

HETEROPTERA STUDY GROUP

Newsletter No. 8

December 1988

Several people have expressed regret at the lack of field meetings during 1988: this was because no-one volunteered to help organize one. The newsletter itself was delayed mainly because rather few items of interest had been received. If more material is forthcoming, there is no reason why two issues should not be produced per year, so why not put pen to paper over the holiday?

There has been only one tentative offer for next year, for an indoor workshop meeting during winter 1989-90. If the Study Group is to flourish, we need more people to help organize events - if you can find a venue, BRC can help with publicizing the event. Don't feel that you need to know the area and its bugs thoroughly in advance - half the fun of a field trip is discovering 'new' sites in under-worked terrain.

In this issue

Two recent corrections of names from Bill Dolling news of a new publication on Oxfordshire Heteroptera requests for help with work on pheromones in shield bugs and on parasites of Heteroptera identifying Empicoris baerensprungi and a new species of Corixa a magnificent new book on European Nabidae and an update from NCC's national Heteroptera review. Please provide feed-back to contributors if you can, and especially with the NCC review, for which a pre-paid reply label is enclosed: if readers do not respond, there is little incentive for authors to produce new keys and other useful articles.

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Odontoscelis and Dichroscytus: two cases of mistaken identity W R Dolling

Even after 200 years of systematic study, taxonomic research is still revealing occasional instances of the mistaken application of names to European bugs. The purpose of this note is to draw attention to two such cases involving members of the British fauna.

Back in 1803, Fabricius described a shieldbug (Tetyra dorsalis) from Morocco. Later authors transferred it to the genus Odontoscelis and it has been generally accepted that Odontoscelis dorsalis is the right name for a bug that is widespread in Europe, reaching its northern limit in Britain. In 1986, Ursula Gollner-Scheiding published an account of the genus Odontoscelis (in Dt. ent. Z. (N.S.), 33, 95-127) in which she showed that the true O. dorsalis occurs in northern Africa, the Canary Islands, Cyprus, Asia Minor and the Middle East but not in Europe. The oldest available name for the European species is Odontoscelis lineola, described from southern Spain by Rambur in 1839. O. dorsalis should, therefore, be deleted from the British list and O. lineola should be added.

The second case of mistaken identity concerns a species of Miridae living on Juniper in Britain and in parts of continental Europe at similar latitudes. We had always supposed it to be Dichroscytus valesianus, which was described by

Fieber in 1861 on the basis of material collected from this host plant in the Swiss Alps. In 1981, Michail Josifov, writing in the journal Reichenbachia (vol. 19, 43-45), described a new species, D. gustavi, from Juniper in central Germany. Josifov suggested that D. valesianus was probably a montane species with a 'pontomediterranean' distribution, since the only genuine material he had seen came from Switzerland and Bulgaria, in mountainous areas. He pointed out that all previous records of valesianus should be regarded as suspect until checked. One person who did check his Dichrooscytus material was Leopold Reichling, who circulated with reprints of a paper on the bugs of Luxembourg a note correcting the name of his 'valesianus' to gustavi. Reichling's note prompted me to check the material in the British Museum (Natural History) standing over the name valesianus. Sure enough, all the British-caught specimens were referable to gustavi. We should, therefore, delete D. valesianus from our checklist and substitute D. gustavi in its place.

Review

Pete Kirby

An atlas of Oxfordshire terrestrial Heteroptera

J M Campbell, Oxfordshire Museums Occasional Paper no 11, published January 1987. 36 pp. Published by Oxford Museums, and obtainable from the Department of Museum Services, Oxfordshire County Museum, Fletcher's House, Woodstock OX7 1SN. Price £1.25 + 35p post and packing (cheques payable to the Oxfordshire County Council Department of Museum Services).

