Sussex Botanical Recording Society
web site: www.sussexflora.org.uk

Orchids
DAVID LANG
1 Oaktree, Barcombe, Lewes,
East Sussex BN8 5DP
Tel: (01273) 400446
davidlang446@btinternet.com

Bryophytes
TOM OTTLEY
13 Cleve Close, Framfield
East Sussex TN22 5PQ
tom.ottley@virgin.net

Fungi
MARTIN ALLISON (mainly E. Sussex)
martin.allison@sylvanconsultancy.co.uk

Microfungi
HOWARD MATCHAM
21 Temple Bar, Strettington
Chichester, West Sussex PO18 0LB
01243 781238
hwlgmatch@yahoo.co.uk

Lichens
SIMON DAVEY
10 Cottage Homes, Common Lane,
Ditchling, Hassocks
West Sussex BN6 8TW
Tel: 01273 844436
srdavey@globalnet.co.uk

Sussex Lichen Recording Group
Jacqui Middleton
Tel: 01730 716366
Email: jacquiandbruce@tiscali.co.uk

Charophytes (Stoneworts)
FRANCES ABRAHAM
Old School House, Ebernoe, nr Petworth,
West Sussex GU28 9LD
fab@inmyclouds.net

Marine algae (seaweeds)
IAN TITTLEY
Home: mmit@waitrose.com

Amphibians & Reptiles
Records should be sent to
Sussex Biodiversity Record Centre (SxBRC)
Woods Mill, Henfield,
West Sussex BN5 9SD
Tel: 01273 497521
Email: info@sxbrc.org.uk

River Fish
DAMON BLOCK
Environment Agency, Southern Regional Office,
Guildbourne House, Chatsworth Road, Worthing, West Sussex, BN11 1LD. Phone: 01903 703976
damon.block@environment-agency.gov.uk

Birds
Sussex Ornithological Society Recorder
DH Howey, 2 Portobello Cottages,
South Coast Road, Telscombe Cliffs,
East Sussex, BN10 7BD.
Recorder@sos.org.uk

Bird conservation enquiries:
conservation@sos.org.uk

All other enquiries:
Secretary
VAL BENTLEY,
Chetsford, London Road,
Henfield, West Sussex BN5 9JJ
01273 494723,
secretary@sos.org.uk

Mammals (see below for bats, badgers & cetaceans)
Records should be sent to the
Sussex Mammal Group
C/O Penny Green, Woods Mill, Henfield,
West Sussex BN5 9SD
Tel: 01273 497521
Email: pennygreen@sussexwt.org.uk

Bats
Sussex Biodiversity Record Centre (See above).

Badgers
Badger Trust - Sussex
Tel: 07910 198720
Badger Trust website: www.badger.org.uk

Cetaceans and Seals
STEPHEN SAVAGE (Seawatch)
45 North Road, Portslade,
East Sussex BN41 2HD
Tel. 01273 424339
stevep.savage@ntlworld.com
www.seawatchfoundation.org.uk

Otters and Water Voles
FRAN SOUTHGATE
Sussex Wetland Landscapes Officer
Sussex Wildlife Trust, Woods Mill
Henfield, West Sussex BN5 9SD
Tel: 01273 497555
fransouthgate@sussexwt.org.uk

Moths and butterflies
COLIN PRATT
Sussex Moth Group Recorder
Oleander, 5 View Road,
Peacehaven, East Sussex.
colin.pratt@talk21.com
Tel. 01273 586780

WENDY ALEXANDER
Moth Group Secretary
01424 212894 wkalexander@btinternet.com

Butterfly Conservation (Sussex)
CLARE BLENCOWE
Butterfly Conservation recorder
recording@sussex-butterflies.org.uk

Glow-worms
Please send records to SxBRC

Spiders
ANDY PHILLIPS
Flat 5, 21 West Hill Road
St. Leonards on Sea
East Sussex
TN38 0NA
Tel: 01424 716919
threecubes@gmail.com

Orthoptera & related orders
JOHN PAUL
Downsflint, High Street, Upper Beeding,
West Sussex BN44 3WN
turbots@btinternet.com

Dragonflies
Penny Green
British Dragonfly Society – Sussex branch
C/O Sussex Biodiversity Record Centre
Woods Mill, Henfield, West Sussex, BN5 9SD
01273 497521
Records to pennygreen@sussexwt.org.uk
Web: www.webjam.com/bdssx

