HETEROPTERA STUDY GROUP

Newsletter No. 10 May 1991

It was, I suppose, tempting fate to suggest in my very first attempt at editing the Study Group Newsletter that I would thereafter produce future editions early in the New Year. This, my second attempt, coming as it does some four months later than intended, is tangible proof of my folly. The encouraging spin-off from my tardiness in Newsletter production has been the confirmation of what I had never doubted; that Heteropterists await the new editions with baited breath. At least, the number of queries I have had asking when it would finally see the light of day would suggest this to be the case.

Encouraging, too, has been the welcome given to the "News Digest" in Newsletter number 9. It is clear that a number of people do not have ready access to all the relevant national journals, and find it difficult to keep up with events. It may seem perverse, therefore, that I have chosen to give a less full listing of relevant papers. There is, however, some method in this madness. Those whose memories go back to the initiation of the Newsletter will remember that Brian Eversham produced then a bibliography of literature needed to update Southwood and Leston. I feel that if he could cover such a span of years, it should not be beyond my abilities to produce a summary of literature since the Newsletter started. I have made a start, and will attempt to produce a cohesive whole by the time of the next Newsletter. I do hope that this does not prove to be another rash promise. Once this review of the past several years is done, I hope to revert to annual updates again. For this year, however, I list only some key highlights with references to major distributional novelties.

My plea for information about publications in local journals was not wholly successful. There were responses, but they are fewer than I had hoped, and do not give an adequate picture of information available. I have not produced anything summarising the information gained in this newsletter, but shall persevere and commit whatever I can glean to paper in the future. In the meantime, thanks to those who have responded. I promise your labour will not have been in vain. First prize for contribution goes to Mr J.M. Price of the Birmingham Natural History Society who checked the Society's 'Proceedings' back to their origins in 1859 in the search for papers on Heteroptera. There are, sadly, only two. My opportunities to reward such efforts as Mr Prices's are few. In this case, they must be limited to the placing of his name in print as a shining example to others, and the listing of the papers that he has found. They are:

Carlier, S.E.W. A preliminary report on the Hemiptera-Heteroptera of Hartlebury Common (v.c. 37). Proceedings of the Birmingham Natural History Society 16(6) (1935/6)

Price, J.M. Wilmcote Rough, Warwickshire (v.c. 38) - Part 3, report on Heteroptera. PBNHS 25(4) (1986/7)

In a short newsletter it is probably rather superfluous to draw readers' attention to specific items. I cannot resist doing so for two, however, and in each case I am spurred on by guilt. The first item is the announcement of the 1991 field meeting, for which expressions of interest are now needed quickly because of my delay in preparing this Newsletter. Details are to be found on the last page. The second is Bernard Nau's report on the progress of the Recording Scheme. His calculations of the total numbers of record cards recieved for each vice-county give an interesting, and occasionally surprising, picture. They should be helpful to any heteropterist uncertain as to how and where to spend a summer holiday. They may also spur on the recording and filling-in of cards for the home patch. I gaze with feelings of moderate shame on the low totals for Cambridgeshire and Huntingdonshire.

Finally, a short note for those who wish to achieve immortality through the printed word. This Newsletter will in future be abstracted for the Zoological Record. Important observations will thereby achieve a more guaranteed permanent place on the world's library shelves, and a far wider audience, than might previously have been the case.

Peter Kirby
49 Barnstock
Bretton
Peterborough
Cambs. PE3 8EH

News Digest
Peter Kirby

1990 was by no means a dull year for Heteroptera. The Perthshire field meeting must be given pride of place amongst the year's events. It was a decided success and was blessed with almost uninterruptedly good weather. Bernard Nau's account later in this Newsletter gives full details ofthe delectables taken.

Only as the year wore on did casual conversation and the examination of exhibits reveal that Roger Hawkins, Bernard Nau and Sarah Lambert and I had independently devoted some summer holidays to the recording of Heteroptera in Pembrokeshire. Fortunately, the overlap of times and places was sufficiently small that duplication of effort was not great, though the discovery that Bernard had found and recorded from the small saltmarsh 200 yards away from the house Sarah and I were staying in, only a few days away from my own examination of it, was something of a surprise. The visits produced plenty of lists and the uncommon species (such as *Odontoscelis fuliginosa* and *Pionosomus varius*) usually associated with the Pembrokeshire coast, but there were a few surprises. *Trapezonotus ullrichi* dropped into my net from a damp flowerhead during a perfunctory visit to the coast near St David's in dense fog, but the prize for good find should perhaps go to Roger Hawkins who caught, and duly exhibited at the British Entomological and Natural History Society annual exhibition in the autumn, *Adelphocoris seticornis* at Kilgetty.