Entomological recording in Britain remains to a large extent county-based, despite enormous increases in personal mobility. One of the reasons must be that a county is just about a manageable area of countryside in which to record a group reasonably thoroughly in a single lifetime. When taking up a new group or moving to a new county, however, one is frequently faced with an overpowering sense of ignorance. A deep suspicion lurks that hanging over one's initial surface-scratching attempts to get to know the group and the county there stretches an awesome history of recording stretching back to the beginning of recorded entomology. The concern is not lessened by frequently proving to be misplaced. Recourse to the Victoria County History (if your county is in England and if a Hemiptera section exists in the relevant VCH) and to Masee's county distribution tables will be a starting point, but the latter is decidedly lacking in detail, and still leaves an unplumbed gap of over 30 years. A friendly local records centre may offer assistance, but there is generally a period of uncertainty, literature search and collection-browsing before one knows the context into which one's own findings fit. Life would be much simpler if, for each county, there was an up-to-date account of the distribution and status of all recorded species, providing newcomers and casual visitors to both the county and the group with instant background information and a basis for planned fieldwork. For Oxfordshire, just such a summary is provided by John Campbell's atlas.

It is, perhaps, stretching the definition of an 'atlas' a little to apply it to a publication containing 10 maps, only two of which are actually of the distribution of species of Heteroptera. However, since I have no better suggestions for a title, this is not a particularly constructive criticism: a 'Gazetteer of Oxfordshire Heteroptera' would, I think, simply produce a great deal of head scratching, and an 'Annotated checklist' would belie the intention of the work. Instead of maps, there is a list of the 10-km grid squares from which each species has been recorded, together with dates of records, a brief summary of the status of each species in the county, and more detailed localities for the rarer species. Tetrad distribution maps for two of the commonest species indicate the extent of coverage. For those, like myself, unfamiliar with the layout of the county it can take a little time before one is readily able to convert a list of grid squares into a mental map, but with a little practice it can be done. There are helpful maps of the distribution of woodlands and towns, and of the relatively simple geology of Oxfordshire, onto which one's mental maps of species distribution can be superimposed. Although the addition of a full set of maps might make the publication more visually appealing, their exclusion is probably sensible. Including them would have

taken up a great deal of space, a great deal of time, and probably made the final product more expensive: difficult to justify in what will hopefully prove to be an interim publication. And maps would have added nothing to the information content.

A large proportion of the recent records come from John Campbell's own fieldwork. Maps of the distribution of species records in time give some idea of the comparatively enormous amount of data gathered since 1980. The coverage of many of the more easily recorded foliage-inhabiting species is now quite thorough, and this is an opportune time to summarize the state of knowledge. The atlas should stimulate others to fill some of the gaps, so a revised atlas may become necessary within a few years! In the meantime, I would commend this publication to anyone proposing to undertake any fieldwork in the county, or interested in building up a national picture of the Heteroptera. I hope also that others will feel stimulated to produce similar atlases for their own counties.

Pheromones of British bugs

Dr Brian W Staddon

Pheromones (scents emitted by one individual to alter the behaviour of others of the same species) may play an important part in the population biology of British shieldbugs, and possibly other families.

I have made a comparative survey of the pheromone glands in all (or nearly all) the British shieldbugs, and with a student I am now tackling the more difficult problem of pheromone chemistry. The species listed below are those of interest that we have so far not been able to collect in useful numbers locally. Large numbers of individuals are not required for preliminary chemical studies. We might for example be able to do something with as little as a single male adult of Zicrona. Of course, we need to obtain live material in good condition.

Specimens of the following species are required:

Zicrona caerulea (male adults)
Odontocelis lineola (= dorsalis) (male adults)
Acanthosoma haemorrhoidale (adults both sexes)
Elasmucha grisea (adults both sexes)
Rhyparochromus pini (larvae, adults)

If anyone can help, please contact Dr Staddon at Zoology Department, University College, PO Box 78, Cardiff CF1 1XL.
Tel: (work) 0222 874000 (home) 0222 701637.

Tachinid parasites

Robert Belshaw

The Tachinidae are a large Dipteran family whose larvae are internal parasites of other insects, some species attacking Heteroptera.

