Het News

Newsletter of the Heteroptera Recording Schemes

Issue 2
Autumn 2003

2nd Series

Editorial:

Welcome to the second issue of *Het News*. We hope that you found something of interest in the first issue and we are delighted to say that we have had a number of very welcome contributions for this issue. We thank everyone who has contributed and we hope their efforts will encourage others to put 'pen to paper'. This issue has a more terrestrial emphasis but we hope to include an even mix in future issues.

You might like to note that BSN's draft British checklist, and keys for Miridae and for aquatic/semi-aquatic spp are continually updated, so if you have an old version you might wish to update to the current versions (November 2003). To economise on expensive inkjet ink, these are normally only available by email, or on CD if email is not practicable.

Sheila Brooke 18 Park Hill Toddington Dunstable Beds LU5 6AW brooke.aquahet@btopenworld.com

Bernard Nau 15 Park Hill Toddington Dunstable Beds LU5 6AW nau.bs@btinternet.com

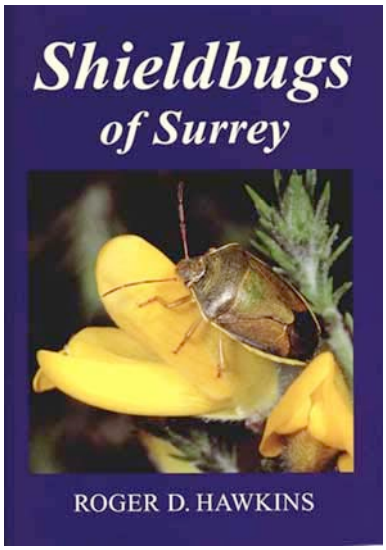
Contents

Book Review: *Shieldbugs of Surrey* by Roger D. Hawkins

Publ. by Surrey Wildlife Trust, 2003, price £15 hardback, ISBN 0 9526065 7 7, 192pp plus 24 colour plates, A5

As well as four families of shieldbugs this excellent publication deals with five allied families, namely *Coreidae, Alydidae, Rhopalidae, Pyrrhocoridae,* and *Stenocephalidae*. Detailed accounts are given for all 46 species known from Surrey, including two now extinct in the county and three recent colonists from the continent.

The species texts begin with advice on the identification of adults and all the existing Surrey species are illustrated by excellent colour photographs of bugs in natural surroundings, to provide a quick means of identification. For accurate identification well laid-out illustrated keys to species are included. The species text includes help on the identification of those nymphs that can be recognised easily. For a few species, the species account includes an explanation of the meaning and derivation of the scientific name, and the reason for any recent or proposed changes to this name. For many species the life-history is portrayed by bar-charts showing the progress of the bugs throughout the year. Separate charts are shown for adults, mating pairs, eggs and nymphs at the different stages of their development.



The species distribution in Surrey is shown by tetrad maps, while the life-history, habitat, behaviour and food preferences are described from observations in the county, mainly those of the author. The distribution maps relate to the years 1976-2002, with a few records from 2003. For four species that have markedly extended their range (*Coreus*, *Elasmostethus tristriatus*, *Gonocerus*, and *Eurygaster testudinaria*), maps show the 'before and after distributions'.

A Surrey status is given for each species, allowing for under-recording of some areas and some species, especially species difficult to find through being rather small and living at ground level. The criteria used may be of interest for recorders in other counties, they are:

- **Ubiquitous** - Found almost everywhere, or at least in almost every tetrad, so distribution map shows a solid black pattern.
- **Common** - Found in at least 10% of tetrads since the habitat occurs widely but not everywhere, so distribution map shows a speckled or blotchy pattern.
- **Local** - Found in less than 10% of tetrads because the habitat is scarce.
- **Very local** - Found in no more than 4% of tetrads.
- **Rare** - Found in no more than 2% of tetrads.
- **Colonist** - Recently settled and with established colonies.
- **Migrant** - Recorded occasionally but without established colonies.
- **Extinct** - Not recorded during the period of the survey (1976-2003) and now presumed extinct within the county.

[The reviewer has converted tetrad numbers to percentages, to make the criteria more universal.]

The text accounts normally give the plant that is the main food of the bug, the one on which the eggs are laid and the nymphs develop, and some alternative food-plants in approximate order of preference. Some species feed on a bewildering array of alternative food plants, while for others the exact food is doubtful or unknown, and a few shieldbugs feed on other insects. For these latter species the habitat is given in general terms, such as grassland, heathland, chalk downland or trees. The habitat or food-plant list is derived from recent observations in Surrey wherever possible, but from other publications for some rarer species. Individual records are generally given only for the rarer species, but interesting records of food-plants or of egg batches are sometimes given. Record details given are generally: locality, Ordnance Survey grid reference, a brief description of the habitat, the date and initials of the recorder. A reference to the publication, with volume and page numbers, is given for published records.

Each family, and one subfamily of the Pentatomidae, is introduced by a brief account of distinguishing characters. The family introduction also includes a short account of British species absent from Surrey, or spreading northwards in Europe and so may be found here at some future time.

Although primarily concerned with one county this well-written, detailed and entertaining account of the shieldbugs and their allies will be useful for Heteropterists throughout the country.

BSN

From the Regions.....Huntingdonshire

Our attention has been drawn to the fact that *Ranatra linearis* was also seen in flight by Angus Garbutt on September 16th 1992. He was surveying the marginal vegetation of the River Great Ouse 5km E of St. Ives, Huntingdonshire, when he was distracted by a loud rustling sound and saw the bug fly for about 10m before landing in the water and slowly swimming towards the bank.

Huntingdonshire Fauna and Flora Society's 45th Annual Report for 1992. Eds.

From the Regions..... Sussex

I beat 2 males of *Deraeocoris flavilinea* off an overgrown hedge (one off hawthorn, one off blackthorn, at Newhaven, East Sussex, TQ4502, on 14th June 2003. I believe this is the first record for Sussex for this recently established and doubtless rapidly spreading British species.