The BENHS annual exhibition produced several other items of interest. Highlights amongst the rarities found in Devon and Cornwall during 1990 by Keith Alexander and Simon Grove of the National Trust Biological Survey team were *Lasiacantha capucina*, which they have found at a number of new sites and extended its known range into North Cornwall; *Physatocheila smreczynskii* recorded for the first time from Cornwall; *Saldula arenicola* from Devon, and two Devon sites for *Sehirus biguttatus*. Peter Hodge has obviously now got his eye in for *Capsus wagneri*. Having found it in Somerset in 1989, in 1990 he exhibited specimens from Sussex (three localities in the Arun valley) and Norfolk. He also exhibited *Placochilus seladonicus* from a new Sussex locality, and *Ischnodemus quadratus* from Dover. Details of the BENHS exhibits can be found in British Journal of Entomology & Natural History 4(1), p. 43.

It is not even necessary to go into the field to find interesting new things amongst British Heteroptera. Dr Berend Aukema has written to tell me of his finding of British specimens of *Trigonotylus coelestialium* and *Megalonotus emarginatus* in the collections of the British Museum (Natural History). Details of his findings will be published. In the meantime, start saving your *Trigonotylus* and your *Megalonotus chiragra*. [*M. emarginatus* has been previously reported from Britain, but the information was in the fine print of a long paper and no-one noticed at the time.] Dr Aukema has also re-examined the Dutch specimens of *Cardiastethus fasciiventris*, and has found that they are, without exception, *Dysepecritus rufescens*. Walker (1933) (EMM 69: 234-245) reported a British specimen of *D. rufescens* in the Dale collection, taken by Saunders at Chobham, but there seems to be a shortage of records to confirm the insect as an established British species. The finding of it so close to British shores should send everyone rushing to check their *Cardiastethus fasciiventris*. I've checked mine (for the second time) and they are definitely all *Cardiastethus fasciiventris*. The two species, though superficially similar, are easily distinguished. In *C. fasciiventris* the rostrum extends to the front coxae, whereas in *D. rufescens* it scarcely reaches the rear of the head.

Selected Recent Literature

Askew, R.R. 1990. *Rhacognathus punctatus* (L.) (Hem., Pentatomidae) in South Wales. Entomologist's mon. Mag. 126: 88.

Aukema, B. 1990 *Dysepecritus rufescens* in Nederland in plaats van *Cardiastethus fasciiventris* (Heteroptera: Anthocoridae, Dufouriellinae). Ent. Ber., Amst. 50(3): 33-34.

Hodge, P.J. 1990. *Placochilus seladonicus* (Fln.) (Hem., Miridae) in East Sussex. Entomologist's mon. Mag. 126: 211.

Hodge, P.J. 1990. *Capsus wagneri* Remane (Hem., Miridae) in North Somerset. Entomologist's mon. Mag. 126: 260.

Whitehead, P.F. 1991. *Scolopostethus pictus* (Schilling) (Hem.: Lygaeidae) new to Worcestershire. Entomologist's Rec. J. Var. 103: 82.

HETEROPTERA RECORDING SCHEME

Bernard Nau, Terrestrial Heteroptera Recording Scheme Organiser

Records for terrestrial Hets have been coming in to me now for several years, recorders may therefore be interested to know how the coverage is developing. Most records are sent in on BRC's species-list card by site (the 'RA 57' card), although some records are provided in the form of site-lists by species. The majority of the records relate to the period since 1984, when the scheme got underway, but there are some earlier records dating back several decades.

In these days of economic stringencythe people at Monks Wood are unable to devote time to processing data except for some favoured groups where atlas publication is imminent. For this reason it is difficult to give a detailed picture of the state of UK Het recording. Instead, I have done a manual analysis in which I have simply sorted the RA 57 cards by vice-county, and counted the cards for each. As there are now almost 3000 cards even this is a significant task. In the accompanying table these totals are listed, together with sub-totals by region. The latter give a more realistic picture of the spread of effort over the country. The totals relate to the cards in hand in February 1991. South Essex is top vice-county, Yorkshire is well down but I suspect there must be more records out there somewhere. The south of Scotland is low compared with the Highlands, itinerant Heteropterists from further south are attracted by the latter but apparently pass through the south without stopping. I found a roadside lunch break, in Lanarkshire, quite rewarding

Rothamsted Experimental Station has been running light-traps at sites across Britain for a considerable number of years and these catch some Hets as well as the moths for which they are intended. For a few years RES separated out Hets from a number off localities, for me to identify, and I have included these sites in a separate column in the table. Unfortunately, RES too is suffering economic constraints and can now only separate out the Hets from one or two special sites, for which I am duly grateful.

The overall totals may seem reasonably impressive but, of course, many cards have only a few species recorded. I would therefore plead for <u>longer</u> lists. Even a few minutes in the field can produce 10-20 species from a good site in mid-season. This would be much preferred to single records of *Anthocoris nemorum* from 10-20 sites - welcome though these would be if that were really all that could be recorded. By contrast I recall recording over 60 species during a couple of hours in a rather nice country lane in Warwickshire, there were wide floriferous verges, a varied hedgerow, and a scattering of trees.

