



Het News

Newsletter of the UK Heteroptera Recording Schemes

Issue 11
Spring 2008
2nd Series

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Editorial:

You may have noticed that the file size this time is larger than usual, we hope this is not too inconvenient. Hitherto we used Microsoft Word for the layout but this was frustrating & timeconsuming. This time we used Adobe InDesign which is more reliable & quicker, but gives a larger file. As every hour wasted delays work on the 'son of S&L' book, this seems a reasonable tradeoff.

We did not have any response to our request last time for a volunteer to prepare a cumulative index for *Het News*, valuable though this would be - and you still have time to offer! On the other hand we are pleased to see a steady rise of interest in, & records of, shieldbugs (s.l.) & other het families, especially on hets@yahoogroups.

Trevor James at NBN/BRC (tjj@ceh.ac.uk) is exploring the possibility of a combined Coleoptera & Hemiptera interest-group, with a view to raising awareness & interest, and more particularly facilitating the funding of activities, such as the various recording schemes. He would welcome your thoughts on this.

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Bernard Nau: 15 Park Hill Toddington Dunstable Beds LU5 6AW — nauhet@btinternet.com

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N & S Hants, W Kent, Surrey, Berks & Oxon, E Suffolk, Beds, Gloucs,
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We have received the following e-mail message from Dmitry Musolin:

"With a great sorrow I have to inform you that Dr. Izyaslav (Izya) M.Kerzhner passed away on May, 29, 2008, after a siege of illness. The Russian and international entomological community lost not only an outstanding specialist but also a great person."

RECENT PUBLICATIONS

Book review: Verspreidingsatlas Nederlandse wantsen (Hemiptera: Heteroptera).

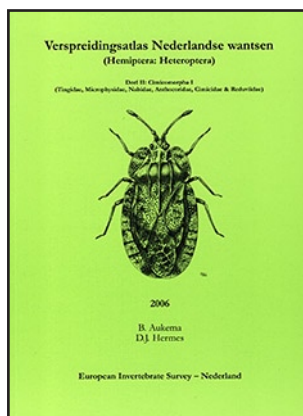
Deel 2: Cimicomorpha I. B. Aukema & D.J. Hermes

Published by *European Invertebrate Survey**, 136pp., Leiden, 2006. Soft cover. ISBN 990-76261-04-0.

[* e-mail: eis@naturalis.nnm.nl]

We reviewed Volume 1 of this series of distribution atlases for the Dutch Heteroptera in *Het News* no.3, in 2004, it covered the 86 species of waterbugs. The present volume deals with a further 104 species, being the first 6 families of terrestrial bugs (Table 1). It has a generally similar structure, following the sequence and nomenclature of the Palaearctic Catalogue.

An introductory chapter describes the pattern of recording over the years with maps showing the geographical distribution of records, and species totals, for The Netherlands ('NL' hereon). The main part of the work is the



species accounts. In these, each family has an introductory page with a beautiful drawing of a representative species of the family. Then each species has a page. This contains two dot maps for the species, for the years prior to, and from 1980. The dot being a 5x5km square. A very valuable feature is a pair of histograms for each species, showing seasonal distribution of the

Table 1 Families covered
no. of spp.

Tingidae	35
Microphysidae	6
Nabidae	13
Anthocoridae	36
Cimicidae	5
Reduviidae	9

records for males & females respectively, each month is split into three periods.

After the species accounts there is a checklist, then a table giving the numbers of records & squares prior to, and from 1980; then a chart showing presence of each species in each of 12 provinces. Also included is a list of 70+ literature references, a list of recorders and a species index.

The status of some species contrasts noticeably with the status in the British Isles. For example, *Derephysia foliacea* is fairly widely scattered in NL but infrequent here, also we find it associated with Ivy (*Hedera helix*) but in NL it is found in

moss under various plant species, e.g. *Artemisia* and *Thymus*. Also, our BAP species *Physatocheila smreczynskii* is quite well represented in NL, where it appears to favour Rowan (*Sorbus acuparia*).

Again, *Nabis rugosus* is very common here but strangely confined to the SE of NL. *Orius minutus* appears common and widespread (more common than *O. vicinus*) but has yet to be confirmed here, while *O. laevigatus* is common here but scarce in NL.

BSN

Book review: Die Tierwelt Deutschland 78. Wanzen Band 3.

Pentatomomorpha I. E. Wachmann, A. Melber, J. Deckert

Published by Goecke & Evers, 272pp., 307 colour photos, Keltern, 2007. (In German)

Hard cover. ISBN 978-3-37783-29-1. Price £47.00.