Coleoptera (beetles) & Heteroptera (plant bugs)
PETER HODGE
8 Harvard Road, Ringmer,
East Sussex BN8 5HJ
Tel. 01273 812047
peter.hodge@mypostoffice.co.uk

Hymenoptera Aculeata: Ants, Bees & Wasps
MIKE EDWARDS
Lea-side, Carron Lane, Midhurst,
West Sussex GU29 9LB
Tel. 01730 810482
ammophila@macace.net

Diptera (two-winged flies)
PATRICK ROPER
South View, Churchland Lane,
Sedlescombe, East Sussex TN33 0PF
Tel. 01424 870993
patrick@prassociates.co.uk

Hoverflies
ROGER MORRIS
& STUART BALL
National Hoverfly Recording Scheme
7 Vine Street, Stamford
Lincolnshire PE9 1QE
roger.morris@dsl.pipex.com
Web: www.hoverfly.org.uk

Geology
Sussex Biodiversity Record Centre
Woods Mill, Henfield,
West Sussex BN5 9SD
Tel: 01273 497553
Email: info@sxbrc.org.uk

Hemiptera/Homoptera (Auchenorrhyncha: Leafhoppers & planthoppers)
ALAN STEWART
31 Houndean Rise, Lewes,
East Sussex BN7 1EQ
a.j.a.stewart@sussex.ac.uk
Tel: 01273 476243

Molluscs
MARTIN WILLING
14 Goodwood Close, Midhurst,
West Sussex GU29 9JG
martinjwilling@gmail.com
Tel:. 01730 814790

Pseudo-scorpions
Gerald Legg (National Recorder)
chelifer2004@yahoo.co.uk

Psocoptera (Bark lice and book lice)
MARCUS OLDFIELD
moldbug5@hotmail.co.uk
Tel: 01273 552586

Marine Records - (see also Cetaceans)
Gerald Legg
chelifer2004@yahoo.co.uk

OTHER USEFUL ADDRESSES

Ashdown Forest
The Conservators of Ashdown Forest
The Ashdown Forest Centre
Wych Cross, Forest Row
East Sussex RH18 5JP
Tel. 01342 823583;
www.ashdownforest.org
www.ashdownforest.org/home/index.

East Sussex County Council
KATE COLE
County ecologist
kate.cole@eastsussex.gov.uk
Tel: 01273 481621

Natural England (formerly English Nature)
Guildbourne House, Chatsworth Road, Worthing, West Sussex, BN11 1LD.
Phone: 0300 060 2514
enquiries@naturalengland.org.uk

Environment Agency
Southern Regional Office,
Guildbourne House, Chatsworth Road, Worthing, West Sussex, BN11 1LD.
Phone: 08708 506506
enquiries@environment-agency.gov.uk

Forestry Commission,
South East England Forest District,
Bucks Horn Oak, Farnham,
Surrey GU10 4LS
Tel: 01420 23666
enquiries.seefd@forestry.gsi.gov.uk

High Weald AONB Unit
Woodland Enterprise Centre,
Hastings Road, Flimwell,
East Sussex TN5 7PR
Tel: 01580 879500
info@highweald.org

National Trust
South East Region, Polesden Lacey,
Dorking, Surrey RH5 6BD Tel: 01372 458203
polesdenlacey@nationaltrust.org.uk

Otters and Rivers Partnership
See Otters & Water Voles above.

RSPB
South East England Regional Office
2nd Floor, 42 Frederick Place,
Brighton BN1 4EA
Tel: 01273 775333

South Downs National Park Authority
Hatton House, Bepton Road, Midhurst,
West Sussex GU29 9LU
Tel: 0300 303 1053
info@southdowns.gov.uk
Web: http://www.southdowns.gov.uk/

South East Water
Snodland, Kent ME6 5AH
Tel: 0845 301 084
Web: www.southeastwater.co.uk/contact

Southern Water
Environment & Product Quality
Southern House, Lewes Road
Falmer, Brighton BN1 9PY
Tel: 0845 272 0845
customerservices@southernwater.co.uk

Sussex Amphibian & Reptile Group
Henri Brocklebank, Chair
Sussex Biodiversity Record Centre (See above)