Early in the recording scheme I routinely sent all cards to Area Coordinators for their information and for checking. This did not turn out too well. I found that I was having to put a disproportionate effort into getting the cards back, some I never did get back - which was a waste of valuable information. For this reason I have discontinued this otherwise desirable practice, unless specially requested with return absolutely guaranteed !

HETEROPTERA SITE RECORD CARDS

23 Feb 87

Vice county no.	Vice county name	card total	light traps	region totals
1	W Cornwall	36	1	
2	E Cornwall	33		
3	S Devon	65	1	
4	N Devon	43		
5	S Somerset	16		
6	N Somerset	18		
7	N Wiltshire	4	1	
8	S Wiltshire	8		
9	Dorset	37		
10	Isle of Wight	43		
11	S Hampshire	60		
12	N Hampshire	14		
13	W Sussex	40		
14	E Sussex	15		
15	E Kent	50	1	
16	W Kent	31		
17	Surrey	71		588
18	S Essex	304		
19	N Essex	30	1	
20	Herts	33	3	
21	Middlesex	5		
22	Berks	12	1	
23	Oxfordshire	29		
24	Buckinghamshire	52		
25	E Suffolk	24		
26	W Suffolk	32	2	
27	E Norfolk	55		
28	W Norfolk	64		
29	Cambridgeshire	48		
30	Bedfordshire	117	1	
31	Huntingdonshire	46	1	
32	Northamptonshire	84		
33	E Gloucestershire	28		
34	W Gloucestershire	13	1	
35	Monmouthshire	7		
36	Herefordshire	16		
37	Worcestershire	40	1	
38	Warwickshire	59		
39	Staffordshire	18		
40	Shropshire	27	2	1156

41	Glamorgan	3		
42	Breconshire	3		
43	Radnorshire	3		
44	Carmarthenshire	9	1	
45	Pembrokeshire	22		
46	Cardiganshire	26		
47	Montgomeryshire	7		
48	Merionethshire	11		
49	Caernarvonshire	40		
50	Denbighshire	5		
51	Flintshire	2		
52	Anglesey	34	1	167
53	S Lincolnshire	35		
54	N Lincolnshire	63	2	
55	Leicestershire	19	1	
56	Nottinghamshire	11		
57	Derbyshire	215		
58	Cheshire	13		
59	S Lancashire	62		
60	W Lancashire	1		
61	SE Yorkshire	9		
62	NE Yorkshire	24		
63	SW Yorkshire	44		
64	Mid-W Yorkshire	20		
65	NW Yorkshire	5		
66	Durham	6	3	
67	S Northumberland	12	2	
68	Cheviot	36	1	
69	Westmorland,N Lancs	8		
70	Cumberland	9		
71	Isle of Man	19		620

72	Dumfriesshire	6	2		
73	Kirkcudbrightshire	13	1		
74	Wigtownshire	3			
75	Ayrshire	0			
76	Renfrewshire	0			
77	Lanarkshire	2			
78	Peebleshire	2	1		
79	Selkirkshire	7			
80	Roxburghshire	8			
81	Berwickshire	4			
82	E Lothian	18			
83	Midlothian	18	1		
84	W Lothian	8			94
85	Fife & Kinross	7			
86	Stirlingshire	1	1		
87	W Perth & Clack.	3			
88	Mid Perthshire	27			
89	E Perthshire	11	1		
90	Angus	6			
91	Kincardineshire	0			
92	S Aberdeenshire	1			
93	N Aberdeenshire	0			
94	Banffshire	2			
95	Moray	2	1		
96	Easterness & Nairn	65	1		
97	Westerness	5			
98	Argyll Main	3			
99	Dunbartonshire	0			
100	Clyde Isles	0			
101	Kintyre	3			
102	S Ebudes	0			
103	Mid-Ebudes	1			
104	N Ebudes	4			
105	West Ross	58			
106	East Ross	23	1		
107	E Sutherland	1	2		
108	W Sutherland	6			
109	Caithness	0	1		237
110	Outer Hebrides	2			
111	Orkney Isles	0			
112	Shetland Isles	0			
113	Channel Isles	3	1		6

TOTALS	2826	42	2868
Average	25		

Plagiognathus abrotani, P.litoralis and *P.albipennis* in Britain

The account of *Plagiognathus albipennis* (Fallén) in S&L includes the following:

"Its four principal host-plants are mugwort, sea wormwood, wormwood and southernwood, the last named a garden plant. There are distinct forms on each host-plant, those on mugwort being normally the largest and darkest and those on sea wormwood the smallest and palest; some authorities have considered the extreme forms as separate species."

