HETEROPTERA STUDY GROUP

Newsletter No. 5 - April 1985

Field Meeting at Monks Wood - 22-23 June 1985

The British Entomological and Natural History Society is holding a field meeting to visit Bedford Purlieus SSSI and Woodwalton Fen NNR. Food and accommodation are available at Monks Wood Experimental Station, and a booking form is enclosed. Several leading heteropterists are expected, so it is the ideal opportunity for the less experienced to pick up field advice etc. Please return forms to me at Monks Wood as soon as possible if you wish to attend.

Field Meeting on Anglesey - August 1985

Pete Kirby is arranging a weekend meeting on Anglesey, based in university accommodation costing only about £3.50 per person per night. Details have not been finalized but the date will be either August 10-11 or August 17-18. Contact Pete Kirby at 151 Winsover Road, Spalding, Lincs PE11 1HE (change of address) for confirmation of date and booking details.

New Area Co-ordinators

Nottinghamshire: D Budworth, 121 Wood Lane, Newhall, Burton-on-Trent, Staffordshire.

Warwickshire: A C Barlow, 71 Lower Ford Street, Coventry, West Midlands CV1 5PS.

Recording Card RA2

The species-list card RA2 produced in 1969 has been superceded by the RA54 (aquatic) and RA57 (terrestrial) site-visit cards. It contained several errors/ambiguities, and the format for basic information is not ideal. If you have completed any RA2's already, please send them to the appropriate Area Co-ordinator (or to BRC for forwarding) as they can still be processed by BRC, although they involve extra work. Please destroy any unused RA2's immediately and request a supply of RA54 and RA57 instead. A prepaid BRC label is included for this.

Specimen Exchange

Keys are easier to use when reference specimens are available. Many recorders will have 'spares' of species which are local or hard-to-find, which most of us will lack. Pete Kirby has offered to act as a clearing-house for spares and wants. Send him a list of both your needs and those species you can provide, marked on RA54 and RA57, and he will try to supply everyone.

Apart from helping build up our reference collections, if enough people take part and are sufficiently honest in listing their needs, this could also act as a survey of species no longer being recorded. Has anyone found Stephanitis rhododendri for himself? It's possible that other species which S & L could describe as common or widespread are now decidedly scarce.

Nymphs

A list of bugs with readily-identified immature stages is provided by Bernard Nau in this issue. It ought to be possible to name far more species as nymphs, and Pete Kirby is trying to produce keys. He would be very grateful for the loan/gift of specimens of any species (named or un-named).

With this Issue

Included in Newsletter 5 are papers on equipment and on nymph identification by Bernard Nau, and on sampling the fauna of Oak by Bill Dolling, who also gives an account of a potentially-British new Psallus. There are short notes on a couple of species, and some comments on Corixid identification from Dr I Lansbury.

Separate items in this mailing are keys to Taphropeltus and Scolopostethus by Pete Kirby, and to Dicyphus by Stuart Foster. Although many people have said they find new keys like these very useful, only one or two have sent any comments or modifications to the authors of earlier keys. The purpose of circulating keys free of charge is to generate feed-back and improvements. Your active co-operation is vital if it is to be worth continuing.

Help!

If anyone knows of a suitable venue and is prepared to organize a field meeting for 1986, please let me know. Contributions for Newsletter 6 should reach me by the end of August at the usual address:

Brian Eversham
Biological Records Centre
Monks Wood Experimental Station
Abbots Ripton
Huntingdon
Cambs PE17 2LS
Tel: 04873 381 ext. 231

IRISH HETEROPTERA: AN ADDITION AND REQUEST FOR INFORMATION — Brian Nelson

In September 1984, I took what appears to be the first Irish specimen of Alydus calcaratus, near Newcastle, Co Down. As well as being new to Ireland, it is of a form uncommon in Europe, being almost black and with shorter pubercence on its legs; this is apparently more frequent in North America, where it used to be known as A. pluto (W R Dolling, pers. comm.)

The sand dunes at Murlough National Nature Reserve, Co Down support three other bugs which are known from only one or two Irish localities: Neides tipularius, Gampsocoris punctipes and Orthotylus flavosparsus.

I should be grateful for information on any of these species in Ireland, and for details of the habits, habitat and distribution of Alydus in particular.

Brian Nelson, Murlough NNR, Dundrum, Newcastle, Co Down, N Ireland BT33 ONQ.

A NEW SPECIES OF PSALLUS ON SYCAMORE IN EUROPE — W R Dolling

In December 1984, a paper was published in which Léopold Reichling described a species of Psallus new to science.