Work has started to produce a new Royal Entomological Society handbook for this group, which will hopefully be published in two to three years time. The host range of many species is poorly understood. It would therefore be of great benefit if collectors of Heteroptera who obtain adult tachinids from parasitized individuals would send the specimens to the address below. All parts of the puparium and the remains of the host should be included along with locality, date, host plant/habitat and authority for host identification, if available. The adult fly should ideally be kept alive for a day or two in order to allow its cuticle to harden. Specimens reared from hosts whose identity is uncertain would also be of value, especially if accompanied by the puparium. Identifications will be provided if requested and the specimens returned by any date required. If in doubt as to whether a specimen is a tachinid, it should be noted that any fly reared as an internal parasite of another insect, excluding the leafhoppers and aculeate Hymenoptera, will almost certainly be a tachinid.

Mr R Belshaw, Diptera Section, Department of Entomology, British Museum (Natural History), Cromwell Road, London SW7 5BD.

A recent finding of Empicoris baerensprungi in the New Forest made me realize that I did not really know what characters I was looking for when separating it from culiciformis. According to Southwood & Leston, baerensprungi has the "posterior margin of pronotum with spines", which are absent in culiciformis. I had never previously expected to find baerensprungi, so was not surprised that I had never seen the character. My initial failure to find the "spines" in specimens which were manifestly not culiciformis sent me in search of other literature. What I should have been looking for is a single spine, or more precisely a blunt-ended projection, pointing vertically up from the posterior of the pronotum. This must be looked for in side view (see figure). Anyone looking casually at carded specimens from above could easily miss it completely. Knowing how to look for the character has turned up an earlier E. baerensprungi in my collection, from Monks Wood, Huntingdonshire. I cannot hid my misidentification wholly behind a misinterpretation of the key: in retrospect, the specimen sticks out like a sore thumb from the culiciformis amongst which I had placed it. The dark markings are almost black, while those of culiciformis are much paler. The Monks Wood baerensprungi came from an oak trunk, as most specimens of the species seem to have. All my culiciformis come from walls, bathroom ceilings, and the like. I wonder if any other Heteropterists have any dark Empicoris from tree trunks which might be worth re-examination.

Fore-parts of Empicoris in side view: baer. = *E. baerensprungi*
 culi. = *E. culiciformis*



Book review

W R Dolling

Péricart, J. Hémiptères Nabidae d'Europe Occidentale et du Maghreb. Faune de France, vol 71. 185 pp; 3 plates. Soft covers. 230 Francs.

Jean Péricart has done it again. The latest in his series of admirable guides to the Western Palaearctic bugs covers the Nabidae of Western Europe (excluding Scandinavia) and north-western Africa. Péricart candidly acknowledges his debt to Kerzhner's (1981) masterly treatment of the family in the Fauna of the USSR. The great drawback of the latter work, as far as most British entomologists are concerned, is its inaccessibility to readers unfamiliar with the Russian language. The elimination of extralimital species naturally makes the task of identification easier but the French work is not simply a cut-down version of the Russian one. Readers who have seen Péricart's earlier works will find the same high standard of illustrations, both of entire specimens of adults and immatures and of genital structures. Péricart eschews colour characters completely in his treatment of the genus Nabis, relying in his key to females solely upon characters that are not visible without dissection. His key to males also relies heavily on characters that require dissection but he illustrates the parameres of every species. The parameres differ, albeit sometimes only slightly, between species: their possessors obligingly carry them externally, so identification of males should be possible even for those of us who are reluctant to cut up our specimens. The distribution maps show the northern limits of Prostemma guttula, P. sanguineum and Nabis punctatus (= feroides) to lie close to our shores. All three species are associated with warm, dry habitats. N. punctatus may well have been overlooked in Britain because of its superficial similarity to other Nabis species. If it is present here, we now have no excuse for continuing to overlook it. Péricart is now working on a similar treatment of Saldidae. Watch this space!

This note is to draw attention to a recent work on the Corixidae: Jansson, A, 1986, The Corixidae (Heteroptera) of Europe and some adjacent regions, Acta Entomologica Fennica, 47, 1-94. Apart from being an extremely useful guide to the European fauna, it includes some points of importance to students of the British fauna.

Glaencorisa propinqua is represented in Britain by two subspecies. Subspecies propinqua is largely southern: subspecies cavifrons is northern and western. Intermediates may occur in southern Scotland. The two forms are distinguished by the structure of the male palae (Figure A).

