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Thank you to all those who have contributed to this full issue of the White Admiral newsletter. This issue covers a wide range of topics from roadside verges to an observation on the lack of roadkill on our roads. On the subject of roadkill, I encourage any of you who are ‘app savvy’ to download the People’s Trust for Endangered Species new mobile phone app that hopes to encourage the recording of mammals seen dead on our roads. This app aims to follow up on data first collected in 2001 to better understand population growths and declines. The app utilises the phone’s GPS and an interactive interface to allow users to pinpoint dead animals on our roads as they drive along them. It is worth noting however, that your passenger should be the one logging these sightings, whilst you concentrate on the road! More information on the study can be found here http://ptes.org/new-app-turns-roadkill-british-wildlife-protection.

I am also pleased to announce that you can now find all the presentations from our February conference, ‘Nature’s New Scientists’, on our website. So if you were unable to attend, you can see, hear and study both the speakers and their slides as if you were actually there on the day.

It is always difficult getting naturalists to write up observations at this time of year, especially when it is so nice outside, but at the Suffolk BRC we have been really enthused by the amount of people taking to social media (Facebook, Twitter and Flickr) to quickly share their sightings with fellow naturalists. The immediacy of such tools is making learning about and understanding our natural environment very interactive and dynamic and I recommend that everyone joins in!
Another new fungus for Suffolk

Searching along the riverbank path after having an excellent lunch at the Butt & Oyster, Pin Mill, last April, I eventually reached the small area of heath managed by the National Trust. A lot of gorse had been cut back, and this allowed me to take a closer look to see if I could find anything interesting.

The usual suspects were there, such as *Tremella mesenterica* (Yellow Brain) and *Byssomerulius corium*, but then I spotted some small blackish ‘blobs’ bursting through the bark of a dead, standing gorse branch. I prized it away to drag it out into the open to take a closer look. The black blobs turned out to be cup-shaped fungi indicating they were ascomycetes (spore shooters) so I peeled away the bark to see how they were attached to the substrate.

To my delight, I thought I had found another more exciting species growing under the bark next to it and being a mustard and olive green colour assumed I would have no difficulty putting an ID to it back home.

Peeling away more bark, I soon realised they were all the same species, the mustard/green cups being just the early young forms and that they seem to turn black after they erupt through the bark and are exposed to the light.

The next stage was to take photos, obtain a grid reference (TM21732 37939 for the benefit of the warden if he/she is reading this) and take home samples for examination and preservation.

Back home under the microscope I took spore measurements and compared cell structure drawings and hit lucky straight away with *Ionomidotis fulvotingens*, but in
my literature, no mention was made of mustard/green fruiting body’s and there was a 2µm discrepancy in the spore measurements so I began to have doubts and emailed Dr Tony Leech in Norfolk who led me back to the type of species I had already been looking at, so I emailed Kew who confirmed *Ionomidotis* and that they would like to have samples for the herbarium (now called the Fungorum).

This has only been found 23 times in the UK and seems to be confined to central Europe and southern Scandinavia and is only the third record of being found on *Ulex* - it’s more usual host being *Populus*.

*Agaricus augustus*

A fine example of one of the better tasting wild fungi in my opinion - *Agaricus augustus*, better known as the ‘Prince’ growing by the side of the road near Westhall, June 11. Note what will become the large floppy stem ring just beginning to break away from the rim of the cap where it has been protecting the developing spores until they mature and are ready to drop.

Neil Mahler
The battle continues... the fight against invasive alien plants in the Stour Valley!

**Introduction**

At the Dedham Vale AONB and Stour Valley Project (DVSVP) this year’s battle against Non-Native Invasive Plants (NNIP) is already underway. Matt Holden, River Stour Project Officer, is leading on the DVSVP’s partnership project with the Environment Agency which aims to raise awareness, provide advice and training and conduct control of invasive non-native plants that pose a threat to the native biodiversity of the Stour Valley. The DVSVP are currently focusing on 5 key species; giant hogweed, Himalayan balsam, floating pennywort, Japanese knotweed and water fern. This year Matt has been working with landowners, land managers and community groups to instigate practical control of giant hogweed and Himalayan balsam in the Valley. They have also been developing the Invasive Non-Native Species in the Stour Valley Local Action Group which met for the first time in March. This article provides an update on the DVSVP’s work this year on tackling the spread of NNIP and outlines some of their plans for the future.
Activities to date

Last year it was identified that although many people are aware of what the key NNIP look like, knowing how to control them effectively is not as well understood. Therefore the DVSVP have been focusing this year on disseminating information on how to control NNIP, supporting landowners keen to tackle NNIP and coordinating control work in the River Stour catchment.

This year’s action against NNIP:

Awareness raising event ‘Lets Get Controlling’!. The purpose of this well attended workshop (over 50 people) in Sudbury was to educate landowners, land managers and community groups on the practicalities of NNIP control. We were joined by NNIP control specialist Paul Sims from Native Landscapes who presented at the event.

**Himalayan balsam tackled at 3 sites in the Valley.** One of these sites was on the River Brett and the balsam pull was organised, with our support, by the landowner of a County Wildlife Site near Monks Eleigh. The Stour Valley Volunteers joined members of the local community to conduct the control of this NNIP.

**Giant hogweed control on the River Stour and River Glem.** Matt has been working with 13 landowners and land managers in the Cavendish, Glemsford and Long Melford area to organise a collaborative giant hogweed control programme for 2014 and 2015. 6 days of giant hogweed control have taken place covering 7km and 5.25km, along the River Glem and River Stour, respectively. The project has combined voluntary input from landowners and Long Melford Open Spaces CIC, funding from the DVSVP and support funding from the landowners. Without this local support we could not have achieved so much so a big thank you to everyone involved in the project!