The new species was found in June and July on Sycamore (or sometimes on other trees in the vicinity of Sycamore) in Luxembourg and at Nürtingen in West Germany. It looks superficially like assimilis but the aedeagus is most like that of variabilis. In Southwood & Leston's figure 82, of the aedeagus of variabilis, the apical part of the aedeagus beyond the gonopore (represented as a ring with radial shading but very difficult to see in real life) is seen to comprise a broad part and a narrower and more strongly sclerotized part which is like a spine articulated to the side of the aedeagus. This spine is about two-thirds as long as the broader part in variabilis, as shown in figure 81, but in Reichling's new species it is only about half as long.

Reichling's specimens from Luxembourg were on park and roadside trees, particularly old ones in fruit, at altitudes between 280 and 350 metres. All the other Hylopsallus he found in Luxembourg belonged to the four British species of the subgenus. There seems little reason to suppose that P. (H.) pseudoplatani could not survive in Britain if it were to reach this country, but the host is an introduced one, albeit of long standing as a British resident. We have several aphids and leafhoppers on Sycamore, so a careful examination of this tree in June and July this season might result in the addition of another species to the British list.

Reference

Hétéroptères du Grand-Duché de Luxembourg, 1, Psallus (Hylopsallus) pseudoplatani n. sp. (Miridae, Phylinae) et espèces apparentées. Published by the Ministère des Affaires Culturelles as Travaux Scientifiques du Musée d'Histoire Naturelle de Luxembourg, No. IV. (ISSN 0251-2424). 18 pages.

NOTES ON AQUATIC BUGS

Dr I Lansbury

Aphelocheirus aestivalis (F.): There is little point in using a trinominal for the micropterous form (although I certainly did so in E.m.M. 100 : 109-110). The type of aestivalis is in the Hope Collections. Originally it was one of a pair in the Cabinet of Dom Bosc in the Jardin de Plantes, Paris. Westwood acquired one which over the passage of time has become the sole survivor, it is a macropterous form. The macropter is exceedingly rare in Europe, see Thorpe and Crisp (1947) J. exp. Biol. 24 : 227-269, 270-303, 310-328; I have found that macropters of Aphelocheirus species are more common in the tropics.

Corixa in the UK

C. dentipes male: facial impression obsolete
C. punctata male: facial impression quite well developed
C. dentipes female: 1st tarsal segment of hind leg less explanate than in punctata
C. punctata female: " " " " " " relatively more explanate than in dentipes

In the females of this species pair, differences in the middle leg are so obvious that no difficulty should be experienced in separating species.

C. panzeri male: facial impression conspicuous; upper lateral margins with fringes or clumps of long fine hairs (easier to see in spirit material, not so if bugs stuck on card). Middle leg not sinuate as in male punctata. Female mid-femora of C. panzeri 'straight', punctata has slight curve. Male mid-femur of punctata quite unlike other four species of Palaearctic Region. Hind femur of panzeri like dentipes, longer and thinner relatively than punctata.

Sigara dorsalis/striata: Dennis Leston and I wrote a piece about this tiresome duo E.m.M. 101 : 161-2.

For the benefit of those who may not know, we have the material that G A Walton discussed and described as 'Cymatia coleoptrata ssp. insularis Type' etc from Hebrides etc, (1942) Trans. R. ent. Soc. Lond. 92 : 417-452 in the Hope; also the bulk of the British E S Brown aquatic and semi-aquatic bugs, particularly good for Welsh and Scottish records.

IDENTIFICATION OF SOME SPECIES OF MIRIDS AND SHIELD-BUGS WHILE IMMATURE

B S Nau

In the course of recording Hets one comes across, from time to time, an immature bug which looks so distinctive that one feels sure that it ought to be possible to put a name to it. One fund of information on immatures is Butler's "Biology of the British Hemiptera-Heteroptera" (1923), which contains descriptions for many species. The catch, however, is that there are no keys, so you need to know where to look and even then you cannot be sure that there isn't another species of similar appearance.

Keys do exist for certain groups. The immatures of the two Tingids on thistles are dealt with in an excellent paper by Southwood & Scudder (1956) Trans. Soc. Brit. Ent. 12 (3) 93-112. The Anthocoridae are dealt with by Sands (1957) Trans. Roy. Ent. Soc. London 109 (10) 295-310 in a paper which includes a key. I haven't used this myself so I don't know how well it works. Waloff & Southwood (1960) have given a key to the immatures of Enoom species (Proc. Roy. ent. Soc., Lond. (1), Pts 1-3, 39-46).