Palar peg row reaching dorsal edge of pala cavifrons
 Palar peg row not reaching dorsal edge of pala propinqua

There is now an additional species of Corixa to watch for. Corixa iberica Jansson has so far been recorded from Scotland (particularly the northern and western islands) and north-west Ireland. It is known elsewhere only from Spain and Portugal. It is similar to C. punctata, but can be distinguished by the structures of the middle legs (Figures B and C). This is bad news for all those who identify their C. punctata in the field and then throw them back.

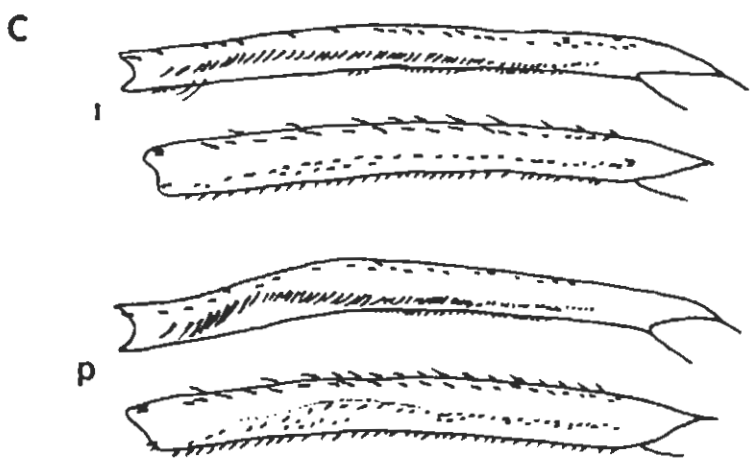
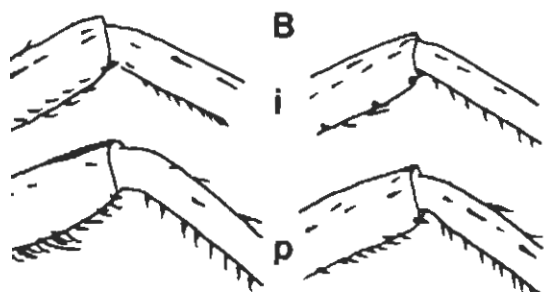
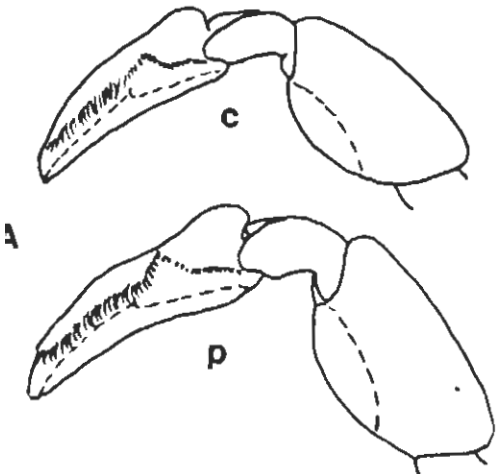
Males with middle femur distinctly curved and with its ventral peg row also curving; females with middle femur slightly curved and with a swollen ridge anteriorly in the middle of the femur punctata

Males with middle femur and its ventral peg row nearly straight; females with middle femur without anterior ridge iberica

Sigara concinna of recent British works is called Paracorixa concinna (Fieber).

These notes and rough sketches are a rather poor substitute for the original work and its profuse and detailed illustrations. I recommend getting a copy.

* A. male fore legs of Glaencorisa propinqua. C = subspecies cavifrons; P = subspecies propinqua.
 B. anterior view of the joint between middle tibia and femur in Corixa spp: I = iberica; P = punctata
 C. ventral view of middle femur of males and anteroventral view of middle femur of females of Corixa spp. (males left; females right); longer hairs are omitted: I = iberica; P = punctata.



* Error: labels of two sub-species reversed.