Volume 3 in this beautifully illustrated series deals with 9 families (Table 1). The previous volume published was Volume 1, reviewed in Het News 8, Autumn 2006. Volume 2 was the first to appear, being published in 2004. It now appears that there will be an extra

**Table 1 Families covered
spp illustrated**

Aradidae	12
Lygaeidae	6
Piesmatidae	4
Berytidae	8
Pyrrhocoridae	1
Alydidae	3
Coreidae	17
Rhopalidae	11
Stenocephalidae	3

volume, devoted to shield bugs, while the promised supplementary material will now be in a Volume 5.

Volume 3 follows the pattern established in the earlier volumes, with each species having a text account of, typically three paragraphs. The first gives length, world distribution & status in Germany & Austria; another gives



details of habitat & food; and the last gives information on season and overwintering. The nomenclature is that of the Palaearctic Catalogue.

There are no keys or species descriptions but there are 307 colour photos of a live adult in a natural-looking setting, and often of nymphs. An appendix gives dates and localities for the bugs photographed.

For the reader in the British Isles, this work is particularly useful for the photos of species which in Southwood & Leston (1959) are not illustrated and only briefly described. For example various species of aradid barkbug, various lygaeids, coreids such as *Arenocoris waltlii* & *Bathsolen nubilus*, and various rhopalids. Not to mention species that might put in an appearance in the British Isles sometime in the future.

BSN

Book review: The land & freshwater bugs (Hemiptera) of Cornwall & the Isles of Scilly.

K.N.A Alexander, Published by Cornwall & Isles of Scilly Federation of Biological Recorders*,

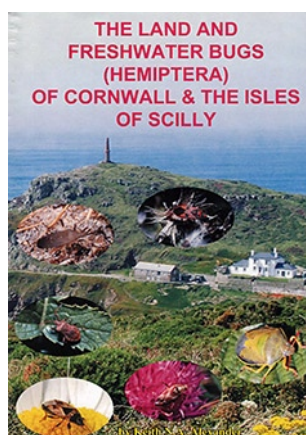
155pp., Bodmin, 2008. A4, spiral bound soft cover. ISBN 0 9534613 2 7. Price £8.00 (p&p £2.00)

[* e-mail: ianbennallick@btinternet.com]

This is a very comprehensive catalogue of records of the Hemiptera from England's well-recorded southwestern extremity. This is an area of special interest for its mild humid climate and is renowned for the number of Atlantic and Mediterranean species occurring. Among the habitats of special importance are the extensive cliff-top grasslands and many coastal sand-dunes.

The main part of the work is the listing of species records, with 97 pp devoted to Heteroptera and 37pp to Homoptera. The former presents details of all known records of 303 species and the latter for 159 species of Auchenorrhyncha (leafhoppers etc) and 158 species of Sternorrhyncha (plant lice, aphids & scales). The unbalance in species totals between Heteroptera and Homoptera simply reflects their relative attraction to amateur entomologists.

Preceding the catalogue there are sections dealing with



the special features of the area's hemipterous fauna, and changing distributions. Losses have been very marked on arable farmland, due to intensification of agriculture, and in the county's woodlands due to lack of management. Attention is also drawn to a number of het species which are familiar elsewhere in Britain but unrecorded here.

The author stresses the importance of retaining voucher specimens for detailed examination and reliable identification.

An interesting feature of the work is the two pages listing recorders who have worked in the area, including details of the areas they worked and dates of visits, where these details are known. They span the years from the late 1800s to the present day. A list of the contents

of the work is given in Table 1.

The format of entries in the listing of records is as follows. Species are listed in taxonomic order, the hets following the

sequence and nomenclature of the Palaearctic Catalogue. The entry for each species begins with national and local status followed by a line or two describing the habitat of the species. The records follow the above and are grouped by 10km grid square, they include locality, date and recorder for each record, and sometimes additional habitat information.

The work is rounded off with a bibliography of some 120 spp or so, and an index to species and higher taxa.

Orders can be sent to the following, with a cheque for £10 made out to 'CISFBR':

Colin French, 12 Seton Gdns, Weeth Rd, Camborne, Cornwall TR14 7JS

or:

Gary Lewis, ERCCIS, Five Acres, Allet, Truro, Cornwall TR4 9DJ

BSN

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Heteropteron no. 25, November 2007, Köln (ISSN 1432-3761)

www.uni-koeln.de/math-nat-fak/zoologie/sieoek

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Heteropteron no. 26, February 2008, Köln (ISSN 1432-3761)

www.uni-koeln.de/math-nat-fak/zoologie/sieoek

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**Please send your contribution
for the next issue by
30th September 2008**

Seasonal Development of Aquatic & Semiaquatic True Bugs (Heteroptera)

Aida H. Saulich & Dmitry L. Musolin

Don't panic if your Russian comprehension is not up to scratch! The authors & publishers very kindly allowed us to reproduce the very comprehensive English language Extended Summary of this interesting book.

Reference details of the original are given below.