Despite the problems, I have gradually built up a list of some of the more distinctive species for which I am happy to identify at least the later stages of the immatures in the field in my part of the country. The host plant can be helpful too. The following are some of the more distinctive species.

Acanthosoma haemorrhoidale On Hawthorn with berries, late summer. Pale green, with pinkish antennae, and lateral margin of head and pronotum. Fine black punctures over wing-pads and foreparts. Connexivum whitish with segments lined black posteriorally. When less than half-grown the foreparts are blackish and appendages pink.

Elasmostethus interstinctus On Birch leaves, often in groups. Light green, except antennae, which are reddish with dark shading distally. Localized blackish markings as follows: head behind eyes; hind margin of pronotum; margin of wing-pads and a spot at base; stink glands; hind corners of connexival segments.

Sehirus bicolor On White Dead-nettle: Pied appearance with foreparts and appendages black, and abdomen whitish (but beware of Eysarcoris fabricii). Spiny legs. The distinctive feature is the combination of a large white patch on each wing-pad and the scutellum, and smaller ones at the margin and centrally on the pronotum. The stink-glands and connexivum are also black.

Eysarcoris fabricii On Hedge Woundwort. Pied appearance (beware Sehirus bicolor), body and sides of pronotum whitish; wing-buds, appendages, stink-glands and foreparts blackish. Legs not spiny. Early instars have dusky-red in place of the whitish colour.

Dolycoris baccarum Usually in dry grassland. Appearance is light brown and very hairy. The hairs are pale, fine and very long. The bug is densely covered in fine dark punctures, responsible for its general coloration, the background being yellowish, as are the appendages (apart from darker shading of the two distal segments of the antennae).

Pentatoma rufipes On Oak, mainly. Quite unlike adults, Plate 45 in S & L gives a good impression. General appearance dark, due to heavy black puncturation on a whitish ground. Hind corners of pronotum have circular outline and a circular black patch. Connexival segments have a black horseshoe (open outwards) enclosing a white patch. Stink glands and most of wing-pads black. Black areas slightly bronzed.

Tingis ampliata Long processes on head visible from 3rd instar.

Tingis cardui Short processes distinctive from 3rd instar.

Aptus mirmicoides Distinctive ant-like appearance due to the white foliaceous margin of the base of the abdomen (Plate 50 in S & L). Has upward directed spine(s) on metanotum (depending on age).

Himacerus apterus A smaller version of the adult.

Deraeocoris ruber Plum-coloured, with numerous long black setae (see Plate 49 in S & L).

Oncotylus viridiflavus On Hardhead (Knapweed Centaurea nigra). At least the 5th instars have the same heavy black spotting of legs as adults, but also extending over entire upperparts of the bug.

Harpocera thoracica On Oak, early in season. Body & appendages distinctively covered with black setae. Also, basal two antennal segments are short and twice the thickness of the distal two. Head, thorax and abdomen reddish brown; wings and appendages yellowish-brown (ie same general colour as Psallus nymphs).

Atractotomus mali On Hawthorn. Two basal segments of antennae swollen as adult. Distinctive reddish-black (later instars darkest), except two distal segments of antennae, distal half of tibiae, and middle segment of tarsi.

Plagiognathus arbustorum Black margin to hind femur diagnostic.

Cyllecoris histrionicus On Oak. Very distinctive pale turquoise, with antennae black except for a white band at the base of segment three. Dusky band continues backwards from the eyes to the base of the wing-pads.

Heterotoma meriopterum Two basal segments of antennae greatly thickened and blackish; two distal segments thin and whitish. Blackish body; green femora, whitish tibiae and tarsi.

Blepharidopterus angulatus Black knee diagnostic at all ages.

Lygocoris spinolai On Bramble. Distinctive pale blue-green.

Calocoris quadripunctatus On Oak. The wing pads in the last instar show the longitudinal brown stripes of the adult.

Stenodema calcaratum Last two instars have a spine on the hind femur where the adult spines would be.

Stenodema trispinosum Two hind-femoral spines, in position of the larger of the adult's three (ie widely-separated, unlike calcaratum) at least in last instar.

A FEW REMARKS ON EQUIPMENT

B S Nau

Collecting equipment

My original, much cherished, sweep net originated from the late lamented Flatters and Garnett, so when, eventually, it was overcome by metal fatigue, it looked like the end of the line. But luck was with me. In the fishing section of Woolworths, I noticed a landing net of very similar size and shape. I bought it and found that not only was it the right size for my not but it screwed into my existing wooden handle.