NATIONAL CONSERVATION REVIEW OF HETEROPTERA

A request for assistance

The NCC has, for several years, been undertaking national reviews of invertebrate groups. A review of the Heteroptera is now under way. The aim is to provide a list of nationally important species of the group with information on their biology, ecology, distribution and management requirements. Such information can be used in the assessment of species lists, the selection of sites for conservation, and as material to influence the management of sites in a way sympathetic to invertebrates. A completed data sheet, of the form which will be used in the final review, is enclosed by way of example of the sort of information to be collated.

The rarest of the Heteroptera have already been dealt with to some extent in British Red Data Books: 2. Insects (ed. D.B.Shirt), published in November 1987. The review provides an opportunity to re-examine the statuses of the Red Data Book species (the list of which was prepared some time and much recording ago), and to extend the treatment to further, less outstandingly rare, species. The status categories relevant for species for consideration in the review, and the criteria which define them, are given in a separate section below. The cut-off point for the lowest status level for inclusion in the review (Notable B) is that the species should occur in 100 or fewer 10km. squares in Britain. In the current state of recording, estimation of this criterion obviously requires a degree of extrapolation.

Work on the production of a list of rare and notable species was begun some years ago by Brian Eversham, and led to the preparation of the Red Data Book list. I have returned to the information obtained from this earlier work and, coupled with my own personal experience, the use of major literature references, and the generous feedback received from my earlier article on status and decline in the British Heteroptera in the Heteroptera Study Group Newsletter No. 7, have assembled a provisional list of notable species. Bernard Nau and Steve Judd have kindly commented on my initial list, and necessary changes have been made. The provisional list is given below, in taxonomic order, using the nomenclature of the recording card. As yet, I have made no attempt to suggest changes in RDB statuses already established or to apply Notable A or RDB statuses to species currently not in the RDB, preferring to wait until more information is assembled before attempting to do so. Thus RDB categories are those already published, and all additional species are simply listed as "Notable". Though I have attempted to make the list as close to a final version as possible, I hope that I have erred on the side of caution, and that no important species have been missed. I would expect that the final list for inclusion in the review will be somewhat shorter than this provisional version.

The primary aim of the review is to provide details of species of relevance to conservation. As a result, species which are recent arrivals in Britain, are rare migrants which are not known to breed, or which, though long established, are associated with plants which are not native or which are extensively planted, are in general not included in the list. On one or two occasions, I have erred on the side of caution, and included somewhat dubious species: these can be re-assessed later in the review process. The NCC does not cover the Channel Islands, Ireland or the Isle of Man, and species confined to any of these places will not be included.

I would welcome any feedback on this this list. If there are any additional species which you feel should qualify for at least Notable B status, or if there are any species which you feel are on the list under

false pretences, please let me know. I would also be interested in any strong opinions you may have about status changes for the species on the list. Particularly welcome however, would be any information about the rarities; localities, dates, habits, habitats or details of biology which you may not have committed to paper before would all be very welcome. There is no need to duplicate large amounts of information already sent to the recording scheme, but expansion of such information, particularly to include details of biology and habitat requirements, would be most useful. It is detailed knowledge of the habitat requirements and biology of the species which is often most difficult to obtain. A copy of the final review will be sent to each contributor on publication.

Though the review will cover only nationally uncommon species, many species which are not national rarities may be of considerable significance in a part of their range. The Invertebrate Site Register is interested in establishing statuses for all species over the whole of Britain (the NCC does not cover Ireland, the Isle of Man or the Channel Isles), to ensure that interesting species are taken into account in site selection and assessment. If anyone would care to produce a list of local rarities for a county, region or country, I shall attempt to amalgamate the information into a set of regional statuses.

Since the review must be completed within a year, I would be very grateful for early sending of information, and would certainly like to have all data by February 1989. Please contact me if you have any relevant information.

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Criteria for determination of Red Data Book and Notable species status

Red Data Book

RDB1. Endangered. Taxa in danger of extinction and whose survival is unlikely if the causal factors continue to operate. Included are species known from only a single population within one 10 km square of the national grid; species which occur only in habitats known to be especially vulnerable; species which have shown a rapid and continuous decline over the last twenty years and now exist in five or fewer 10km. squares, and species which are believed extinct but which if rediscovered would need protection.