Sussex Bat Group
www.sussexbatgroup.org.uk
contact@sussexbatgroup.org.uk

Sussex Botanical Recording Society
Web: www.sussexflora.org.uk/

Sussex Lichen Recording Group
Jacqui Middleton at jacquiandbruce@tiscali.co.uk

Sussex Wildlife Trust
Woods Mill, Henfield, West Sussex BN5 9SD
Tel: 01273 492630
enquiries@sussexwt.org.uk

Weald Meadows Initiative
High Weald Landscape Trust
meadows@highwealdlandscapetrust.org
www.highwealdlandscapetrust.org and
www.highweald.org

West Sussex County Council
Environment and Heritage Team, First Floor,
Northleigh, County Hall, Chichester, PO19 1RH
Tel: 01243 777273
env.dev@westsussex.gov.uk

Woodland Trust
The Woodland Trust, Kempton Way, Grantham,
Lincolnshire, NG31 6LL
Tel: 01476 581111
enquiries@woodlandtrust.org.uk

PUBLICATIONS FROM THE SUSSEX BIODIVERSITY RECORD CENTRE

The Sussex Biodiversity Record Centre has a growing library of publications, papers and reports available as hard copies or on line from: http://sxbrc.org.uk/documents/ Copies of this Adastra Review from 2001 are also available on line.

The Record Centre has paper copies of the following: The Dragonflies of Sussex, Sussex Wild Flowers, Sussex Rare Plant Register, Sussex Botany, Wild Orchids of Sussex, The Trees of Sussex.

The following are available on line:

A Major Milestone- 2 millionth record, Bees and Wasps of the East Sussex Downs, Big Biodiversity Butterfly Count, Burgess Hill Green Circle Network, Dormouse and Field Vole Surveys, Great Nut Hunt, Harassed by the Rattle of the Steam-Plough, Lichens of Sussex checklist, Ninfield Recording Day, Sussex Bird Inventory, West Weald Recording Day - May 2009.

Further details here:
http://sxbrc.org.uk/biodiversity/publications/

OCCASIONAL PAPERS AVAILABLE ON LINE

OP01 *Geranium x monacense* nothovar *anglicum*. The Sussex cranesbill.
G. x monacense nothovar anglicum was described from a plant found growing in a hedgebank in East Sussex and this paper gives an account of the species and its varieties.

OP02 Bat flies and fleas at Ebernoe.
A brief note on some of the ectoparasites of bats at Ebernoe Common in West Sussex.

OP03 Anophelic mosquitoes in Sussex.
A brief note on malaria-bearing mosquitoes in modern Sussex. This account may have to be expanded if climate change exacerbates the problem.

OP04 The polecat in Sussex.
After many years of absence due to persecution by gamekeepers and others, the polecat *Mustela putorius* is now returning to Sussex. This paper covers the story so far.

OP05 The ivy bee, *Colletes hederae* in Sussex.
An account of an attractive, late-flying solitary bee that has colonised much of Sussex along the coast in recent years.

OP06 Japanese knotweed, *Fallopia japonica*. An account of this problematic invasive alien plant and the legislation that applies to it.

OP07 Green seafingers, *Codium fragile*, in Sussex.
Information regarding the seaweed *Codium fragile* ssp.*tomentosoides*. It is found on the Priority List of Problem Species in Need of Control and is one of several taxa known as **green seafingers**. Other vernacular names are dead man's fingers, green fleece, oyster thief and Sputnik weed.

OP08 Sussex stoneflies (Plecoptera).
An account of the stoneflies (Plecoptera) recorded in Sussex.

OP09 Sussex lacewings and their allies.
An account of the Neuroptera, Mecoptera and Megaloptera recorded in Sussex.

OP10 Blackflies (Diptera: Simuliidae) in Sussex.
An account of the blackflies so far recorded in Sussex based mainly on the work of Roger Crosskey and Rory Post.

OP11 Species with a Sussex dimension. Short descriptions of species that have a particular Sussex dimension.

OP12 Extinct or formerly extinct species in Sussex.
Species in Sussex that are extinct, almost extinct, thought to be extinct, or formerly extinct.

OP13 Ticks and mites of Sussex. An account of all species of ticks and mites known by the author of the paper to have been recorded in Sussex.