Peter Hodge

From the Regions.....West Cornwall

I netted a winged female *Hydrometra stagnorum* while looking for water bugs in Croft Pascoe Pool on Goonhilly Downs on 25th June 2003. At first glance it appeared to be pale but I then realised it was the light reflecting from the forewings, which reached the penultimate abdominal segment. The pronotum was also visibly broader than the usual micropter.

SEB

From the Regions.....Bedfordshire

At Felmersham (SP9958) on 13th Sept 2003 I saw a pair of Ruddy Darter dragonflies fall onto the waterduring a rather violent attempt at cop. The male became waterlogged and could not get clear of the water. As it tired it was overcome by over twenty *Gerris*. At one time they were crawling all over its body probing with their proboscis. What interested me was that a few Water Crickets were in amongst the crowd. They seemed quite happy feeding together. I took this picture of the event!

Steve Cham

News in brief

***Micronecta* update**

There have been a few more encounters with the rarer *Micronecta* species during 2003. Jonty Denton found another site for *M. griseola* – they were in numbers and widespread in the river Kennet near Reading, and BSN and I found it in the River Great Ouse at St. Ives. We also had *M. minutissima* in the River Great Ouse at Bedford and near the confluence of the River Cam and Burwell Lode at Upware in Cambridgeshire. Keep looking – they are probably all over!

Nezara viridula

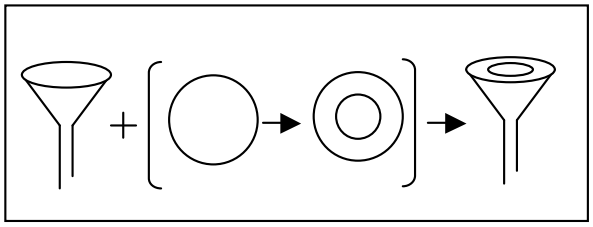
If you were at the AES Exhibition at Kempton Park Race Course in October you may have seen a display of some nymphs of this green shield bug. It has been found in the UK previously on imported vegetation but has never been known to breed. The nymphs are very strikingly marked, white on black and the green adults are rather larger than *Palomena prasina*, with three white dots along the base of the scutellum. Publications are in print – details next time.

SEB

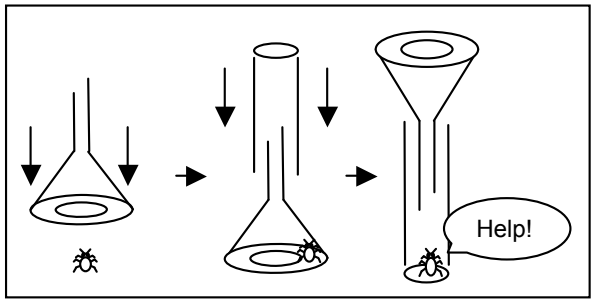
Gadget Corner..... The Saldid catcher

Those of you who have tried catching Saldids with a tube will know how frustrating it can be. You are poised, tube in hand, and as you bring it down the bug cunningly flies a foot or so away. You dare not take your eye off it and keep following it but, before you know where you are you are ankle-deep in mud and the tube is plugged with mud, but bug-free.

You can avoid this discomfort by popping into WILKO or some similar store and buying a 40p plastic funnel. Somewhere in your kitchen will be a plastic lid (a Vitalite lid is good and strong) from which you cut a disc the same diameter as the funnel. Then cut a circular hole in the centre, roughen up the areas of contact and glue the round piece of plastic onto the funnel. (You may find that the funnel has a loop at one side in which case cut the plastic accordingly, making a hole in the little lug. You can now bind your plastic to the funnel with cotton thread, ensuring the two parts remain together if they become unstuck. The system is not quite perfect yet but my latest application of superglue is awaiting trial)



All that remains for you to do now is to swiftly place your rather larger hole over the bug. It will undoubtedly fly but now it is contained and lands on the ledge inside the funnel. Place a tube on the end of the funnel, tip the whole thing upside down and hey-presto your bug is in the tube. It only takes a few seconds AND you have dry feet, a clean tube and a bug!!



This device has successfully captured flies and groundhoppers, and might also be useful for jumping beetles.

SEB

Helpful hints .....De-greasing

Dry-mounted insect specimens not infrequently 'sweat' grease, making it difficult to see surface features and causing dust and debris to adhere to them as well as staining card mounts and corroding nickel-plated pins. The organic solvents usually recommended for de-greasing are difficult for amateurs to obtain and expensive, too, not to mention terrifyingly flammable and toxic. I have found that White Spirit from the local hardware store does the job just as well, safely and cheaper. It even restores the surface 'bloom' of delicate Diptera without doing any noticeable damage. I generally leave carded specimens soaking for about a week and draw off excess fluid by laying them on absorbent paper such as kitchen towels or even newspapers for a few minutes. Thereafter they can be pinned somewhere safe to dry out properly. The drying process is quite slow, so there is little if any danger of even delicate structures collapsing. I suppose this treatment also kills moulds and invertebrate infestations as well. Drawbacks are the alteration of the appearance of Tingidae and the increased brittleness of insects from which both water and fats have been extracted. It is a good idea to check the ink of labels for solubility in White Spirit and remove them if there is any danger of it washing off.

Bill Dolling

3rd European Hemiptera Congress
Saint Petersburg, Russia
June 8-11, 2004
Organised by

The Zoological Institute of the Russian Academy of Sciences. Working language English.
Details from: *www.zin.ru/conferences/ehc3/*

IDENTIFICATION of *Nysius* — again. W.R. Dolling

Apart from the readily recognised *helveticus,* which does not feature in these notes, there are five species of the genus Nysius in Britain and the Channel Islands. My findings are based on reasonably long series, from several localities (mainly in Yorkshire), of *ericae, thymi* and *senecionis,* a short series of *graminicola* from Guernsey, a male of *cymoide*s from Yorkshire and a female of *cymoides* from Spain.