RDB2. Vulnerable. Taxa believed likely to move into the endangered category in the near future if the causal factors continue operating. Included are species declining throughout their range; species in vulnerable habitats, and species whose populations are low.

RDB3. Rare. Taxa with small populations that are not at present Endangered or Vulnerable, but are at risk. These taxa may be localised within restricted geographical areas or habitats or may be thinly scattered over a more extensive range. Included are species which occur in only 15 or fewer 10 km. squares.

RDBK. Insufficiently known. Taxa that are believed to belong to any one of the above categories, but which cannot be certainly placed because of lack of information.

RDB Appendix. Extinct. Species which were formerly native to Britain but which have not been recorded since 1900.

Nationally Notable

Notable A. Occurring in 30 or fewer 10km. squares in Britain (such species normally occur in 10 or fewer vice-counties).

Notable B. Occurring in 100 or fewer 10km. squares in Britain (such species normally occur in 20 or fewer vice-counties).

Provisional list of rare and notable Heteroptera

Aradidae

Aradus aterrimus	RDB3
Aradus betulae	RDB3
Aradus corticalis	RDB3

Acanthosomatidae

Elasmucha ferrugata	Extinct
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Cydnidae

Sehirus biguttatus	Notable
Sehirus dubius	Notable
Sehirus luctuosus	Notable
Geotomus punctulatus	RDB1

Scutelleridae

Odontoscelis lineola (dorsalis)	Notable
Odontoscelis fuliginosa	RDB3
Eurygaster austriaca	RDB1
Eurygaster maura	Notable

Pentatomidae

Sciocoris cursitans	Notable
Eysarcoris aeneus	RDB2
Chlorochroa juniperina	Extinct
Holcostethus vernalis	RDB3
Eurydema dominulus	Notable

Coreidae

Arenocoris waltli	Notable
Bathysolen nubilus	Notable
Ceraleptus lividus	Notable
Gonocerus acuteangulatus	RDB1
Enoplops scapha	Notable
Spathocera dahlmanni	Notable

Rhopalidae

Stictopleurus abutilon	Extinct
Stictopleurus punctatonevrosus	Extinct
Rhopalus maculatus	Notable
Rhopalus rufus	Notable

Pyrrhocoridae

Pyrrhocoris apterus	RDB1
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Stenocephalidae

Dicranocephalus agilis	Notable
Dicranocephalus medius	Notable

Lygaeidae

Heterogaster artemisiae	RDB3
Macroplax preysleri	RDB1
Henestaris halophilus	RDB2
Ischnodemus quadratus	RDB1
Nysius graminicola	RDB3
Nysius helveticus	RDB3
Ortholomus punctipennis	RDB3
Pachybrachius fracticollis	Notable
Pachybrachius luridus	RDB3
Peritrechus gracilicornis	RDB1
Graptopeltus lynceus	Notable