Eds.

Saulich A.H. & Musolin D.L., 2007

Seasonal Development of Aquatic and Semiaquatic True Bugs (Heteroptera).

Book published by St. Petersburg University Press. 205 pp. (in Russian, with extended 6p English Summary), St. Petersburg. ISBN 978-5-288-04332-1.

www.unipress.ru/2007/sau.html

The book is also available via:

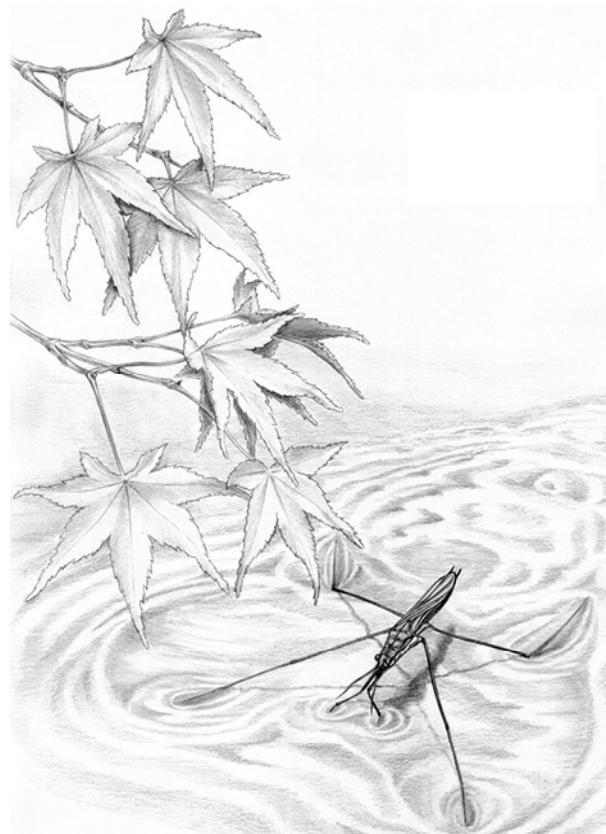
<http://www.merlioshop.co.uk/pemberley/a>

<http://www.pensoft.net/index.htm>

or from Dmitry Musolin.

ILLUSTRATIONS:

- ◆ Drawing of a water skater by Artem Ayvazyan Kyoto 2007, with permission).
- ◆ Drawing by Maria Sibylla Merian (1647–1717) from her *Metamorphosis Insectorum Surinamensium* (Metamorphosis of the Insects of Surinam, 1705). In her book it is called "water scorpion", but must be *Lethocerus maximus*, the largest heteropteran (up to 11 cm).



The book overviews extensive but scattered literature on cycles of seasonal development and seasonal adaptation of aquatic and semiaquatic true bugs (Hemiptera: Heteroptera). It is mostly focused on the Temperate Zone species though whenever possible examples from other geographic zones are also presented and discussed.

Ch. 1. Aquatic & Semiaquatic Heteroptera

Even though Heteroptera with ca. 38,000 described species worldwide [Schuh, Slater, 1995] is a predominantly terrestrial taxon, about 4,500 bug species are ecologically related to different water bodies. They represent five out of eight heteropteran infraorders: Dipsocoromorpha, Ceratocombomorpha, Gerromorpha, Nepomorpha, and Leptopodomorpha. Aquatic and semiaquatic bugs live in a wide range of natural and artificial habitats: humid terrestrial microhabitats (not necessarily close to free water and comprising litter on humid soil), seeping rock faces with algae and moss, marginal aquatic habitats (banks, shores, water edges), plant-covered or open waters in springs, streams, waterfalls, rivers, ponds, lakes (saline, alkaline or fresh), intertidal shore zones and waters of seas and oceans.

Aquatic and semiaquatic Heteroptera faunas are more diverse in the Tropics and Subtropics. Only 631 species from all five infraorders are known from the Palaearctic Region [Aukema, Rieger, 1995], 211 species from Europe [Aukema, 2005] and 166 from Russia [Kerzhner, Jaczewski, 1964; Kanyukova, 2006].

The evolution of morphological and life-history adaptations associated with the long history of the Heteroptera's conquest of semiaquatic and aquatic habitats is summarized and illustrated.

Ch. 2. Life Cycles & Seasonal Development

This briefly describes the life cycle and introduces the principal elements of heteropteran seasonal development typical for terrestrial, aquatic and semiaquatic species. The life cycle of true bugs consists of three stages: egg, nymphal (=larval), and adult. The nymphal stage normally consists of 5 instars, though this number can be 3 or 4 in some taxa. In general, Heteroptera is a thermophilic taxon with a relatively high value for the lower developmental threshold ($T_0 = +12.2 \pm 2.3$ °C) [Kiritani, 1997]. The duration of the complete life cycle greatly depends on temperature and can vary from less than 20 days in some species at high temperature to 2–3 years in others under less favourable conditions.