This was some years ago and I have since replaced the frame again, as well as the net. The landing net came with an aluminium handle about five feet long which is occasionally useful for reaching high branches, although the screw fitting is not robust enough for general use. The frame, like the original, is triangular and folds. I prefer the triangular shape because it is useful for sweeping short or sparse vegetation.

My water net is of even greater antiquity than the sweep net. It comprises a metal kitchen sieve and a five foot length of brass tube. By partially compressing the wire handle of the sieve it can be pushed into the tube and remains there securely without any other attachment. This net is ideal for water bugs, being robust and easy to manipulate under water.

The sieves come with two protruding prongs. These I bend round beneath the sieve where they provide some protection to the mesh and allow the net to be used to sweep the bottom. I have replaced the sieve many times over the years and find that the wire gauge of the frame is reducing as the value-engineers get to work. For this reason I now reinforce the rim of the sieve by wedging a piece of heavy gauge wire, bent to a y-shape, into the brass tube beneath the sieve handle. The arms of this reinforcement lie under the rim of the sieve, preventing it from bending backwards when sweeping through the water. Another refinement is fairly essential if you do any winter fieldwork. This is to slide a couple of feet of plastic tube over the brass tube, providing a useful grip but more importantly, thermal insulation; brass conducts the temperature of freezing water very rapidly! An inherently good feature of the design is that a plug of mud forms in the handle end, as it is used as a walking stick between waters. This is useful because otherwise, on swinging the net out of the water, you will receive an injection of muddy water up your sleeve!

My brass tube was a piece of gas pipe and seemed likely to remain fairly unique. However, recently I noticed that DIY shops now stock quite a range of suitable tubing. Brass is probably the best choice. Some of the tubing is plated steel which will probably corrode and would be heavy in use; aluminium may not be strong enough.

Storage

Some years ago I found that limitations of time meant that specimens brought home for closer examination could either be identified, or properly mounted and labelled, but not both, for then there was no time for fieldwork. Some way of streamlining proceedings was obviously called for.

The scheme which I evolved may not appeal to the purist but the attraction to the pragmatic is that it works. I should begin by explaining that I card my bugs, comprehensively not on points, using water soluble gum tragacanth. Mounting on card points does have the obvious advantage that you can inspect most of the insect quite easily but the major drawback is that the appendages are unsupported and disappear fairly rapidly so there is then not much left to inspect! Anyway, I find that it is surprisingly easy to dismount a gummed bug by carefully damping with alcohol the points at which it is gummed.

I went through a brief phase of sticking my catch on odd pieces of card of irregular and interesting shapes, as a 'temporary' measure, pending more permanent mounting. I soon found that the temporary mounts were becoming permanent, and well-nigh impossible to store. The obvious thing was to standardize the size and shape of card, and find a convenient means of storage, temporarily, or at least until I retire and have more time.

I solved the problem by cutting cards, thin Bristol board, 50 mm square; which is just the right size to fit into a standard size of clip-top polythene bag. The bugs from a single site are gummed on a card, a 5 mm strip ruled off at the top carries the site and date, the species names are written below the bugs. Genitalia, too, are gummed below the bug if dissected.

Prophets of doom have muttered about mould, but over ten years using this system I have had no mould problems. I do allow a couple of days or so for the insects to dry out before bagging the card. More to the point, mites have not yet managed to crack the system: only once have I found mites in a bag and I suspect that I had simply left that card lying around too long before bagging it. The plastic bags are filed standing vertically in plastic boxes, so that even if one bag were attacked it would be very difficult for the mites to get to the next. One-litre ice cream containers form useful 'filing cabinets'; one will hold quite a few thousand bugs. I use separate boxes for different geographic regions and find some of the smaller plastic kitchen storage boxes useful too. Woolworths (again) have recently been selling a particularly useful model.

Since the individual cards are site-orlented, and I file them chronologically, a cross reference system is needed if one is ever to locate particular specimens again. Mine is provided by an 'accession book', into which details of bugs are entered as they are identified, spiral-wound shorthand notebooks do very well for this.

There are of course drawbacks: it would obviously be nicer if all specimens of the same species were grouped together. It is obviously possible to extract from the system a set of specimens for reference purposes, but it is extra trouble. Those readers who have asked me for spare specimens for reference purposes will appreciate my problem in acceding to their requests. These shortcomings notwithstanding, this system has met my needs very well and some of you may also find it useful.