**Tackling the source of giant hogweed on the River Brett.** 3 days of control have taken place this year. Monitoring was also conducted in May to assess the effectiveness of the 2013 control work. Of the 100 transects surveyed as part of this, 77 contained giant hogweed in 2013 and 51 of these have showed a significant decline in giant hogweed in 2014 (25-100%). Turn over to see before and after pictures.
Photos showing a giant hogweed control site on the River Brett: Left = before control (2013), Right = after control (early 2014). Note: a lot less giant hogweed this year!

The first Invasive Non-Native Species in the Stour Valley Project Local Action Group (LAG) meeting. This meeting was a great success and was attended by representatives from the Essex Wildlife Trust, Suffolk Biodiversity Partnership, Suffolk Wildlife Trust, Environment Agency, Campaign for the Farmed Environment and local parishes. Everyone was in support of the proposal to take the LAG forward and identified that it could play an important role in tackling invasive non-native species in the future.

The Big Box Balsam Bash 2014. Event held at Boxford Primary school for adults and children to raise awareness of Himalayan balsam in the Box Valley. Balsam bashing took place at Primrose Wood in Boxford, the source of Himalayan balsam on the River Box, and activities such as river dipping and a nature trail were held in the school grounds.

Our Plans for the future

This summer we will be continuing to expand our knowledge of the distribution of NNIP, with the hope of undertaking some source mapping to assess the most upstream locations of key NNIP in the Valley. More practical control work is also in the pipeline with a further Himalayan balsam pulling work party coming up before this goes to print and a second year of floating pennywort control to be conducted at Great Waldingfield. The LAG will be meeting again in September with the focus on developing a list of priority invasive non-native plants and animals that could pose a threat to the native biodiversity of the Valley. If you wish to attend this meeting please contact us for further details.
**Plan a Himalayan balsam pull for your community!** If you know of this plant in your area and would be interested in getting stuck in and doing your bit for the environment then an easy, social and rewarding task is a Himalayan balsam pull. Whether you are a parish council, a community group or even an individual with a few friends, if you would be interested in planning a pull for 2014/2015 then please contact Matt Holden who will assist in setting it up.

**RECORD, RECORD, RECORD!** A number of people have forwarded on records and sightings of NNIP in the Stour Valley for which we are extremely grateful. Please record any sightings by getting in touch direct, via SBRC or on Plant Tracker or iRecord websites/phone applications.

**Invasive non-native species in the Stour Valley LAG second meeting, 30th September 2014, The Granary, Sudbury, 14:00 – 16:00.** Join us and have your say on prioritising the species, sites and rivers on which we should target control action. Contact us for more details.

**Further information:**
For more info on NNIP in the Stour Valley please visit our website: http://www.dedhamvalestourvalley.org/

If you have any further queries, would like to report any NNIP species that you have seen or are interested in having a discussion or site visit to discuss NNIP on your land then please do not hesitate to get in contact with Matt Holden at:
Dedhamvale.project@suffolk.gov.uk
Tel: 01473 264263.
Thanks to funding from the Suffolk Naturalists’ Society as well as the Dedham Vale AONB Sustainable Development Fund, the Suffolk Biodiversity Partnership and the Suffolk Wildlife Trust, twelve easy to use bat detectors are now available for loan to Suffolk Bat Group (SBG) members. This equipment can be the key to enable new participants to take part in the National Bat Monitoring Programme (NBMP) that need a simple bat detector - so why not join Suffolk Bat Group and learn more about the bats that live near you!

SBG is keen to engage with and train local volunteers to increase...
the data available on bat distribution within the county. This will not only provide data to identify population trends at the national level but also help fill in the gaps in the Suffolk Bat Atlas (downloadable from SBG website). You can try out a NBMP survey with a SBG mentor to learn the ropes before taking on your own stretch of river or work as a team, it’s up to you.

You don’t need to be a bat expert to help monitor the UK’s bat populations as surveys are suited to various levels of experience. Bat Conservation Trust (BCT) runs a number of national, annual surveys to monitor the status of many of our bat species across a range of habitats and has lots of online tutorials to start you off or brush up on bat detector skills. If you’d like to learn more about NBMP surveys or are interested in signing up for a Suffolk survey square, please contact Suffolk Bat Group’s NBMP co-ordinator Mary on mc.broads@talk21.com or visit the BCT website for more information www.bats.org.uk/pages/nbmp.html.

Taking part in a NBMP survey is easy and there are 2 surveys where no specialist equipment or bat experience needed so are ideal for beginners.:

- **Colony counts**: if you know a bat roost - June
- **Sunset/Sunrise survey**: weekend in late August

Other surveys that are a bit more advanced and require access to a bat detector are:

- **Field survey**: July
- **Waterways survey**: August
- **Nathusius’ Pipistrelle survey**: September
- **Hibernation**: Licensed bat workers only

Sue Hooton
Suffolk Bat Group
www.suffolkwildlifetrust.org/suffolkbatgroup
Rosemary leaf beetles (*Chrysolina americana*) have been appearing in great numbers this spring/summer. Have you seen any?

My observations of these shiny beetles have seen their numbers slowly decrease over the last month but their presence should become more apparent again in late summer when they resume feeding, mating and producing eggs.

Despite their name, the species actually originates from the Mediterranean and will exist on sage, thyme and lavender as well as rosemary.