Wagner and Weber (1964, 'Heteroptères Miridae, Faune de France **67**) treat the following as separate species:

P.litoralis Wagner	on *Artemisia maritima* (= Sea Wormwood).
P. abrotani Wagner	on *A. abrotanum* (= Southernwood).
P.albipennis (Fallén)	on *A. vulgare* (=Mugwort), *A absinthium* (= Wormwood).

W&W report *abrotani* from the S of France, England and Hamburg Botanic Garden (the type locality!). In his checklist for The Netherlands, Aukema (1989, Tijd. voor Ent. **132**, pp1-104) also lists *P.litoralis* and *P.albipennis* separately

In view of the above it is proposed that the three forms should be recorded separately.

KEY

(Characters as in Wagner and Weber)

1 Male elongate, forewing length=5 x width. Female much shorter than male. Femora dusky. Aedeagus: short arm with long terminal tooth (L = 2w).
Length 2.9-3.4(m) and 2.5-3.0 mm (f). *abrotani*

Male broad, forewing length at most 4.5 x width. Both sexes of similar length. 2

2 Upperparts blackish or blackish-brown: forewings extensively suffused blackish, cuneus black except clear base. Antennae and hind femora extensively or all black. Ant. seg.2÷width of pronotum = 0.8 to 0.9. Head width ÷ pronotum width = 0.63 to 0.67. Aedeagus: short arm with short terminal tooth (L= w).
Length 3.0-3.3(m) and 2.8-3.2mm (f). *albipennis*

Upperparts greyish-white: forewings translucent whitish with dark abdomen showing through, cuneus unmarked or suffused darker. Legs and antennae straw, A1 and base of A2 blackish. Hind femora may have dusky suffusion. Ant. seg.2 ÷ pronotum width = 1.0 (m) and 0.87 (f). Head width ÷ pronotum width= 0.72 to 0.77. Aedeagus: short arm with indistinct short terminal tooth (L= w).
Length 2.6-3.0(m) and 2.2-2.7mm (f). *litoralis*

STATUS

P.albipennis is certainly widespread and common in England and Wales. Butler (1923, A Biology of the British Hemiptera-Heteroptera) lists mostly coastal counties for 'P. *albipennis*', which suggests that some may relate to *P.litoralis* He adds: " The food-plants are *Artemisia absinthium* and *A. abrotanum* and also *A. arborea* in gardens; on these plants it is often abundant." A garden record from Gloucestershire is specifically mentioned. Perhaps the records in Butler are the same referred to in W&W.

On 14th July 1990 I swept '*P.litoralis*' from *A. maritima* on saltings in Suffolk, at Walberswick and 40km S at Bawdsey. Both sexes were present in numbers. They are distinctively whitish, not blackish as in *albipennis* However, left clasper and aedeagus match *abrotani* in Wagner and Weber, as does length : males 3.0-3.3 mm and females 2.7-3.0 mm. It is improbable that *abrotani* would be established in such a habitat and likely that the bugs are *litoralis*, the reason for the dichotomy remains to be explained.

HETEROPTERISTS' FIELD MEETING 1990 IN PERTHSHIRE

Bernard Nau

Last summer half a dozen entomologists spent a week in late July / early August investigating the Het fauna of the southern part of the central highlands of Scotland. This was not entirely unexplored territory but most previous records date back about a hundred years. Since then, it seems that most field workers from the south had preferred to head further north. In our case, one must admit, we had not all come from the south, Steve Moran had actually travelled 120 miles in the opposite direction, redressing the balance somewhat.

Our base was the attractive city of Perth, where the museum kindly provided facilities for evening sessions identifying and carding specimens brought back for examination. The organisation was efficiently handled by Steve Hewitt, recently of Perth Museum but now at Carlisle. Fortunately he retained an apparently encyclopaedic knowledge of pubs serving evening meals in remote glens of Perthshire.

Steve organised a marathon program of sites for study : National Nature Reserves, Sites of Special Scientific Interest, and Reserves of the Scottish Wildlife Trust. These were spread over an area five times the size of the county where I myself live, and distributed over twenty-two 10km grid squares. Most were a long way up the main A9 road and then a long way into the hills. Despite this, we managed to survey thirty sites in the week , most with reasonable thoroughness.

The final species count was 150 species. This total includes three Red Data Book 'Category 3' species, spread between seven sites, and 11 nationally 'Notable' species spread over 18 sites. Altogether a very worthwhile week.

The sites were very varied in character. The three richest, 49-51 species each, were:

Milton Wood NNR - a predominantly alder wood running down a steep hillside to some pasture and an upland river with boulder beaches.

Balinluig Island - a shingle island in the River Tummel.

Kinnoull Hill - a country park on the edge of Perth city, mostly acid deciduous woodland but with some more open areas of grass and gorse.

In addition, two lowland lochs with marginal wetland and asociated terrestrial habitats produced over 40 species each (Stormont Loch and Loch of Lowes).