MASS MURDER IN A ROYAL PARK

W R Dolling

During 1984, staff of the British Museum (Natural History) undertook a survey of insects inhabiting the canopy of mature Oak trees (Quercus robur) in the Isabella plantation in Richmond Park, London. On twelve occasions between late April and mid October three trees were fogged with insecticide and the insects falling out of the canopy were sampled. As each tree was fogged only once, it is hoped that the ecology of the plantation has not been seriously affected by the survey method.

4974 adult Heteroptera belonging to 44 species were collected over the season. The tree most abundantly represented species were Deraeocoris lutescens (717), Psallus varians (712) and Kleidocerys resedae (630). The abundance of K. resedae (monophagous on Birch) came as a surprise; the great majority of specimens of this species were taken in early autumn after the birches at Richmond had shed their leaves, probably in response to summer drought, and the weather was still mild. New adults of the Birch-feeding Elasmucha grisea appeared in the Oak samples in mid August and those of Elasmostethus interstinctus, K. resedae and Psallus falleni in

early September. All four of these Birch-feeding species were present in the last Oak sample, in mid October; K. resedae and E. interstinctus were also present in small numbers in spring. A sharp increase in the number of Blepharidopterus angulatus on Oak in early September may also have been due to emigration from Birch.

The mid-October sample also produced three Acanthosoma haemorrhoidale and one Elasmostethus tristriatus, evidently intercepted in their dispersal to overwintering sites. Other strays, in the middle of the year, were two each of Monalocoris filicis and Alloeotomus gothicus, singletons of Psallus betuleti and Atractotomus mirificus, sixteen Orthops cervinus and, possibly, 52 Lygocoris contaminatus. Nymphs of the last-named species were also present in low numbers in the Oak samples, so it may have bred on this host.

Six adults of Myrmedobia distinguenda were taken; four of these were females, and nymphs were also present. There can be no doubt that this species was breeding on Oak despite Southwood & Leston's implication that it is confined to lichen-covered conifers. Conifers did not grow interlaced with the sample trees.

Some Oak species were present at very low densities. For example, only three Phylus palliceps were taken in contrast to 74 P. melanocephalus. Eleven males of Psallus diminutus and two of P. mollis were taken, with 26 females of this species pair. Psallus quercus was not detected at all but P. albicinctus, with 119 specimens, was the ninth most abundant of the 30 Miridae species taken. Males of P. perrisi outnumbered those of P. wagneri by about four to one (99 to 26), a not unusual ratio in my experience.

Four species of Phytocoris were found; the earliest was dimidiatus (late June to late July), followed by longipennis (late July, but low numbers persisting until mid October), then tiliae (mainly mid August to mid September) and lastly reuteri (early to late September).

Some conclusions may be drawn from this work. First, you have to look through an awful lot of pale Oak-feeding Psallus to find the rarer ones. Secondly, to get all of the Oak fauna you would have to sample the same area on at least three occasions; at Richmond Park in 1984 the optimum dates would have been mid May, mid July and early September. Thirdly, the presence of large numbers of adults of any species on a particular kind of tree cannot be taken to imply that this tree is a foodplant.

HETEROCORDYLUS TIBIALIS

K Alexander

While in Pembrokeshire in June 1981, I sampled Genista pilosa quite regularly on the sea cliffs as it is a speciality of the area. Interestingly, although one might expect to find genistae, all of my Heterocordylus were tibialis, and I also took a tibialis from Ulex europaeus in the same area. Broom was not seen at any of the localities, which all lay along the St David's Peninsula coast. Are these new foodplant records?

ELASMOSTETHUS TRISTRIATUS

Compiled by B Eversham

Following the query in Newsletter 4, several reports have been received. The 3 Oxfordshire non-juniper records, via John Campbell, are: under Chamaecyparis (41/7--7--, H H Carter), trapped in Wytham Wood (42/4--0--, T R E Southwood), and indoors in Banbury (42/4--4--, D A Sheppard). Also indoors, from Hinckley, Leics (42/4--9--, M R Baker) in December, possibly ex Yew used for decoration. In Bucks, Walter Le Quesne found one in Ivy in October, and in a greenhouse in November. One was fogged from Oak in Richmond Park (see Bill Dolling's article), and one swept beneath Oak in Wyre Forest by Keith Alexander, who also swept two from Heather in Clowse Wood, Warwicks, again in October.

All these records are some miles from any native Juniper, so are presumably derived from garden conifers. Specimens from trees may have been passing through, but those in Heather, Ivy and (?) Yew may have settled for the winter. As Keith Alexander suggested, the light evergreen foliage of Heather may be an ideal over-wintering site; whereas Cypress and its allies may be less suitable than Juniper.