<i>Raglius alboacuminatus</i>	Notable
<i>Rhyarochromus pini</i>	Notable
<i>Megalonotus antennatus</i>	Notable
<i>Megalonotus dilatatus</i>	Notable
<i>Megalonotus praetextatus</i>	Notable
<i>Megalonotus sabulicola</i>	RDB3
<i>Trapezonotus ullrichi</i>	RDB3
<i>Pterotmetus staphyliniformis</i>	RDB3
<i>Pionosomus varius</i>	RDB3
<i>Aphanus rolandri</i>	Notable
<i>Emblethis verbasci</i>	RDB3
<i>Tropistethus holosericeus</i>	Notable
<i>Acompus pallipes</i>	RDB3
<i>Acompus rufipes</i>	Notable
<i>Lasiosomus enervis</i>	Notable
<i>Drymus latus</i>	Notable
<i>Drymus pilicornis</i>	Notable
<i>Drymus pilipes</i>	RDB3
<i>Drymus pumilio</i>	RDB3
<i>Lamproplax picea</i>	Notable
<i>Scolopostethus pictus</i>	Notable
<i>Eremocoris plebejus</i>	RDB3
<i>Eremocoris abietis</i>	RDB3
<i>Eremocoris fenestratus</i>	RDB1
<i>Taphropeltus hamulatus</i>	RDB3
<i>Taphropeltus limbatus</i>	RDB3
Berytinidae	
<i>Cymus obliquus</i>	RDB3
<i>Berytinus hirticornis</i>	Notable
Piesmidae	
<i>Piesma quadratum spergulariae</i>	RDB3
Tingidae	
<i>Acalypta platycheila</i>	Notable
<i>Dictyonota fuliginosa</i>	Notable
<i>Lasiacantha capucina</i>	RDB2
<i>Tingis angustata</i>	RDB3
<i>Catoplatus fabricii</i>	Notable
<i>Physatocheila smreczynskii</i>	Notable
<i>Physatocheila harwoodi</i>	RDB1
<i>Oncochila simplex</i>	Notable
Reduviidae	
<i>Empicoris baerensprungi</i>	RDB3
<i>Pygolampis bidentata</i>	RDB3
Nabidae	
<i>Prostemma guttula</i>	Extinct
<i>Nabis pseudoferus</i>	RDB3
<i>Nabis brevis</i>	RDB3
Cimicidae	
<i>Temnostethus tibialis</i>	RDB3
<i>Anthocoris amplicollis</i>	RDB3
<i>Anthocoris minki</i>	RDB3
<i>Anthocoris visci</i>	Notable
<i>Xylocoris formicetorum</i>	Notable
<i>Brachysteles parvicornis</i>	Notable
<i>Xylocoridea brevipennis</i>	Notable
<i>Cimex columbarius</i>	RDB3
Microphysidae	
<i>Myrmedobia coleoptrata</i>	Notable
<i>Myrmedobia inconspicua</i>	Notable
Miridae	
<i>Deraeocoris olivaceus</i>	Notable
<i>Deraeocoris scutellaris</i>	Notable
<i>Conostethus roseus</i>	Notable
<i>Amblytylus brevicollis</i>	Notable
<i>Amblytylus delicatus</i>	Notable
<i>Tytthus geminus</i>	Notable
<i>Brachyarthrum limitatum</i>	Notable

<i>Psallus albicinctus</i>	Notable
<i>Chlamydatus pulicarius</i>	RDB3
<i>Chlamydatus evanescens</i>	RDB3
<i>Monosynamma bohemani</i>	RDB3
<i>Monosynamma maritima</i>	RDB3
<i>Monosynamma sabulicola</i>	Notable
<i>Placochilus seladonicus</i>	RDB1
<i>Hallodapus montandoni</i>	RDB3
<i>Systellonotus triguttatus</i>	Notable
<i>Pilophorus clavatus</i>	Notable
<i>Pilophorus confusus</i>	RDB1
<i>Halticus luteicollis</i>	Notable
<i>Halticus macrocephalus</i>	RDB1
<i>Halticus saltator</i>	Notable
<i>Strongylocoris luridus</i>	Notable
<i>Globiceps flavomaculatus</i>	Notable
<i>Globiceps cruciatus</i>	Notable
<i>Globiceps woodroffei</i>	Notable
<i>Orthotylus fuscescens</i>	Notable
<i>Orthotylus virens</i>	RDB3
<i>Orthotylus rubidus</i>	Notable
<i>Myrmecoris gracilis</i>	RDB3
<i>Lygus pratensis</i>	RDB3
<i>Lygus punctatus</i>	Notable
<i>Agnocoris reclairei</i>	Notable
<i>Zygimus nigriceps</i>	Notable
<i>Polymerus palustris</i>	Notable
<i>Polymerus vulneratus</i>	RDB1
<i>Charagochilus weberi</i>	RDB3
<i>Dichroscythus gustavi</i> (valesianus auctt.)	Notable
<i>Hadrodemus m-flavum</i>	Extinct
<i>Adelphocoris seticornis</i>	RDB3
<i>Adelphocoris ticinensis</i>	Notable
<i>Phytocoris insignis</i>	RDB3
<i>Capsus wagneri</i>	RDB3
<i>Capsodes flavomarginatus</i>	Notable
<i>Capsodes sulcatus</i>	Notable
<i>Stenodema trispinosum</i>	Notable
<i>Trigonotylus psammaecolor</i>	Notable
<i>Teratocoris caricis</i>	RDB3
<i>Tuponia carayoni</i>	RDB2
Dipsocoridae	
<i>Pachycoleus waltli</i>	Notable
Saldidae	
<i>Teloleuca pellucens</i>	Notable
<i>Saldula arenicola</i>	Notable
<i>Saldula fucicola</i>	RDB3
<i>Saldula opacula</i>	RDB3
<i>Saldula setulosa</i>	RDB2
<i>Micracanthia marginalis</i>	RDB3
<i>Chartoscirta elegantula</i>	Notable
<i>Aepophilus bonnairei</i>	Notable
Hebridae	
<i>Hebrus pusillus</i>	Notable
Hydrometridae	
<i>Hydrometra gracilentula</i>	RDB1
Veliidae	
<i>Microvelia pygmaea</i>	RDB3
<i>Microvelia umbricola</i>	RDB3
Gerridae	
<i>Gerris paludum</i>	Notable
Corixidae	
<i>Micronecta minutissima</i>	RDB3
<i>Corixa iberica</i>	Notable
<i>Sigara striata</i>	RDB3