Colour, particularly the development of dark spotting, is variable in all species but, in general, the darkest and most heavily marked species is *ericae,* with *thymi* next. Distinctly pinkish specimens are (invariably?) referable to *thymi* and the Guernsey *graminicola* are of a tawny hue that I have not encountered in the other species. Both *ericae* and *thymi* usually have the membrane of the hemelytra quite extensively and deeply suffused brown; the others rarely have more than a trace of darkening here, though the spots on the main veins of the corium may nonetheless be quite big and dark. The presence or absence of a black annulus at the base of the second antennal segment (and sometimes also at the base of the third) is, however, a very dependable colour character. It even holds for African material of these phenomenally widely distributed insects. Some of the darkest specimens of *ericae* have the second antennal segment entirely black but this need not confuse the issue since the two species with the annulus never have dark antennae.

Size is too variable to be of much use but *cymoides,* being slim as well as short, looks the smallest. The degree of curvature of the costal margin of the hemelytra is also variable but my two *cymoides* specimens have it more weakly curved than in any others. The length of the hemelytra in relation to the size of the insect is correlated with the curvature of the costal margin to some degree, with the shortest being the most curved. The best way of determining the relative length of the hemelytra, that I have found, is the length of the membrane from its extreme base (at the apex of the clavus) to its apex, divided by the distance from the base of the membrane (or apex of clavus) to extreme front of the head (the tip of the tylus). This can only be done in specimens carded with the wings at rest. Incidentally, the hemelytra do not meet up tidily at the claval commissure in this genus; the tip of the right clavus generally slightly overlies the tip of the left one. I have not measured long series but have selected a typical-looking male and female of each species. The ratio of membrane length divided by rest-of-insect length for each sex of species (male first) was:

- *thymi* .....0.65 & 0.64;
- *ericae* .....0.75 & 0.81;
- *senecionis* 0.76 & 0.79;
- *graminicola* 0.75 & 0.85;
- *cymoides* ..0.94 & 0.96.

On the basis of this limited sample, *thymi* and *cymoide*s separate well from the other three species, the former having much the shortest membrane and the latter much the longest.

The length of the basal segment of the posterior tarsus in relation to the other two segments has been used as a key character. It is not always easy to be sure whether its length is "just equal" or "scarcely equal" to that of the next two together, with claw included. It does provide good discrimination between the otherwise rather similar *senecionis* and *graminicola,* being very short in the former and very long in the latter.

Another traditional key character, upon which subgenera of dubious validity have been founded, is the form of the bucculae (the pair of vertical plates flanking the base of the rtostrum). Although quite useful in unmounted material, it is difficult to observe properly in carded specimens and I am ignoring it here.

A character that is clearly visible in clean carded material is the metathoracic scent-gland pentreme. This structure consists of the aperture by which the gland opens to the outside, surrounded by an elevated, whitish auricle that is itself surrounded by a matt and mainly dark grey field of specialised cuticle whose function appears to me to be to protect the insect from the unpleasant effects of any splash-back of the repugnatorial fluid when it is discharged. The matt field extends over a large part of the metapleuron and the part of the mesopleuron posterior to the "coxal cleft." In most species its upper edge lies about halfway between the tip of the auricle and the costal margin of the hemelyron at rest, which roughly coincides with the upper edge of the metapleuron. There is an area of normal cuticle, with silvery pubescence, above the matt area; this normal area is traversed by a longitudinal impression. In *senecionis,* the matt field is more extensive and its upper margin coincides with the longitudinal impression, so that it extends about two-thirds of the way from the auricle to the costal margin of the hemelytron, there being in consequence a much narrower band of normal, pubescent cuticle in this region.

The pubescence of the dorsal surface is generally short, crisped and inconspicuous. However, in every female of *ericae* that I have examined, and in my one female *cymoides*, the veins of the clavus and corium, as well as the scutellum, bear in addition numerous long, weakly curved or straight, erect to suberect hairs longer than the width of the second antennal segment. Female *thymi* have a few such hairs on the scutellum but none on the veins. No male *Nysius* and no females of *graminicola* or *senecionis* bear such hairs. So long as the specimens have not been bedraggled with glue during carding or with snail-slime in the net, this character is a very dependable one for separating females of *thymi* and *ericae.*

Habitat is not a good guide to identity and I have on occasion found two or even three species at the same site. This is perhaps not a surprising circumstance since the bugs are very mobile and good colonisers of suitable habitat. There does seem to be some preference for microsite. My impression is that *ericae* is most frequently associated with habitats with bare ground (yellow dunes, stubble fields, cinder tracks) and that *thymi* prefers continuous short turf on dunes, heaths and chalk pits; perhaps it really does like *Thymus*. The only species that I regularly take by sweeping is *senecionis,* perhaps because it has a preference for tall herbaceous vegetation or because it is more inclined than its relatives to ascend plants at times when I am active. I have never taken it from *Senecio*, but have taken it from *Achillea* and *Tripleurospermum,* as well as docks and other non-Asteraceae.

Key to British *Nysius* species other than *N. helveticus*.