We have had quite a few records come in via Facebook this summer while many have also recorded their sightings on the popular RHS recording form for this species and we can now present a map showing the widespread...
status of this herb hungry herbivore.
However, since White Admiral 67, where an appeal was put in to record the first occurrences of this invasive beetle, we still do not have the full picture of its extent in Suffolk.
Please continue to send in your records for this species with your name, date and grid reference/post code (records can be sent to the editor - see page 1). Alternatively records can be submitted online at the RHS
http://www.rhs.org.uk/science/help-our-research/rosemary-beetle

Ben Heather - SBRC

The photographs of a fly sent to me by Ben Heather have proved to be of considerable interest. The pictures were taken at the Suffolk Wildlife Trust reserve at Grove Farm, Thurston on June 19th 2014 and show a large hairy soldierfly, the Nationally Scarce (Notable) RDB2 species, *Stratiomys longicornis* (Scopoli). This is a distinctive dipteran differing from other members of the genus as it has no yellow markings on the abdomen and the unusually dense brown pubescence on the body makes this a good mimic of a hive

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*Stratiomys longicornis* – a fly a long way from home!
bee despite the broad and rather flattened abdomen.

However, what is of particular note is the location of the record, as *S. longicornis* is considered an almost entirely coastal species, dependant on a saline environment (Stubbs and Drake, 2001) and not of inland freshwater habitats such as found at Grove Farm. Typically, *S. longicornis* is found on upper saltmarsh, tidal rivers and coastal grazing marshes where it breeds in shallow strongly brackish pools, ditches and lagoons. The loss of such habitats through coastal development, agricultural improvement and drainage, together with a reduction in salinity of many sites behind sea wall defences, has meant a loss in breeding sites (Falk, 1991). As a result of these specialist requirements it is a scarce and declining species with a very geographically restricted distribution in Great Britain, being found almost solely on coastal marshes from the Solent to the Wash with a particular cluster of records from the Thames estuary and the Essex marshes (NBN, 2014). In Suffolk *S. longicornis* is uncommon with only four previous records; Dingle Marshes in 1999, Ramsholt in 2001 and two from Minsmere in 2004. Therefore, this record constitutes the first record of *S. longicornis* from West Suffolk VC26 and one of only a few national inland records, although Verrall cited an inland record from Wicken Fen in neighbouring Cambridgeshire in the 19th century, and Falk (1991) does state that strays occasionally turn up some distance from coastal breeding sites. This is undoubtedly what has occurred in this case, as the possibility of larval development in freshwater habitats in the environs of Grove Farm seems unlikely. *S. longicornis* feeds readily on flowers, especially umbellifers and thistles, so its capture from wasteground at Grove Farm seems consistent with this behaviour. Adults have a long flight period appearing earlier than other *Stratiomys* species often appearing in April and persisting well into August, nevertheless the date of this record corresponds well with its peak emergence in June.

Peter Vincent

References:


The Breckland, delineated by its geology of coversand on Chalk, retains relic landforms from the last cold phase of the Ice Age 14,000 – 18,000 years ago. Breckland was glacier-free but subject to periglacial conditions - extreme cold with permanently frozen ground. Summer thawing created a shallow, extremely mobile surface layer above the permafrost and this along with the rapid freeze-thaw cycles disrupted drainage and created a variety of ground patterns, and hollows and hummocks on the surface. These landforms still cover large areas of Breckland to the extent that they could be said to be ubiquitous.

The patterned ground at Knettishall Heath is well-documented, and last summer GeoSuffolk received permission from the Suffolk Wildlife Trust and Natural England to dig a trench across two vegetation stripes. The results of this dig are recorded in White Admiral no.86 (2013). Not long after publication my attention was drawn to a series of Ordnance Survey Air photographs along the Suffolk/Norfolk border taken from April to June 1973. Each photo is about 1 km², and because they are stereoscopic pairs, they overlap by about 30%. The large quantity of patterned ground stands out like giant finger prints all over these photos – there are polygons, stripes, and stripes anastomosing into polygons. There is also much ‘hummock and hollow’ topography as exemplified by W M Corbett in his Soil Survey document (1973) and described at Aspal Close, Beck Row in White Admiral no.83 (2012).

I used the BGS maps to identify those photos with part or all of their area on Chalk or Chalk with coversand – there were 255 photos in all extending from Mildenhall to Wretham. Then I identified Knettishall Heath-type patterned ground and ‘hummock and hollow’ topography on these 255 photographs.

The stripes and polygons of the patterned ground, though small features, are quite distinctive and easy to pick out. I found these on 169 of the photos – i.e. 66% of those studied – and of the 86 photographs in the area immediately to the east of Mildenhall, all but two show patterned ground. The ‘hummock and hollow’ relief is well-developed in some areas (and interesting through the stereoscopic viewer), but tends to degenerate
into mottled ground and, in the forest, patchy growth of trees, so I may have underestimated the extent of this. I found ‘hummock and hollow’ topography on 138 of the photos, i.e. 54% of those studied - it is particularly prevalent in the area around Wretham. 73 photos show both types of landform (these would make an interesting further study), and so in all there are 234 with either patterned ground or ‘hummock and hollow’ topography or both. This makes a stunning 92% of the Breckland photos with Chalk or coversand which showed relic periglacial landforms in 1973. Giant fingerprints indeed!

Caroline Markham

References:
Caroline Markham ‘Dips and Dells at Aspal Close’, *White Admiral no.83*, Autumn 2012.
Caroline Markham ‘Vegetation Stripes at Knettishall Heath CGS’, *White Admiral no.86*, Autumn 2013.
British Geological Survey maps, 174 (Thetford), 175 (Diss), 189 (Bury St Edmunds).
There were estimated to be 245,400 miles of roads in the UK in 2012 (Dept. of Transport, 2013), of which there were 4,334.6 miles in Suffolk, 80% classified as rural. Most of these rural roads are bordered by grass verges and frequently hedgerows. These offer a potential habitat for wildlife and corridors between larger natural habitats and their value should not be underestimated. In 2013 Plantlife estimated that there are 238,000 hectares of roadside verge in Britain, containing two thirds of native British plants (Plantlife 2013).