Surprisingly long lists were recorded from two very exposed upland sites: Loch an Daimh, which is a modest sized loch with bog merging into moorland at an altitude of 320m; and Straloch Moraines SSSI, which is a non-wetland site comprising a series of glacial moraines vegetated by varied close-grazed moorland (alt.270m). The highest site of all was less rewarding, an area of windswept Nardus grassland at 600m in a pass on the W flank of Ben Lawers. Here only *Pachytomella parallela* really seemed to be flourishing, although much searching did reveal other species in small numbers.

The list of most frequently recorded species holds few surprises except *Temnostethus gracilis* which just scrapes into the list of species recorded from 50% or more of the sites, which is as follows (by rows, most frequent first):

Anthocoris nemorum,	*Pachytomella parallela,*	*Plagiognathus arbustorum,*
P. chrysanthemi,	*Stenodema holsatum,*	*Mecomma ambulans,*
Lygocoris pabulinus,	*L. contaminatus,*	*Anthocoris nemoralis,*
Nabicula limbata,	*Temnostethus gracilis.*	

The most interesting find - if not the greatest rarity - came at the end of a particularly long day as we were making our way back to base. We had taken an extremely minor road over a pass at 500m, between Loch Tay and Glen Quaich, and stopped to admire a particularly photogenic sunset over Ben Lawers. This took a little time and Pete Kirby, with little regard to the finer things in life, began sweeping unpromising tussocky grassland beside the road. This proved a good move as almost at once he found *Bothynotus pilosus*. The sunset now seemed less important and over the next few minutes everyone joined the search and found specimens. This Mirid is normally hard to come by, seemingly very local, but here it was widespread in small numbers. We found it about a km further along the road in a similar site. Our searches led us to conclude that the bug is particularly associated with hummocks of Polytrichum moss. This observation is consistent with S&L's speculation that the bug may be associated with moss - they also recommend sweeping in the evening! Next day we searched likely habitat on Kinnoull Hill in Perth at the same time of evening but without success, so Polytrichum and time of day are not perhaps the whole story.

Other interesting records include the following:

Chlamydatus pulicarius (Red Data Book category 3) from Balinluig Island and Loch an Daimh.

Chlamydatus wilkinsoni four upland sites: Loch an Daimh, Straloch Moraines, Glen Lyon, and Ben Lawers.

Globiceps dispar from Straloch Moraines and Glen Lyon.

Hallodapus rufescens from Straloch Moraines.

Lamproplax picea three lowland sites: Stormont Loch, Methven Moss, and Minkie Moss.

Orthotylus fuscescens in the Black Wood of Rannoch, probably the most southerly British record of this pine bug.

Pilophorus clavatus fairly common on sallows on Balinluig Island

Salda muelleri from two upland sites: Loch an Daimh and Ben Lawers.

Saldula fucicola (Red Data Book category 3) Balinluig Island, as well as numerously on the shores of Loch Leven NNR, its traditional site.

Teratocoris cariciś (Red Data Book category 3) from Loch an Daimh, Dunalastair Water, and Quaich Pass.

List of sites:

Site no.	Nat.Grid	v.c.	Site				
1	NO170509	89	Milton Wood NNR	16	NO056265	88	Methven Wood, W of Perth
2	NN973536	88	Balinluig Shingle Is.	17	NN595413	88	Lochan na Lairige,Ben Lawers
3	NO135230	89	Kinnoull Hill,Perth	18	NN906671	88	Loch Moraig,Blair Atholl
4	NO19-42-	89	Stormont Loch, Rosemount	19	NN70944-	88	Kenmore-Quaich pass
5	NO040437	89	Loch of Lowes	20	NO123233	88	Moncreiffe Is., Perth
6	NN719572	88	Loch an Daim	21	NO49-33-	90	Monifieth:shore
7	NN57-56-	88	Black Wood,Rannoch	22	NN857600	88	Queen's View,Loch Tummel
8	NN69-587	88	Dunalastair Water,Rannoch	23	NO048176	88	Forteviot
9	NO034646	89	Straloch Moraines	24	NN68-24-	88	Loch Earn
10	NN536455	88	Croch na Keys Wood, Glen Lyon	25	NO52-38-	90	Monikie
11	NN180998	85	Loch Leven,Levenmouth Fm.	26	NN716660	88	Dalchalloch, Glen Errochty
12	NO016240	88	Methven Moss, W of Perth	27	NN783639	88	Bochonie,Glen Errochty
13	NN654478	88	Inverver, Glen Lyon	28	NN774453	88	Loch Tay, Kenmore
14	NO083213	88	Minkie Moss, SW of Perth	29	NN940514	88	Balnaguard Glen
15	NN711472	88	Macgregors Leap,Glen Lyon	30	NO55-34-	90	Carnoustie:shore