W. R. Dolling, October 2003

1 Second antennal segment pale yellow-brown with a well defined basal dark ring **2**

- Second antennal segment usually pale, sometimes dark throughout, but never with a distinct basal ring **3**

2 Hind tarsus with basal segment shorter than the next two together, including claws. Matt field of metapleuron large . . . ***senecionis***

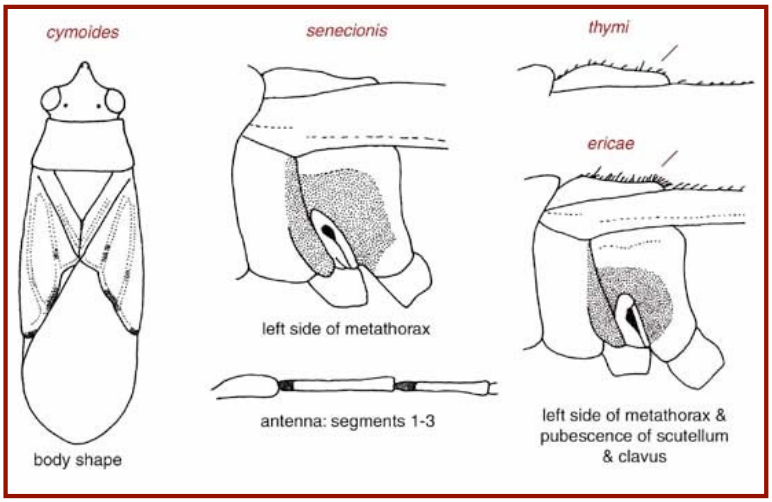
- Hind tarsus with basal segment longer than the next two together, including claws. Matt field of metapleuron of normal extent. . ***graminicola***

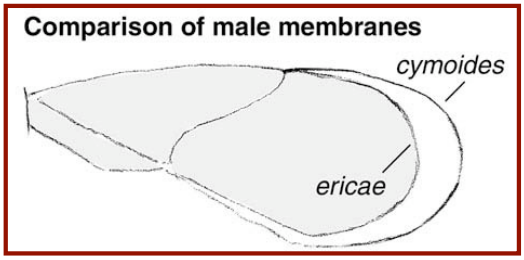
3 Length of hemelytral membrane more than 0.9x length of rest of body, projecting well beyond apex of abdomen ***cymoides***

- Length of hemelytral membrane less than 0.9x length of rest of body. . **4**

4 Veins of female hemelytra with numerous suberect to erect hairs longer than diameter of second antennal segment. Male genital capsule characteristic. ***ericae***

- Veins of female hemelytra with only short, curved pubescence. Male genital capsule characteristic ***thymi***





Vacuum sampling on Chalk grassland. John Hunnisett

In the spring of 2002 I purchased a piece of garden machinery designed for picking up leaves with the intention of modify it to sample invertebrate ground fauna. The modification consisted of a rough gauze mesh over the inlet to prevent the ingress of large lumps of soil or vegetation and the insertion of a linen bag firmly held into position so as to stop bugs passing through the blades of the machine and producing a minced mixture of antennae and legs.

Having modified the machine I cast around for a useful survey to carry out. Chalk downland is a valuable but fast disappearing commodity in Dorset and any survey work carried out on it would serve as a useful benchmark for the future. A number of these sites were therefore chosen, mainly on south facing slopes with an NVC of CG2 to CG4.

A number of quadrats were semi randomly selected and each sucked for a measured length of time. The selection of the quadrats was controlled by limiting the height of the vegetation within the quadrat to less than four inches, in the hope that this would find those species which preferred drier, more open habitats. This would ensure that to some degree the results of the various sites could be comparable.

The survey took place between May 2002 and April 2003. Whilst 11 quadrats were sampled from each site sampled during the summer, only five/three were sampled during the autumn and winter.

A total number of 164 quadrats on 19 sites were sampled and of the 400+ species of invertebrate identified just 27 were Heteroptera and 42 Auchorrhyncha.

Pentatomidae

The nymphs of *Dolycoris baccarum* are easily recognised by their conspicuous pubescence (Butler 1923) and many of their cast off skins were found, suggesting as Butlers states that they spend their nymphal stages at the roots of plants.

The nymphs of *Podops inuncta* can be recognised by their heavily punctured surface and in the same way many of their cast off skins as well as adults were found.

One of the aims of this exercise was to try and extend the known sites of *Sehirus impressus* (5 sites) and *Thyreocoris scarabaeoides* (1 site) but neither was found. According to Butler the adults of these two species are to be found throughout the summer months so either they are absent from the sites or sufficiently thinly scattered to be missed. Interestingly *S. impressus* has already been found by pitfall trapping on one of the sites surveyed thus indicating the problems with a random survey even around the possible host plant.

Berytidae

The most common species was *Berytinus signoreti* found in 26 of the 164 quadrats sampled and on eight of the 19 sites visited, with one site (Bindon Hill) producing 83 individuals from one quadrat (39 males, 44 females).

According to Massee there is a record of *B. montivagus* in Dorset but the only reference I can find is to Blatch, who found it in Weymouth pre 1900, probably Chesil Beach area. (Saunders). This survey has added two new sites and the first modern records.

Lygaeidae

The ground bugs were poorly represented with only three species being recorded among these *Stygnocoris sabulosus* was the most common, occurring on six sites.

Tingidae

This family was represented by five species with *Agramma laetum* being the most numerous and widespread of all species taken, i.e. occurring on 14 sites and in 71 quadrats.

The only previous Dorset record I can find for *Acalypta carinata* is one taken by Dale in the parish of Glanvilles Wootton before 1878 therefore this constitutes the first modern record. The suction trap only picked up both forewings of this species and recognising it as something different I sent it off to Peter Kirby who kindly identified it for me - the benefits of a reference collection!

Catoplatus fabricii appears to deserve its status as a Notable species with Giant Hill being only the fourth site in Dorset

Miridae

In general the mirid bugs taken can be considered as not belonging to the ground fauna except for *Pithanus maerkelii* and *Hallodapus montandoni*. Butler gives the adults of *P.maerkelii* as present from June to September and as the larvae are easily identified it is surprising that it was not found on more sites, probably emphasising the fact that it prefers a damper environment. *Hallodapus montandoni* was first recorded from Dorset in 1989 by Keith Alexander at Hod Hill, an Iron Age fort. It seems ironic that the second record should come from Maiden Castle, also an Iron Age fort.