During the 1960s, the botanical value of some roadside verges were recognised and county wildlife trusts began working with relevant highway authorities to protect them. The first scheme was established in 1966 by the Lincolnshire Trust (LWT 2013). Suffolk Wildlife Trust established a similar scheme in the 1970s, with co-ordination passing to Suffolk County Council in 1991.

Good examples of species-rich plant communities on roadside verges are now conserved by a partnership co-ordinated by the Suffolk County Council Ecology team. The partnership includes the SCC highways manager and the contractors responsible for cutting verges, volunteer wardens and in some cases, Natural England. Suffolk Wildlife Trust and the Suffolk Biological Record Centre are involved when RNRs meet County Wildlife Site criteria (Suffolk County Council 2013).
Each Roadside Nature Reserve (RNR) has its own management regime, specifying cutting dates. This may differ from the regime for cutting surrounding verges. There are about 100 RNRs designated in Suffolk, each marked by posts with directional plates to ensure cutting takes place at appropriate times. RNRs are monitored by SCC ecologists and voluntary wardens who may also help in removing cuttings from the verge where it is safe to do so.

In July 2013 we undertook a limited survey of 5 RNRs in Suffolk. The sites were in close proximity and each site shared a similar geology on chalky boulder clay and had been designated for a similar reason. The survey aimed to determine the health of populations of *Trifolium ochroleucon* (Sulphur clover), a nationally scarce species with a stronghold in Suffolk, and also to look at the effect of the cutting regime on the diversity of the flora.

To measure diversity, plant communities were surveyed using a 1m² quadrat. Six evenly spaced quadrats were sampled along each RNR and a further three, at the same spacing, in the verges beyond the RNR in either direction (where practical). All plants in each quadrat were identified and percentage cover recorded. This data enabled a diversity index to be calculated for each quadrat.

Set criteria are used to designate suitable verges. (Hooton S. 2011) These include:

- Legally protected species & sections of verge within SSSIs
- Near Threatened, Nationally Rare or Nationally Scarce species or those listed in the Suffolk Biodiversity Action Plan (BAP)
- Good, sustainable examples of scarce grassland communities as identified in the National Vegetation Classification
- Locally Rare or Locally Scarce and Declining Species in Suffolk
- RNRs should meet the criteria as County Wildlife Sites
The survey results are summarised below:

**Table 1. Summary of mean species numbers at each sample site.**

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**Table 2. Simpson’s Diversity Index for each quadrat.**

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**Graph 1. Summary of mean species numbers at each sample site.**
The results show that the mean total numbers of species are consistently higher within RNRs, with almost twice as many species found in protected stretches of verge (statistically significant at \( p<0.01 \)). Simpson’s Species Diversity Index measures not only the number of species but also their relative abundance, providing a measure of species richness. The index calculated ranges from 0 to 1, with 1 showing high biological diversity i.e. many different species and even numbers of those species. Graph 2 shows this is again consistently higher within RNRs. So RNRs are both species-rich and biologically diverse.

Survey data shows plant communities are different within RNRs, being more species-rich with good biological diversity. Nationally scarce species, such as *Trifolium ochroleucon* are surviving far better inside RNRs.

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<thead>
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**Table 3. Presence of *Trifolium ochroleucon* (Sulphur Clover) % Cover by Quadrat**

Graph 2. Summary of mean species diversity at each sample site.
The principal difference in management of verges within and outside RNRs is cutting. Outside RNRs, the combination of the timing of cuts and lack of removal of cuttings favours plant communities that are less diverse and dominated by certain species. Coarse grasses observed in the survey, such as *Arrhenatherum elatius* (False Oat Grass) and *Festuca arundinacea* (Tall Fescue) grow from the base and exploit habitats managed in this way, quickly spreading to form "rank vegetation."

An 18 year study from Monk’s Wood, Parr and Way (1988) concluded that species richness was negatively correlated with nutrient richness. The removal of cuttings increased diversity although cuttings did not appear to affect nutrient balance in soils, but the physical process of removal promoted species richness and prevented smothering frail species.

Similar conclusions are reached by Adams (2007) from his work in Essex on verges similar to those in this survey. Using Sulphur Clover as an example, he notes how numbers of this plant increased in the 1960/70s when considerable road improvements were made and rough clay was left on the verges. Being a pioneer species, Sulphur Clover and other scarce species exploited this habitat. However, since then, the practice of flail mowing has led to increases in dominant grasses on dry verges. On damp verges, rotting cuttings enrich the soil, encouraging nettles, thistles, docks and cow parsley requiring more cutting, compounding the problem and reducing diversity.

In the current Suffolk Flora Atlas, Sanford (2010) notes how Sulphur Clover was once plentiful but has now declined to 195 out of 1089 tetrads in the county. He notes most remaining sites are narrow roadside verges, threatened by: "...on the one side scrub encroachment, fertiliser run-off and nutrient enrichment, and on the other by traffic damage."

He acknowledges the protection afforded by RNRs but populations continue to decline and extra cutting is needed to reduce competition from increased growth of rank grasses, whose growing season is extended by warmer winters.

Most of Britain’s surviving plants are in Suffolk and Essex where Natural England (2010) describes it as "...all but banished to road verges."

Clearly this habitat is vital to its survival.