HETEROPTERA: Perth area, 27th July–3 August 1990

Species		UK Status	Site no. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	SUM
Anthocoris	*nemorum*	C																															21
Pachytomella	*parallela*	C																															20
Plagiognathus	*arbustorum*	C																															20
Plagiognathus	*chrysanthemi*	C																															20
Stenodema	*holsatum*	C																															20
Hecomma	*smbulans*	C																															19
Lygocoris	*pabulinus*	C																															17
Lygocoris	*contaminatus*	C																															16
Anthocoris	*nemoralis*	C																															15
Nabicula	*limbata*	C																															15
Temnostethus	*gracilis*	L																															15
Blepharidopterus	*angulatus*	C																															14
Psallus	*haemotodes*	C																															14
Trigonotylus	*ruficornis*	C																															14
Pithanus	*maerkeli*	C																															13
Leptopterna	*ferrugata*	C																															12
Nabicula	*flavomarginatus*	C																															12
Orthotylus	*marginalis*	C																															12
Saldula	*saltatoria*	C																															12
Phytocoris	*longipennis*	C																															11
Atractotomus	*magnicornis*	C																															10
Orymus	*brunneus*	C																															10
Orthotylus	*virescens*	C																															10
Psallus	*fallenl*	C																															10
Stygnocoris	*sabulosus*	C																															10
Cyrtorhinus	*caricis*	C																															9
Leptopterna	*dolabrata*	C																															9
Lygus	*rugulipennis*	C																															9
Monalocoris	*filicis*	C																															9
Teratocoris	*saundersi*	C																															9
Asciodema	*obsoletum*	C																															8
Loricula	*elegantula*	C																															8
Orthotylus	*ericetorum*	C																															8
Saldula	*scotica*	C																															8
Tingis	*cardui*	C																															8
Calocoris	*norvegicus*	C																															7
Liocoris	*tripustulatus*	C																															7
Acompocoris	*pygmaeus*	C																															6
Malachocoris	*chlorizans*	C																															6
Orthops	*basalis*	C																															6
Orthops	*cervinus*	C																															6
Psallus	*diminutus*	C																															6
Capsus	*ater*	C																															5
Dicyphus	*pallicornis*	C																															5
Velia	*saulii*	C																															5
Bryocoris	*pteridis*	C																															4
Charagochilus	*gyllenhali*	L																															4
Chlamydatus	*wilkinsoni*	N																															4
Gerris	*lacustris*	C																															4
Gerris	*odontogaster*	C																															4
Nysius	*ericae*	C																															4
Orthops	*campestris*	C																															4
Piezodorus	*lituratus*	C																															4
Polymerus	*unifasciatus*	L																															4
Scolopostethus	*thomsoni*	C																															4
Stenodema	*calcaratum*	C																															4
Velia	*caprai*	C																															4
Anthocoris	*confusus*	C																															3
Chartoscirta	*cincta*	C																															3
Gastrodes	*grossipes*	C																															3
Heterocordylus	*tibialis*	C																															3
Lamproplax	*picea*	N																															3
Loricula	*pselaphiformis*	C																															3
Lygocoris	*viridis*	C																															3
Lygus	*wagneri*	C																															3
Orthotylus	*adenocarpi*	C																															3
Pentatoma	*rufipes*	C																															3
Phoenicocoris	*obscurellus*	C																															3
Phylus	*melanocephalus*	C																															3
Phytocoris	*pini*	C																															3