As with most methods of sampling there are many factors that need to be taken into account when comparisons are made between sites; the gradient and aspect of the site; weather conditions; the position of the quadrats with regard to host plants; the efficiency of the machine, i.e. unnoticed blocking of the mesh. However, I feel that this method results in a more structured survey of the heteropteran fauna of chalk downland.

To put the results of the survey into perspective, on average 90 species of invertebrates were recorded from each site. The invertebrates not identified were mites, Collembola, Parasitica (although these were sent to M.Shaw with some interesting finds), and some of the more difficult families of Diptera, i.e. *Phoridae* and *Mycetophilidae*. In nearly all cases, above 35% of those species

recorded were only found in one quadrat, you can draw your own conclusions.

It is interesting to note that on the morning of 7th January 2003 at Great Hill, the area of a disused chalk pit, after a particularly heavy frost, six species were found so bug hunting need not be a fair weather summer pastime.

Butler, E.A. 1923. *A biology of the British Hemiptera – Heteroptera*. London: Witherby

Saunders, E. 1892. *The Hemiptera – Heteroptera of the British Islands*. London: L. Reeve & Co

Masee, A.M. 1955. The County distribution of the British Hemiptera – Heteroptera. Second edition. *Entomologist's Monthly Magazine. 91: 7-27*

		Ball Hill. ST724032. 12/5/2002	Muckleford (1). SY6493 19/5/2002	Muckleford (2). SY6493 22/5/2002	Haydon Hill. SY671944. 15/6/2002	Sovell Down. ST9910 19/6/2002	Maiden Castle. SY6788. 4/7/20002	Stonehill Down. SY925821. 24/7/2002	Bincombe Hill. SY688845.1/8/2002	Hog Cliff. SY6197. 13/8/2002	Fishers Bottom(South facing). SY623983. 2/9/2002	Fishers Bottom(North facing). SY627980. 12/9/2002	Haydon Down. SY542934 25/9/2002	Giant Hill. ST6601. 1/10/2002	Bindon Hill. SY824801. 7/10/2002	North Hill. ST557000. 11/11/2002	Bayards Hill (Site 1). SY660855. 25/11/2002	Bayards Hill (Site 2). SY661861. 25/11/2002	Great Hill. ST623055. 7/1/2003	Portesham Quarry.SY611859.17/4/2003	
	No of Quadrats	2	11	11	9	11	11	11	11	11	11	11	11	11	11	5	3	3	5	5	164
Berytidae	Berytinus crassipes												1								1
	Berytinus minor										1										1
	Berytinus montivagus								2	1											3
	Berytinus signoreti						3		1		1		4	2	9	1			4	1	26
	Cymus claviculus	1																		1	2
	Gampsocoris punctipes								4												4
Lygaeidae	Drymus sylvaticus											1									1
	Stygnocoris sabulosus					1						6	2	6	1	1			1		18
	Rhyparochromus pini																			1	1
Miridae	Calocoris norwegicus								1												1
	Calocoris roseomaculatus										1										1
	Deraeocoris ruber			3																	3
	Hallodapus montandoni						1														1
	Phytocoris varipes													1							1
	Pithanus maerkelii					3	6		1												10
	Plagiognathus chrysanthemi					1		1													2
	Stenodema laevigata										1										1
	Strongylocoris leucocephalus					1		1													2
Pentatomidae	Dolycoris bacarrum									4				5							9
	Podops inuncta	1		2			7	2	1	8	5		5	4	2	1				1	39
	Zicrona caerulea					1															1
Rhopalidae	Myrmus miriformis									1											1
Tingidae	Acalypta carinata					1															1
	Acalypta parvula			1				3	6	3	2	6	10	3		5	2	1	4		46
	Catoplatus fabricii																		1		1
	Agramma laetum		7	2	1	1	6	3		7	9	2	9	10	11	1			5	2	76
	Campylosteira verna				2	1	3	3			1		5	5	7	1			4		32
	Kalama tricornis									1	2			1							4

Site Focus ..... Beacon Lagoons

Beacon Lagoons Nature Reserve (variously known as Beacon Ponds and Easington Lagoons) lies on the North Sea coast of East Yorkshire where it effectively forms a northward extension of the Spurn reserve beloved of birders. It is managed and partly owned by the South Holderness Countryside Society. Its main conservation interest is twofold: an area of shingle where Little Terns nest every year and the large, saline ponds that give it its name. There is a small area of sand dunes and some non tidal salt marsh beside the lagoons, plus various brackish ditches, some ruderal vegetation and a small field recently taken out of cultivation.

I visited the reserve on August 27 and September 17 this year (2003). The most noteworthy aquatics were abundant *Notonecta viridis* and *Sigara stagnalis* and two specimens of *Corixa affinis*. Dune grasses supported a thriving population of *Chorosoma schillingi* but I was probably too late for *Trigonotylus psammaecolor*, which I took here on 2000.viii. 1. Where the dunes graded into the ex-arable field, I found a bug I hadn't seen since leaving Kent: *Peritrechus nubilus*, apparently a first record for Yorkshire. The recent immigrant *Nysius senecionis* was also present. Scattered plants of Mayweed, *Tripleurospermum maritimum*, on sand overlying clay, were teeming with *Nysius ericae* among which I caught a single male *N. cymoides*, known from Jersey but not yet reported from mainland Britain so far as I am aware. It remains to be seen if, having arrived here, it will enjoy the runaway success of *senecionis*. Sweeping *Salicornia* and *Suaeda* in the saltmarsh yielded several examples of *Ortholylus rubidus*, a long way from its previously known northern limit in Norfolk.