SCC ecologists have since fine-tuned the cutting regime for Sulphur Clover RNRs and the majority of these now receive 2 cuts each year. The first cut is scheduled for April to knock-back competing vegetation and allow the Sulphur Clover to flower in profusion and the second cut is in September along with most RNRs in the county. The importance of collecting grass cuttings after the autumn cut is accepted by SCC ecologists although practicalities, safety and budgetary constraints mean this is not carried out on all RNRs. Where it is safe for voluntary wardens to rake up grass
cuttings, SCC ecologists support this activity, and encourage local people to assist with this important management task. Where the RNR site risk assessment indicates that it is unsafe for volunteers to carry out removal of cuttings, this practice is undertaken by contractors when resources allow. However all RNRs benefit from local eyes and ears and many need a voluntary warden, even if practical management is not safe.

This limited survey has highlighted the importance of roadside verges for wild flowers. But it is only through identification and careful management of these sites that their floristic diversity can be maintained. Of significance is the need to remove the cuttings after mowing to prevent smothering by decaying vegetation and remove nutrients from the site, both of which encourage rank vegetation of limited ecological value.

Anyone interested in learning more about Suffolk’s Roadside Nature Reserves can contact SCC County Ecologist Sue Hooton (sue.hooton@suffolk.gov.uk) or visit www.suffolk.gov.uk/environment-and-transport/suffolk-s-natural-environment/roadside-nature-reserves/ to identify their nearest RNR and if it needs a voluntary warden or volunteers to help with management.

Thanks to Sue Hooton, SCC County Ecologist, and Lucy Spencer for their assistance in setting up the investigation and editing this report.

Dr. Anne Kell and Dennis Kell

References:


Where has all the road kill gone?

It may just be a blip, but over the last three years I have noticed a decline in the amount of dead animals on the road and roadside. By habit I try (and sometimes fail) to ID everything squashed (and crossing or sitting) on roads from amphibians upwards in size. I have driven across the county regularly for over 20 years, at all times of day, and on all types of road (main, secondary and country lanes) and have noticed fewer foxes, rabbits, hedgehogs, deer and birds dead recently.

It may be that scavenging species are getting better and quicker at picking up carrion and it could be that they are getting more used to ‘feeding times’ – corvids still seem to be around, but with animals too big to be removed as a ‘take away’ one might expect more even numbers killed with our generally increasing traffic. In the post-2000 period in general I had the impression that road kill was increasing, notably small deer. Perhaps larger animals are being picked up by humans more often and more quickly?

The winters of 2012 and 2013 were very harsh and I suspect that some species are at a low ebb from the long freezes – this applies to bats and barn owl for example, but might there be other forces at work? I have long wondered how the massive post-WW2 habitat destruction in Suffolk played out in terms of species declining due to fragmentation, isolation and the biogeographic forces that limit species according to ‘patch size’ dispersal rate and other factors. Fragmentation effects might not be immediate; in fact they would be expected to play out over different time scales according to fragment size and stochastic (random) forces. Could it be that species such as hedgehogs have been tipped over a threshold by increased traffic because their state was not that stable and they are no longer capable of dealing with progressive deterioration of their urban and countryside habitat? Might the long term effects of agricultural intensification still be playing out on fauna and flora?

Is there evidence from nature reserves, that richness and diversity is being maintained or is it diminishing? Monitoring of reserves might tell us. However it is a big worry if, as well as this happening, across the countryside as a whole we are losing plants and
invertebrates in a slow slide as was the more obvious trend in the last half of the last century. We may see bursts of new and spreading arrivals such as speckled wood and buzzards to suggest some gains and I have reported increases in grass snake and badger road kills in recent years but why numbers of common birds killed on roads is reducing makes me think that something might be happening on a wider scale recently. What might influence the general biomass of fauna so comprehensively? I am not sure but there is some evidence at least that something may be happening within the predominantly intensive agricultural lands and those areas around them that may be new and unexplained. If there is no explanation, is simply time the factor or missing ingredient to loss that ecologists would expect to play out in localised extinctions of species over the last 60 years or so? Equally, information from protected areas would be helpful. Harsh weather and time together may be involved – we have had some very dry summers in recent years too that may have influenced survival and breeding.

Tom Langton

**Back on the Hopper Trail in 2013**

In 2013 we continued to search for Leafhoppers throughout Suffolk. Last year’s sites had a westerly bias as we spent a lot of time on the coastal side of Suffolk (White Admiral summer 2013 – see this article for information on the life histories of leafhoppers). In 2013, we visited 31 sites and recorded 111 species. This is a slight rise on the 2012 total. We found 44 species in 2013 that had not been seen in 2012, taking the combined 2 year count to 137 species. This represents about a third of all British leafhoppers. Included in the 2013 total are 18 species that have not been recorded in Suffolk before. These are species that do not appear on the NBN gateway, Suffolk Biological Record Centre or the National Leafhopper recording scheme.

On 21 July at Halesworth Millenium green, we found 3 species not previously recorded in Suffolk. One of these *Eupterycyba jucunda*, (above) was a particularly striking leafhopper.
However the highlight of the year was finding a species called *Arthaldeus arenarius*. Our record was only the 2nd for Britain. A well-known entomologist called Pete Kirby had previously found the hopper at Wicken Fen in 2009. We found our first record near the car park at RSPB Lakenheath Fen on 3rd September (or so we thought at the time). The hopper lives on Wood Small Reed (*Calamagrostis epijegos*). Rather embarrassingly we found that we had already caught this hopper in August from the nearby Kings Forest. The first capture was a male and we had misidentified it. All subsequent captures were females and, unusually for leafhoppers, this sex is easier to identify at a glance. Buoyed by finding such an exciting new species, we decided to check some more local sites that held *Calamagrostis* and found the species straight away at Hurst Fen, 3 miles away (see photo over page). This capture was particularly interesting as it was in a small patch of the foodplant in a large area of secondary woodland.