EXAMPLE DATA SHEET

AGNOCORIS RECLAIREI

NOTABLE B

Order HEMIPTERA

Family MIRIDAE

Agnocoris reclairei (Wagner)

DISTRIBUTION The distribution is centred on a limited area in Cambridgeshire, Huntingdonshire and Bedfordshire. It has occurred in West Suffolk near the Cambridgeshire border, but it appears not to have been recorded here for some time. There are two isolated recent records from Kent and Warwickshire.

HABITAT AND ECOLOGY Usually associated with large trees of Salix alba. It has also been recorded from other Salix species, but such occurrences are relatively infrequent and it is not clear whether breeding occurs other than on S. alba in Britain. The feeding habits are not known, but it is likely that it is at least partly phytophagous. Adults occur in August and September and hibernate under bark, in moss and leaf litter, and in conifers. They return to the host tree in the spring, and oviposit on the trees in May and early June. The distribution of the species up to the 1960s was very much a fenland one, though the insect occurred not only within fens, but also on willows beside rivers and broad ditches. In recent years it has been more widely recorded, particularly on large Salix alba trees around flooded gravel workings.

STATUS A. reclairei was not recognised in Britain until 1913, and the effects of earlier fenland drainage on the species are therefore unclear. It seems likely that habitat destruction within the main part of its British range in the Huntingdonshire and Cambridgeshire fens would have severely depleted the British population, leaving remnant populations in suitable pockets of habitat. In view of the late recognition of the species in Britain, however, it is possible that it was always very local. It has only recently been recorded from Bedfordshire, where it is now quite widespread. In view of its association with gravel pits in this area, this may well reflect a genuine spread. The main area of distribution, however, remains small. The Kent record is of an isolated individual, but that from Warwickshire is known to represent an established population.

THREATS The only likely threat to the species is the loss of old Salix alba beside water or wetland. Possible causes are the drainage of wetland, the removal of riverside trees during river 'improvement' operations and clearance of trees along pools and drains and in hedgerows in the interests of agricultural intensification or changes in land use. A more insidious loss can occur through neglect: Salix alba ages quickly unless pollarded, and the removal of dangerous or broken trees, neglect of pollarding, and failure to replace lost trees can quickly deplete S. alba populations. Gravel pit populations are chiefly threatened through re-instatement and infilling of pits, and to a lesser extent by recreational use, which may be incompatible with the maintenance of populations of large willows.

CONSERVATION Populations of Salix alba, including mature trees, should be maintained at sites where the bug occurs, and management should aim to ensure continuity of suitable hosts by planting or pollarding when necessary. Any sizable stand of large Salix alba within the known range of the bug should be regarded as a potential site for the species. S. alba elsewhere in the country should be examined for populations of the bug in order to determine its true status, and to monitor any spread which may be occurring.