Bill Dolling

Web Focus ..... some useful websites (prefix with www., unless otherwise indicated)

brc.ac.uk/	Biological Records Centre, Monks Wood	bna-naturalists.org	British Naturalists Association
nbn.org.uk	National Biodiversity Network	entomology.si.edu /IHS	International Heteropterists' Society
searchnbn.net	NBN Gateway (species maps etc)	nfbr.org.uk	National Fed. of Biological Recording
[http://]nbn.nhm.ac.uk/nhm/	NBN/NatHistMus Species Dictionary	royensoc.co.uk	Royal Entomological Society
nhm.ac.uk/entomology	Natural History Museum-Entomology	wildlifetrusts.org	The Wildlife Trusts
theaes.org	Amateur Entomological Society	oum.ox.ac.uk	Oxford University Museum
benhs.org.uk	British Entomol. & Nat. History Society	si.edu	Smithsonian Institution
bto.org	British Trust for Ornithology		

Bibliography of articles which appeared in 1st Series of the Heteropterists' Newsletter: Part 2 – Issue No. 9 (Feb. 1990) to Issue No. 8 (Dec.1999).

Bernard Nau

Part 1 of this list appeared in the first issue of the second series of this newsletter, the present part completes this list. The square brackets contain my brief comments on the content of articles. The letters appended to years are not necessarily consecutive, non-newsletter publications not being listed.

Campbell, J.M., 1996 A nature reserve dedicated to lygaeid bugs. - No.13, Mar.1996, pp 7-8.

Chalkley, A. K., 1996a More on *Nepa cinerea* on land. - No.13, Mar.1996, pp8-9.

Chalkley, A. K., 1996b *Ranatra linearis* - in flight! [Plus status of *Ilyocoris*, *Ranatra* & *Mesovelia* in Suffolk] - No.13, Mar.1996, pp 9-10.

Hawkins, R., 1990 *Orsillus depressus*. [2nd British site, Surrey 8 ml W of 1st.] - No.9, Feb.1990, p5.

1990a *Gonocerus acuteangulatus*. [On Yew at Dorking, Surrey] - No.9, Feb. 1990, p6.

Hewitt, S.M., 1990 Scottish Field Meeting, 28.7 - 3.8.1990. [Planned site visits.] - No.9, Feb.1990, p9.

Huxley, T., 1999 Aquatic Heteroptera recording scheme in the British Isles. [Progress Report. TH organising Britain; Brian Nelson Ireland.] - No.14, Mar.1999, pp 9-10.

Kirby, P., 1990a News Digest [Records of *Orsillus depressus, Temnostethus tibialis, Placochilus seladonicus, Capsus wagner* .] - No.9, Feb.1990, pp 2-3.

1990b Recent publications on British Heteroptera. [12 lit.refs., spp include: *Macroplax, Temnostethus, Miridius, Placochilus, Orsillus, Lamproplax, Saldula opacula, Agnocoris, Dichrooscytus* , & aquatics.] - No.9, Feb 1990, pp 3-4.

1990c Recording *Gastrodes abietus*. [In cones under Norway Spruce in winter.] - No.9, Feb.1990, p6.

1990d National Conservation Review of Heteroptera: Progress Report. [Progress & request for info.] - No.9, Feb.1990, pp 6-7.

1990e The bug book. [Progress, sample species account.] - No.9, Feb.1990, pp 7-8.

1991b (Editorial) [Lists Het refs in Proc. Birmingham Nat. Hist.Soc. back to 1895, only 2!] - No.10, May.1991, pp 1-2.

1991c News Digest. [Pembs. records of: *Odontoscelis fulig.*, *Pionosomus varius, Trapezonotus ullirichi, Adelphocoris seticornis*. List of Hets exhibited at BENHS Annual Exhibition. Old British specimen of *Dysepecritus rufescens taken* by Saunders at Chobham, in Dale colln. - No.10, 1991, pp 2-3.

1991d Selected recent literature. [5 lit refs, spp include: *Rhacognathus (S*.Wales), *Dysepecritus* (new in Netherlands), *Placochilus, Capsus wager*. (N.Somerset), *Scolopostethus pictus* (Worcs).] - No.10, May 1991, p3.