Being newly recorded for Britain, we assumed that it was a new arrival and would be found on large patches of *Calamagrostis* on open sites (at the time we knew nothing of the original location at Wicken Fen). We now think it has probably been around for a long time and has simply evaded capture. This view is supported by the fact that Peter has now found it in an old chalk pit at Houghton Regis in Bedfordshire. Why it should have remained undetected is a mystery, perhaps because few people have surveyed this plant intensively for insects. *Calamagrostis* is not welcomed by conservation managers as it quickly becomes dominant.
and covers large areas of potentially more interesting grassland. The Brecks appears to suit it as parts of the Kings Forest now have patches of an acre of more. We will obviously be checking the plant elsewhere in Suffolk and it will be interesting to see if all areas hold this leafhopper.

We also identified the leafhoppers found in a water traps from Aspal Close near Mildenhall in 2012. This proved to be very interesting as we counted 47 species. In 2013 we added a further 5 species from a quick visit there. A total of 52 is good from a small site. This nicely demonstrates the large diversity of one group of insects that can be found from relatively unknown sites.

The effectiveness of water traps also surprised us and we will use this technique at other sites this summer.

Colin Lucas & Tricia Taylor

Volucella zonaria – an impressive beast

Volucella zonaria is one of the largest and most impressive British flies and our largest and most spectacular hoverfly. It is readily identifiable by its size alone, with a body length of about 20mm and wingspan of over 40mm; while its vivid chestnut, gold and black banded markings on the abdomen make it an outstanding hornet mimic. Thus, this is a species that can be recorded accurately by most casual observers of natural history. The only species, with which it can be
confused, is *Volucella inanis*, which is smaller and yellower and has a yellow rather than black second sternite.

Verrall (1901) only knew of two specimens, and until about 1940 it was regarded as a rare vagrant to the south coast of England, and greatly prized by collectors. During the 1940s and 1950s, it became established mainly in the London area, but also in a few coastal localities in southern England and in the Bristol area (Morris and Ball, 2004). However, within the last 20 years *V. zonaria* has rapidly expanded its range, moving into Suffolk and Norfolk during the late 1990s (Stubbs and Falk, 2002) and reaching Hull and Cheshire by 2011 (Ball, *et al.*, 2011). The first Suffolk records I have are of two separate records both from Felixstowe on the 24th July 1998 by Brian Ranner and by Jon Nichols. These records may be the result of range expansion of the Harwich population, which had been known since 1992 (Morris and Ball, 2004) or primary migrants. The first record from west Suffolk (VC26) was from Milden in 2003. *V. zonaria* has subsequently been recorded in most years from locations across the county. It favours eastern coastal areas, especially the urban areas around Ipswich and Felixstowe, however, I have recorded it quite regularly along the Waveney valley in north Suffolk and south Norfolk in recent years.

Numbers of *V. zonaria* fluctuate markedly from one year to the next. It is possible that it only becomes resident in England in years following substantial continental influxes and that cold, wet summers reduce its resident population severely. Recent work in the Netherlands has suggested that it is the females that are migratory and in some years large numbers of them accumulate in coastal areas. In Britain we also experience years dominated by females and these probably represent mass immigrations. Subsequent years tend to have equal numbers of males and
females, probably representing resident populations. In good years it is reasonably common and this is one of the creatures that is benefiting from the effects of global warming as its northern expansion of its range illustrates.

In Britain *V. zonaria* seems to be mostly anthropogenic. It seems to favour gardens both urban and rural but is also found in woodland, scrub, heath and ruderal sites; where it is often seen feeding on a wide range of flowers, most commonly, Buddleia, Hebe, Privet and Ivy, and there is a Suffolk record of it feeding on Astrantia. In the wider countryside it feeds readily on *Cirsium* and *Carduus* thistles and Bramble. The overall phenology seems to show numbers increasing steadily from late May, peaking in late July/early August before declining in September and October (Ball, *et al.*, 2011).

The larvae develop as commensals in nests of wasps. They are scavengers and predators in the nests of social wasps including the Common wasp *Vespula vulgaris*, the German wasp *V. germanica* and also the Hornet *Vespa crabro* where they probably feed on larvae and pupae and on the organic debris accumulating in the nest cavity below the nest itself. Adult *Volucella zonaria* are occasionally reported from within houses, where they are presumably derived from wasp nests in roofs or beneath floorboards; this causes alarm amongst people who do not realise that the ‘scary looking beast’ is only a harmless hoverfly.

If you do see this species in your garden (or elsewhere) please send you records to me.

Peter Vincent – Suffolk Diptera Recorder. [diptera@sns.org.uk](mailto:diptera@sns.org.uk)

References


For one or two days a week, I am an Education & Events Volunteer for Suffolk Wildlife Trust. This involves helping staff at various events in the county, teaching youngsters about our wonderful wildlife and showing them what they can do to help. One of these events happens to be the Suffolk Show. My job was to help the youngsters with a mini-beast hunt (including running a moth trap) and helping them to build a giant bug hotel. This particular bug hotel is a stack of about 5 or 6 pallets filled with pots and tubes of straw, wool, pine cones, old wood and other stuff bugs like to get into.

The kids really enjoyed this, liking the fact that they were creating somewhere safe for bugs to overwinter. But it wasn’t only the kids that enjoyed it, no, many adults enjoyed the idea too, especially teachers. They thought that this was a great idea for their schools, as it is so cheap and easy to create and that the children could learn so much from it too. A lot of parents also went away, knowing that they too could also do something similar, if not on a much smaller scale, in their own back gardens.