Psallus	*variabilis*	L			x		x								x																3
Saldula	*c-album*	C																x							x				x		3
Saldula	*orthochila*	C						x				x							x						x						3
Stenodema	*laevigatum*	C		x										x											x						3
Teratocoris	*caricis*	RJ						x		x										x											3
Acalypta	*brunnea*	L	x				x																								2
Anthocoris	*sarothamni*	C			x											x															2
Berytinus	*minor*	C		x																					x						2
Calocoris	*stysi*	C		x		x																									2
Chlamydatus	*pulicarius*	RJ		x				x																							2
Chlamydatus	*pullus*	C		x							x																				2
Cryptostemma	*alienum*	L		x											x																2
Dicyphus	*annulatus*	C		x																			x								2
Dicyphus	*stachydis*	C	x												x																2
Globiceps	*dispar*	N								x	x																				2
Hesperocorixa	*castanea*	C						x											x												2
Hesperocorixa	*sahlbergi*	C						x								x															2
Lopus	*decolor*	C		x												x															2
Lygocoris	*lucorum*	C			x												x														2
Lygus	*maritimus*	C																							x					x	2
Megalocoleus	*molliculus*	C		x																			x								2
Megalocoleus	*pilosus*	C																					x		x						2
Nabis	*ericetorum*	C										x		x																	2
Nysius	*thymi*	C		x									x																		2
Orthops	*rubricatus*	C				x												x													2
Phylus	*coryli*	C	x													x															2
Plagiognathus	*vitellinus*	L			x					x																					2
Polymerus	*nigritus*	C	x		o	x																									2
Psallus	*ambiguus*	C		x					x																						2
Psallus	*betuleti*	C	x		x																										2
Salda	*littoralis*	C						x		x																					2
Salda	*muelleri*	N						x											x												2
Saldula	*fucicola*	RJ		x									x																		2
Scoloposthethus	*decoratus*	C			x							x																			2
Sigara	*distincta*	C					x	x																							2
Sigara	*scotti*	C																	x								x				2
Teratocoris	*viridis*	L						x											x												2
Tetrophleps	*bicuspis*	C																					x							x	2
Acalypta	*carinata*	N					x																								1
Acalypta	*parvula*	C			x																										1
Adelphocoris	*lineolatus*	C																				x									1
Anthocoris	*gallarum-ulmi*	C								x																					1
Atractotomus	*mirificus*	C			x																										1
Bothynotus	*pilosus*	N																													1
Calocoris	*roseomaculatus*	C		x																											1
Camptozygum	*aequale*	C							x																						1
Chlamydatus	*saltitans*	C		x																											1
Dichrooscytus	*rufipennis*	C							x																						1
Dicyphus	*globuliferus*	C	x																												1
Elasmucha	*grisea*	C													x																1
Empicoris	*culiciformis*	C				x																									1
Empicoris	*vagabundus*	C			x																										1
Gerris	*costai*	L																	x												1
Gerris	*gibbifer*	C																	x												1
Gerris	*lateralis*	H								x																					1
Gerris	*thoracicus*	C																									x				1
Halticotopus	*rufescens*	N									x																				1
Hebrus	*ruficeps*	L				x																									1
Kleidocerys	*truncatulus*	C													x																1
Lyctocoris	*campestris*	C				x																									1
Macrodema	*micropterum*	C													x																1
Myrmedobia	*distinguenda*	N							x																						1
Orthocephalus	*saltator*	C		x																											1
Orthotylus	*bilineatus*	C											x																		1
Orthotylus	*fuscescens*	N							x																						1
Orthotylus	*tenellus*	C					x																								1
Phylus	*pallicens*	C			x																										1
Picromerus	*bidens*	C													x																1
Pilophorus	*clavatus*	N		x																											1
Plesiocoris	*rugicollis*	C					x																								1
Plesiodema	*pinetellum*	C							x																						1
Psallus	*flavellus*	C	x																												1
Psallus	*lepidus*	C					x																								1
Psallus	*luridus*	L																					x								1
Psallus	*perrisi*	C														x															1
Psallus	*varians*	C					x																								1
Rhacognathus	*punctatus*	L													x																1
Scoloposthethus	*affinis*	C																												x	1
Sigara	*dorsalis*	C																						x							1
Trapezonotus	*desertus*	C											x																		1
	SUM		51	50	40	46	46	38	36	34	34	27	27	26	23	23	19	18	17	17	16	15	15	14	14	12	12	11	10	8	5	3	716

Total species = 150

Review
P. Kirby

"An atlas of Oxfordshire freshwater Heteroptera."
J.M. Campbell
Oxfordshire Museums Occasional Paper no. 14., publ. Oct. 1990. iii+29pp.

Published by Oxfordshire Museums, and obtainable from Oxfordshire County Museum, Fletchers House, Woodstock, Oxon. OX7 1SN, price £1.15 plus 35p post and packing.

This is the sister volume to the atlas of terrestrial Heteroptera published in 1987 and reviewd in an earlier Newsletter. The nature of group being mapped makes this atlas in many ways the more satisfactory of the two. The aquatic and semi-aquatic Heteroptera are a group of manageable size which are, with a few exceptions, fairly easy to record. This means that the information available for the group is more complete than was the case for the terrestrial species, and it has been possible to allow sufficient space for the clear and uncluttered presentation of the information. Half a page is devoted to each species, with a tetrad distribution map and a brief account of status and habitats in the county, and there are also introductory sections and summary maps of recording to date. Somewhat erratic proof-reading slightly marrs the overall clarity, but is not excessively distracting.

It is encouraging to find at the outset that on looking through the list of included species it is very difficult to think of additional species which might be added to the county list. Forty-eight species are listed, though the single record of *Microvelia pygmaea* is believed to refer to *M. reticulata*. The coverage of the county, at least on a 10-kilometre suare basis, is also good. Only a single square (most of which is outside the county) has no records at all, and the two squares with the highest totals each have 36 recorded species.

On the whole, this is a well-produced work which appears at a useful time. It provides a summary of the known status of the members of the group in the county, as these are just becoming reliably known. It is a valuable snapshot of the state of affairs in the county when aquatic habitats are coming increasingly under threat. Much more work could clearly be done on the aquatic and semi-aquatic Heteroptera of Oxfordshire, but this could always and forever be said of any group in any county. Hopefully, this publication will help to concentrate the attention of other workers on the more obvious gaps, so that future work can be most usefully directed.