1991e	Review: "An atlas of Oxfordshire freshwater Heteroptera." (J.M. Campbell) [48 spp listed, tetrad maps, status & habitat in Oxon.] - No.10, May 1991, p13
1992d	(Editorial) [Includes 'local publns': *Anthocoris limbatus* in Kent(Massee 1957), Hets of E. Malling, Kent (Massee 1960), *Deraeocoris scutellaris* in Kent (Felton 1967)] - No.11, Apr. 1992, p1.
1992e	The National Review of Hemiptera. [Notice of publication.] - No. 11, Apr.1992, p5.
1992f	Heteropterists' Field Meeting 1991: Carmarthenshire. [8th-11th Aug. 1991, table of 99spp x 9 sites.] - No. 11, Apr.1992, pp 8-10.
1992g	Catalogue of Palaearctic Heteroptera. [Copy of publisher's leaflet.] - No. 12, Aug.1993, p6.
1992h	Hemiptera Review: Information Update. [Records of 60 spp., with 22 source lit. refs.] - No.12, Aug. 1993, pp 7-10.
1992i	News Digest. *[Megalonotus emarginatus* & *Trigonotylus caelestialium* in Britain. *Orsillus depressus* in Peterborough, new spp in Oxon, BENHS Exhibits, *Adelphocoris seticornis* in Cardigan (not Glams).] - No. 12, Aug. 1993, p2.
1993	Book review: "A synthesis of Holarctic Miridae (Heteroptera): distribution, biology and origin, with emphasis on North America. A.G.Wheeler & T.J.Henry. - No. 12, Aug. 1993, p5.
1996a	News Digest. [*Empicoris thermalis* new to Ireland - comments on other *Empicoris*. *Nysius senecionis* now in Britain, N to S.Yorks. Vagrants established: *Metapoplax ditomoides* N to Oxon, *Emblethis denticollis* N to Cambs, *Stictopleurus abutilon* & *S. punctatonervosus* widely in SE.] - No. 12, Aug. 1993, p2.
1996b	The distribution of aquatic bugs in Britain. [Thomas Huxley now organising recording scheme for aquatic bugs.] - No.13, Mar.1996, p2
1996c	Regional lists, publications and initiatives. [Lit.refs for Lancs, Cheshire, & Warwicks. Brian Nelson: producing Irish Het checklist - 283 spp, so far; publn notice for atlas of water bugs of N. Ireland.] - No.13, Mar.19, pp 2-3.
1996d	Recent literature (1993-7). [53 li/t. refs.] - No.13, Mar.1996, pp 3-7
1996e	English names of British Heteroptera.- No.13, Mar.1996, pp 10-14
1999a	News Digest. [*Amblytylus delicatus* in Surrey, *Hydrometra gracilenta* in Ireland, *Heterogaster artemlsiae*, *Aphanus rolandri* in Dorset, *Arenocoris waltli*, *Heterogaster artemisiae & Eysacoris aeneus* Tuddenham Hth (Suffolk, 1960s & 1970s).] - No.14, Mar.1999, p1.
1999b	Regional lists. [Gloucestershire checklist pts 1 &2] - No.14, Mar.1999, p2
1999c	Recent literature (mostly 1998). [23 lit. refs.] - No.14, Mar.1999, pp 2-4
1999d	Red Data books and Heteroptera. [Spp & criteria in RDBs for: Cambs., Cornwall, Derbs., Dorset, Lincs, Northants, Northumberland.] - No.14, Mar.1999, pp 4-6
1999e	Arbeitsgruppe Mitteleuropaïscher Heteropterologen. [Contents of newsletter "Heteropteron': No.1, June 1996 to No.4, January 1998.] - No.14, Mar.1999, 6-7.
1999f	English names of Heteroptera. [Names for 9 inconspicuous spp.] - No.14, Mar. 1999, p7
1999g	Batbugs. [Request for info, on *Cimex pipistrelli*] - No. 14, Mar. 1999, p8
1999h	A note on finding and recognising *Saldula opacula. [S.opacula* has dark uniformly oriented pubescence on fore-wings, *S.saltatoria* has gold,irregularly arranged (wears off). By brackish water amongst vegetation, but also fen, washland, peat pools, & claypits - No.14, Mar.1999, p8
Moran, S., 1993	Notes on collecting the genus *Acalypta.* [Tables of 4 British spp x substrate, habitat, moss species] - No.12, Aug 1993, p4
Morgan, LK., 1991c	Heteropterists Field Trip, Carmarthenshire, 9-12 August 1991. [Plans.] - No.10, May 1991, pp 15
Nau, B.S., 1990a	The status of *Orthotylus virens.* [British range extended from Cumbria to W.Yorks.] - No.9, Feb. 1990, pp 4-5
1991a	Heteroptera Recording Scheme. [Update on the scheme, table of record card nos. by vice-county, ca 3000.] - No.10, May 1991, pp 4-7
1991b	*Plagiognathus abrotani, P. litoralis* and P. *albipennis* in Britain. [Key to spp. Record these separately pending clarification of status. I - No.10, May 1991, p 8.
1991c	Heteropterists' Field Meeting 1990 in Perthshire. [Outline of sites visited, table of 150 spp recorded during the week.] - No.10, May 1991, pp 9-12
1991d	Book Review: "Hemiptères Saldidae et Leptopodldae." (J. Péricart) - No.10, May 1991, p 14
1992a	Perthshire Field Meeting, 1990: revised table of records [Table of 152 spp x 30 sites.] - No. 11, Apr. 1992, pp 5-7
1992b	Salt-marsh species of *Conostethus* (Mirldae: Phylinae) in Britain. [Tabular key to European spp.] - No. 11, Apr.1992, pp 11-12
1992c	An introduction to bugs on Birch. [8 spp (Lygaeidae-1, Acanthosomatidae-2, Miridae- 5)] - No. 11, Apr.1992, pp 13-15
1993a	The 1992 Heteropterists' Field Meeting. [19-24 JMuly 1992, Moray Fifth area, including Highland glens further inland. Table of 136 spp x 10 sites, & comparisons with Perthshire observations.] - No.12, Aug. 1993, pp 11-13
Nelson, B., 1999	Aquatic Heteroptera Recording Scheme - an update from Ireland. [Distribution maps, for Ireland, of *Sigara fallenoidea & Limnoporus rufoscutellatus*. Details for several spp: *Hydrometra gracilenta, Sigara se/ecta, S.stagnalis, Notonecta viridis*.]- No. 14, Mar.1999, p10.
Whitehead, P. F., 1993a	A remarkable encounter with *Nepa cinerea.* [*N. cinerea* on land] - No.12, Aug. 1993, p10
1993b	Sunbathing in *Palomena* (L.) and other insects. [Insect inclined to incercept rays from sun.] - No.12, Aug. 1993, p10

Literature relating to British Heteroptera.

Bernard Nau

This list follows on from the list in *Het News* 1, several readers have sent lists of papers published in regional publications, such as those of county natural history societies, and these are particularly welcome.

International publications

Aukema, B., Coppen, J.G.M. et al., 2002
Verspreidingsatlas Nederlandse wantsen (Hem.Het.). Deel I:Dipsocoromorpha, Nepomorpha, Gerromorpha & Leptopodomorpha.
Book publ. by: EIS_Nederland, Leiden

Schwarz, M.D., Foottit, R.G., 1998
Revision of the Nearctic species of the genus *Lygus* Hahn, with a review of Palaearctic species (Het.: Miridae).
Memoirs on Ent., International:**10**, pp i-vii & 1-428.
[Keys, nice dwgs, & SEM photos of pubescence etc.]