These children are our next generation of naturalists, these are the ones we need to inspire and capture the imaginations of. One young boy, aged about 10, was so excited to hear that I had trapped some moths overnight. He studied each moth with such intent that I’ve never before seen in a child. He explained to me that he really was interested in learning to trap his own moths but found it quite hard to get the information on how to do it. He also told me how he had raised some Atlas moths at home and found them amazing, it was such a pleasure to hear.

Away from the bug hotel, children were being given sweep nets and a pot. They were then sent into the long grass to see what they could find and bring back for identification. It was fantastic the amount of wildlife that was being found, seen or heard and a board listing all the species found was there for everyone to see. Not everything was taken to species level.
but it really was about participation at the end of the day. Kids and adults alike were also interested to hear how certain bugs live, what they feed on and often amazed to hear how harmless they are to humans (not everything bites or stings).

There was a hedgehog trail set up for the youngsters to follow whilst filling out a question and answer sheet about the spikey fellows. Many got to add sightings of hedgehogs they had seen in their neighbourhood to the SWT's iSpy a hedgehog campaign (http://hedgehogs.ispywildlife.org or calling 01473 890089).

Pond dipping was fully booked throughout the two day period with many fascinating water invertebrates being found including diving beetles, water scorpions, caddisfly, various aquatic snails and dragonfly larvae. At the end of the show it was obvious to see, there really is a need and a want by our youngsters, to be taught about the wildlife in their back gardens.

All to often I see on various forums on the web, beautiful pictures of ichneumon wasps and the like, only to have the moment spoiled by an ignorant comment of “Kill it with fire” or “Stamp on it” written underneath. These comments are a product of our failure to educate our young about the biodiversity of our planet. When I actually caught a couple of these at the show, I would show the kids the wasp in close detail and see their looks of amazement when they see the amazing eyes and when you tell them that some have an ovipositor that can drill through oak.

The fact that we nearly run out of supplies for the bug hotel, the pond dipping was always booked up and the staff were always inundated with questions on how they can find out more about wildlife, where they can buy equipment for their children and how they can get more involved just shows there is a need, a need that we can help to provide an answer for. Companies up and down the country crush and burn pallets because they’re no use to them. They would only be too happy for people to take them off their hands and the environment would be even happier if they were put to better use. Bug hotels don’t have to be scruffy looking eyesores, nor do they have to be huge. They can be small and built out of an old wooden fruit crate or if you use pallets you could fill the top with soil and plant herbs or wildflowers and dress the sides with a bit of featherlap timber; no one would know that you have a beautiful, multi functional bug hotel in your garden.

At the end of the two days, it was clear that everyone, staff included, had a great time and the fact that it was all for free too made it that much nicer.

A big thanks to Samantha Gay of SWT for allowing me to use her photos.

Hawk Honey
The natural environment of the county is one of its key strengths, providing us with enviable natural capital on which to improve health & wellbeing and to grow our economy. Whether a tourism business, a farmer growing crops, a Suffolk brewer or an international port, the environment is central to our economic growth and should be considered part of Suffolk’s business capital.

“Working together as individuals, communities, businesses and decision-makers, we will ensure Suffolk’s natural environment is conserved and enhanced for future generations and continues to be seen as one of the county’s key strengths. Its intrinsic value, as well as its importance to our economic growth, is increasingly understood, whilst the people of Suffolk and our visitors are able to gain better access to, enhanced enjoyment and a deeper understanding of its unique qualities. We will continue to add to our knowledge of Suffolk’s wildlife and landscapes and collect high-quality information”.

Suffolk’s Nature Strategy describes the challenges and opportunities our natural environment faces. Its purpose is to articulate what we believe are the key natural environment priorities for the county and to convey to decision-makers how the wildlife and landscapes of Suffolk are important building blocks for our own economic growth and health & wellbeing. The recommendations and actions we propose within the document are both forward-looking and challenging. Their delivery will enhance the environment of Suffolk itself, as well as our ability to derive both economic and social benefits from it.

It is aimed particularly at the leaders of public, private and
voluntary sector organisations, but we hope it will also be of interest to anyone who cares about Suffolk’s natural environment and the role it plays in our prosperity and wellbeing. The messages are equally relevant to businesses, health professionals and community representatives. While conservation of Suffolk’s environment is of particular interest to us, everyone has a responsibility to look after it, and of course, many already do. It is in all our interests, it should be the business of us all!

Who we are?

Many people have contributed to this strategy and commented on the various drafts, and we hope many more will support it. It has been put together primarily by the following organisations; Suffolk County Council, Suffolk Wildlife Trust, RSPB and National Trust advised by Natural England, the Environment Agency and the Forestry Commission. We are all involved in leading and advising on wildlife and landscape conservation in the county. Together, Suffolk Wildlife Trust, National Trust and RSPB have over 120,000 members in Suffolk. It is our business to champion the conservation of Suffolk’s landscapes and wildlife on a daily basis, and this strategy is not intended to recite our ongoing work. The actions and recommendations are forward-looking and most set out new challenges and opportunities for both us and others to achieve, that will enable us all to benefit from and conserve the natural environment. We will support, champion, influence and
encourage the delivery of the actions and recommendations herein, and we hope they will empower organisations, individuals and leaders to make the nature and wildlife of Suffolk part of their daily business too.

If you have any comments on the document we would be happy to hear from you. In the first instance please contact Nick Collinson, Natural Environment Manager at Suffolk County Council nick.collinson@suffolk.gov.uk

**The strategy introduces and evidences some important messages:**

Natural capital, as defined by the Government’s Natural Capital Committee, refers to the elements of nature that produce value (directly and indirectly) to people, such as the stock of forests, rivers, land, minerals and oceans. It includes the living aspects of nature (such as fish stocks) as well as the non-living aspects (such as minerals and energy resources). Natural capital underpins all other types of capital (man-made, human and social) and is one of the essential foundations on which our economy, society and prosperity is built. By combining different forms of capital, we are able to enjoy a huge variety of benefits. These range from the food we eat and the water we drink to outdoor recreation and improved health.