The low price of the atlas means that it is within the pocket of any Heteropterist (it would cost more to photocopy it than to buy it, always my first test of value for money). It deserves a place on the shelf, if only as an example of what can be done. I have said before, and will say again, that if atlases such as this were available for all counties where sufficient information existed to create them it would save a lot of uncertainty, duplication of work and trivial research by others interested in the group.

BOOKREVIEW
B.S.Nau

"Hemipteres Saldidae et Leptopodidae d' Europe Occidentale et du Moghreb."
Jean Péricart, book publ. by Fédération française des Sociétés de Sciences naturelles, Faune de France no. 77, Paris , 1990. 238pp, 83 figs, 34 maps, soft cover. (In French)

This latest in the Faune de France series further extends the detailed modern coverage of French Heteroptera. This began in 1957 with Poisson's work on the aquatic species, continued in 1964 with Wagner and Weber's work on the Miridae, and was further extended in the 1970's-80's by four monographs by Jean Péricart dealing with the Anthocoridae plus Cimicidae, Tingidae, Berytidae, and Nabidae respectively. These form an invaluable source of reference to heteropterists in the British Isles since they cover not only France but western Europe, and in the present work N. Africa as well.

The format of this well illustrated work on 'mud bugs' generally follows that of the earlier volumes by Péricart. The first 50 pp or so deal with a variety of topics while the remainder mainly comprises identification keys and individual species accounts. The early sections cover the history of studies of the two families, their morphology, egg and larval stages, behaviour and ecology, phylogeny, geographical distribution of the families, and collection and conservation. There is a bibliography extending to 16 pages.

As the author acknowledges, this work draws heavily on that of Cobben (in Stichel 1960), many of the illustrations are based on the latter. However, the present work also benefits from many publications during the last thirty years as well as much of the author's own field-work and museum studies.

From the viewpoint of those of us in the British Isles the detailed descriptions of all our species, with many illustrations, especially of wing patterns and genitalia, will be invaluable. Not least the wing pattern illustrations indicate the great variability of Saldidae: for example, 14 colour varieties of *S. arenicola* 13 of *S. pallipes* and 17 of *S. palustris* are illustrated.

Another useful feature is the presentation of geographical records. In the species accounts these are give in some detail, including published British records since Southwood and Leston(1959), and British Museum material covering a wide span of years. In addition maps for most species show 'circles' for localised records and shading for more general distribution. The many records checked by the author are clearly distinguished. It is interesting that he confirms *S. fucicola*(Sahlberg) (=*S. vestita* (Douglas) in S&L) collected by Harwood from Rannoch in Perthshire and, in 1921, from Cumberland by Gilgaith. Both based on material in the British Museum. On the other hand it will be evident to active field workers in this group that the British distribution of *S. palustris* is considerably underestimated.

One general comment on the scope of the volumes in this series. In this latest volume *Aepophilus bonnairei* is treated for the second time, having already been covered by Poisson. On the other hand, the admittedly few, and inconspicuous, Dipsocoridae are treated in neither. They seem in danger of falling between stalls since a volume devoted to these alone would seem to have limited market appeal!

JeanPéricart's output would be creditable for a professional entomologist, for an electrical engineer it is remarkable. Scarcely less so is acknowledgement of the assistance of Electricité de France in the publication of this series!

Heteropterists Field Trip, Carmarthenshire, 9-12 August 1991

Ian Morgan of the Countryside Council for Wales (the organisation which contains what scattered remnants still persist of the Welsh contingent of the late lamented Nature Conservancy Council) has kindly offered to organise a 1991 meeting.

Carmarthenshire was one of the better-served of Welsh counties in past decades. E.A. Butler devoted considerable time to it, and produced some useful lists (and the occasional species new to Britain) from some coastal sites. It has been less visited by Hemipterists than it deserves in more recent times. Recent recording by Ian Morgan and others has pushed the county list to over 200 species, but even so the surface can barely be said to be scratched. This is an opportunity to tread in Butler's footsteps and also to visit a few places he didn't know about: Ian has selected a range of fen/marsh, dune, woodland, bog and upland sites for possible visits, as well as the coast.

Accomodation has been arranged at Ferryside Adult Education Centre which is "pleasantly situated at the mouth of the Tywi, with cliffs, dunes and estuarine views, including a mediaeval castle on the opposite bank". Bed, breakfast and evening meal will cost approx. £20 per night.

It is no service to Ian, and small reward for his organising zeal, that I have produced this newsletter several months later than originally anticipated. He needs to have an idea of numbers as soon as possible. Please try, despite the late notice, to find space in your year's plans for what promises to be a very interesting trip. If you are interested, please aim a card, letter or telephone call in his direction as soon as possible (by the end of May?!) to let him know. His address is:

Ian Morgan
Countryside Council for Wales
Dyfed & Mid-Wales Region
16 Barn Road
Carmarthen
Dyfed SA31 1DD

Telephone: 0267 232772