National publications

Barclay, M.V.L., Nau, B.S., 2003
A second species of Tamarisk bug in Britain, *Tuponia brevirostris* Reuter, and the current status of *T. mixticolor* (A. Costa) (Hem., Miridae).
Ent. Mon. Mag.: **139**, 176-177[*] [*Tup. bre.*:Chelsea Hbr (Middx) 24th Aug 2001,4th Aug 2002; Fulham 1st Sep 2002.]

Horsfield, D., 2003
Heterogaster urticae (F.) (Hem., Lygaeidae) new to Scotland.
Ent.Mon.Mag.: **139**, p175
[Dirleton, E.Lothian 22nd Jun 2002.]

Howe, M., 2003
Coastal soft cliffs and their importance for invertebrates.
British Wildlife: **15** (5),323-331, (June 2003)
[*Saldula arenicola*]

Hu, D.L., et. al., 2003
The hydrodynamics of water strider locomotion.
Nature, London: **424**,#6949 (7th Aug 2003), p.663-666 [Also *Independent* newspaper 7th Aug 2003.]

Jones, R. A. , 2003
Chorosoma schillingi Hem.:Rhopalidae), new to Middlesex?.
Ent.Rec.: 115, p229

Jones, R. A. , 2003a
Gonocerus acuteangulatus (Goeze) (Hem.: Coreidae) new to Kent.
Brit.J.Ent.Nat.Hist.: **16**, 2, p102
[Overwintering(?) in Lawson Cypress,Lewisham]

Miller, D.J.P, 2001
Deraeocoris flavilinea (A. Costa) (Hemiptera: Miridae, new to Britain.
Brit J.Ent. & Nat. Hist.: **14**, 133-136
[Descriptionh, key & photo.(Light & dark forms referred to are actually males & females.)]

Verdcourt, B., 2003
Early hibernation of Heterogaster urticae (F.) (Hem., Lygaeidae).
Ent.Mon.Mag.:**139**,p 175
[New generation moved away from Nettles by early September to hibernate(?) in Ivy.]

Regional publications

Durrant, K.C., 1997
Rare bug encounter in Norfolk.
Trans. Norfolk Norwich Nat. Soc.: **31**, p31, (1997)
[*Stictopleurus abutilon*, 11 Sep 1996 Beeston Regis Cmn]

Durrant, K.C., 2002
Norfolk terrestrial Heteroptera (part 1).
Trans. Norfolk Norwich Nat. Soc.: **35**(1)[*]
[Shieldbugs to Nabidae, only vice-counties given; gives short note on habitat & life-cycle of each species. Nomenclature S&L.]

Durrant, K.C., 2003
Norfolk terrestrial Heteroptera (part 2).
Trans. Norfolk Norwich Nat. Soc.: **36**(1), 31-39
[Berytidae to Cimicidae]

Hawkins, R.D., 2003
Shieldbugs of Surrey.
Book publ. by Surrey Wildlife Trust: 192pp, 24 colour plates, ISBN 0 9526065 7 7
[Biol.& ecol. info., maps, keys, colour photos of most British spp. Also inc. Coreidae, Rhopalidae, Pyrrhocoridae & Stenocephlidae.]

Hewitt, S.M., 1994
The ground-bug *Eremocoris plebejus* new to Cumbria.
Carlisle Naturalist: **2(**1)

Hewitt, S.M., 1995
Taphropeltus contractus - a ground bug new to Cumbria.
Carlisle Naturalist: **3**(1)

Hewitt, S.M., 1996
Catalogue of the Hemiptera-Heteroptera collection at Tullie House Museum, pt.1 (Aradidae-Lygaeidae).
Tullie House Museum publn., Carlisle.

Hewitt, S.M., 1996a
The grass-bugs *Teratocoris caricis* Kirkaldy and *T. viridis* D&S in Cumbria.
Carlisle Naturalist: **4**(1)

Hewitt, S.M., 1998
The Nettle Groundbug (*Heterogaster urticae* (Fab.)) new to Cumbria.
Carlisle Naturalist: **6**(2)

Hewitt, S.M., 1999
The ground bug *Cymus claviculus* Fallén, new to Cumbria.
Carlisle Naturalist: **7**(1)

Hewitt, S.M., 2000
The plant bug *Liorrhyssus hyalinus* (Fabricius) new to Cumbria.
Carlisle Naturalist: **8**(2)

Nau, B.S., 2002
Bugs (Hemiptera-Heteroptera) 2001: Report of the Recorder.
Beds. Nat.: **56** (pt 1) 54-55
New to Beds: *Micronecta griseola*, *M. minutiss.*, *Amblytylus delicatus*, *Syromastes rhombeus*]

Nobes, G., 2003
The large pond-skater Aquarius=Gerris paludum (Fab.1794) Heteroptera: Gerridae in Norfolk. *Trans. Norfolk Norwich Nat. Soc.*: **36**(1), 56-57 [One, pool,Winterton Dunes NR, 22 Aug 2002]

Read, R. W. J., 1995
Taphropeltus contractus - a ground bug new to Cumbria.
Carlisle Naturalist: **31**(1)

Read, R. W. J., 1999
The ground bug *Cymus claviculus* Fallén, new to Cumbria.
Carlisle Naturalist: **7**(1)

Warrington, S., 2002
The status and distribution of the Water Stick Insect (*Ranatra linearis*) and the Water Scorpion (*Nepa cinerea*) in Hertfordshire.
Trans. Herts. Nat. Hist . Soc. :**34**, 64-66

Warrington, S., Raymond, J, 2003
Amwell Nature Reserve: The richest Herts. site for water beetles and water bugs.
Trans. Herts. Nat. Hist . Soc.: 35, 66-71

Please send your contributions for the next issue by 31st March 2004