In its Strategic Economic Plan, New Anglia Local Enterprise Partnership (LEP) has re-iterated this same important point.

In its 2011 Natural Environment White Paper, Government set a natural-environment challenge for local authorities. The White Paper does not pose any additional burdens on local authorities but it recognises that success in protecting and improving the natural environment will depend on action taken at a local level. The Department for Environment, Food and Rural Affairs (Defra) stated that “local authorities possess the strategic overview, local knowledge and statutory powers required to make the vision set out in the White Paper a reality”. Defra further stated that “evidence suggests that a healthy natural environment is a cost-effective tool that can help local authorities to support economic and social regeneration, improve public health, improve educational outcomes, reduce crime and antisocial behaviour, help communities adapt to climate change; and improve quality of life across an entire area.
Species ‘Re-introductions’

With the welcome moves towards habitat re-creation, community woodlands and other schemes, now may be a good time to again publicise good practice through voluntary organisations and the media. We all want species to thrive in bigger numbers, but to lose local distinctiveness would go against everything ecology tells us, and I have a dread of ‘orchid-rich green hay’ travelling all over the place. What would your suggestions be? For plants I would include:

♦ Check first for all existing species, if necessary first trimming some coarse grasses, scrub etc; don’t introduce anything till the site’s been under observation for a year or more.
♦ Don’t introduce anything from more than about ½ mile away.
♦ Don’t introduce anything that’s been growing in gardens.
♦ Plant small trees e.g. Hazel, not big shady ones – only plant trees at the north edge of a site.
♦ Pruning woody growth on a southern edge will let light into the whole area; on the north is pointless.
♦ Don’t introduce anything where scarce plants already grow – if you do, list them, put them in a specific corner, and inform anyone visiting the scarce plants.

I would add, don’t manage any site until you’ve looked at old 6-inch maps etc... and found old hedges, banks, and other old boundaries – as these are usually an excellent guide to plots of different character e.g. wet grassland, dry woodland etc... – which may have been degraded or hidden by scrub, bracken, cultivation, tree planting etc... Treated respectfully the habitats can return to former glory.

Nick Miller

Contributions to White Admiral

Deadlines for copy are: 1st Feb (Spring issue), 1st June (Summer issue) and 1st Oct (Autumn issue)

The opinions expressed in White Admiral are not necessarily those of the Editor or of the Suffolk Naturalists’ Society.
The Suffolk Naturalists’ Society offers five bursaries, of up to £500 each, annually. Larger projects may be eligible for grants of over £500 – please contact SNS for further information.

Activities eligible for funding include: travel and subsistence for field work, visits to scientific institutions, scientific equipment, identification guide books or other items relevant to the study.

**Morley Bursary** - Studies involving insects (or other invertebrates) other than butterflies and moths.

**Chipperfield Bursary** - Studies involving butterflies or moths.

**Cranbrook Bursary** - Studies involving mammals or birds.

**Rivis Bursary** - Studies of the county's flora.

**Simpson Bursary** - In memory of Francis Simpson. The bursary will be awarded for a botanical study where possible.

Applications should be set in the context of a research question i.e. a clear statement of what the problem is and how the applicant plans to tackle it.

**Criteria:**

1. Projects should include a large element of original work and further knowledge of Suffolk’s flora, fauna or geology.

2. A written account of the project is required within 12 months of receipt of a bursary. This should be in a form suitable for publication in one of the Society's journals: Suffolk Natural History, Suffolk Birds or White Admiral.

3. Suffolk Naturalists' Society should be acknowledged in all publicity associated with the project and in any publications emanating from the project.

Applications may be made at any time. Please apply to SNS for an application form or visit our website for more details.
The Suffolk Naturalists’ Society, founded in 1929 by Claude Morley (1874 -1951), pioneered the study and recording of the County’s flora, fauna and geology. It is the seed bed from which have grown other important wildlife organisations in Suffolk, such as Suffolk Wildlife Trust (SWT) and Suffolk Ornithologists’ Group (SOG).

Recording the natural history of Suffolk is still the Society’s primary objective. Members’ observations go to specialist recorders and then on to the Suffolk Biological Records Centre at Ipswich Museum to provide a basis for detailed distribution maps and subsequent analysis with benefits to environmental protection.

Funds held by the Society allow it to offer substantial grants for wildlife studies.

Annually, SNS publishes its transactions *Suffolk Natural History*, containing studies on the County’s wildlife, and the County bird report, *Suffolk Birds* (compiled by SOG). The newsletter *White Admiral*, with comment and observations, appears three times a year. SNS organises two members’ evenings a year and a conference every two years. Field meetings are held throughout the year often in conjunction with other specialist organisations.

Subscriptions: Individual members £15.00; Family membership £17.00; Student Membership £10.00; Corporate membership £17.00.

Members receive the three publications above.

Joint membership with the Suffolk Ornithologists’ Group: Individual members £28.00; Family membership £32.00. Joint members receive, in addition to the above, the SOG newsletter *The Harrier*.

As defined by the Constitution of this Society its objectives shall be:

2.1 To study and record the fauna, flora and geology of the County
2.2 To publish a Transactions and Proceedings and a Bird Report. These shall be free to members except those whose annual subscriptions are in arrears contact:
2.3 To liaise with other natural history societies and conservation bodies in the County
2.4 To promote interest in natural history and the activities of the Society.

For more details about the Suffolk Naturalists’ Society contact:
Hon. Secretary, Suffolk Naturalists’ Society, c/o Ipswich Museum,