Species of aquatic and semiaquatic heteropterans demonstrate all known patterns of voltinism. Many species and populations are univoltine (producing one generation per year), bivoltine (two complete generations per year or one complete generation and one partial, i.e. only in a part of the population) and these patterns of voltinism are typical for the Temperate Zone. Some species or populations are tri- or multivoltine having three or more generations annually, usually in the Tropics and/or Subtropics. In the regions

where environmental conditions are constantly stable and favourable, some heteropteran species may breed all year round, thus having a homodynamic type of seasonal development. On the contrary, under severe environmental conditions (mostly, seasonally cold), life cycles of some species may last more than a year and then seasonal development is semivoltine.

Among particular seasonal adaptations special attention is paid to diapause (a profound state of dormancy, which can be facultative or obligatory and occurs in winter or summer), migrations and polyphenism (or seasonal polymorphism).

The following chapters, Ch. 3... Ch. 7, treat individually all infraorders and families of aquatic and semiaquatic true bugs.

Ch. 3. Dipsocoromorpha

This is the smallest infraorder of semiaquatic bugs and consists of 2 families and about 30 species from all geographic zones. They live in humid habitats along shores of diverse water bodies. Seasonal development is poorly studied, but probably species typically overwinter as adults. Brachypterous and macropterous wing forms (=morphs) are known.

Ch. 4. Ceratocombomorpha

A small infraorder of semiaquatic bugs that consists of 3 families and about 170 species from the Tropics and the Temperate Zone. Species inhabit humid leaf litter, decaying wood, mosses, swamps, bogs, and shores of different water bodies. Seasonal development is poorly studied. Some species are known to overwinter as adults, others as eggs. Brachypterous and macropterous adults are known and some species have coleopterous wings.

Ch. 5. Gerromorpha – Semiaquatic Bugs

A large infraorder of semiaquatic heteropterans that consists of 8 families and about 1,940 species. They are distributed worldwide. Gerromorphs are known from almost the whole range of aquatic and semiaquatic habitats, i.e. from humid forest leaf litter to the open oceans. Most species of Gerromorpha can move easily over water surface film. Water striders (Gerridae) and riffle bugs (Veliidae) spend most of their time on the water and *Halobates* spp. (Gerridae) are the only insects inhabiting the oceans.

Many gerromorphs are multivoltine and different species produce up to 3, 4, or 5 generations annually even in the Temperate Zone; some other species are univoltine. Most representatives of Gerridae, Macroveliidae, Hydrometridae, Veliidae, and some species in other families overwinter as adults on land, sometimes far from water bodies, in forest leaf litter, close to roots of plants, or under stones. All known species of Mesoveliidae and some species of Gerridae overwinter as eggs laid under water and facultative diapause is induced in adults of the maternal generation in at least some of these species. The water cricket *Velia caprai* (Veliidae) seems to have a very plastic overwintering strategy in Europe: late instar nymphs and both non-reproductive and egg-bearing females may be found during the winter. Some *Velia* spp. and *Microvelia* spp. may be active on water during warmer days in the winter.

Wing polymorphism is known and well pronounced in many gerromorph species, and at least in some cases it is seasonal and environmentally controlled (by day-length, population density, availability of food, etc.). In some species, e.g., in Macroveliidae and Hermatobatidae, only apters are so far known, or brachypters are dominant. There is seasonal body colour polyphenism in some water striders and the

diapause generation is darker than the directly breeding one. The cuticle structure may also differ between the non-diapause and diapause generations (e.g., in Gerridae). After overwintering and migration, females of some water striders are able to hystolize wing muscles and then redirect resources to reproduction. A few species are known to have summer diapause (aestivation).

Ch. 6. Nepomorpha – Aquatic & Water Bugs

This is the largest infraorder of semiaquatic and truly aquatic bugs, it consists of 11 families and about 2,050



species. Nepomorphs are distributed worldwide, but are most diverse in the Tropics. Different families and species live in different habitats ranging from shores of small ponds and banks of streams to deep inland water bodies. Many species are very skillful swimmers and some can live deep under water (up to 10 m). Some giant water bugs (Belostomatidae) are strong fliers and have lunar cycles of flight activity.

Most of the nepomorph species studied produce one generation annually, though some others are multivoltine or even have homodynamic development in the Tropics. Some species of Aphelocheiridae have very slow development and need 2–3 years to complete the life cycle.

Probably all species of Belostomatidae and Pleidae and many species of Corixidae, Notonectidae, and Nepidae overwinter as adults under water on the bottom or in mud or detritus. At least two Pleidae species that overwinter as adults on the bottom of ponds are known to switch from physical gill to plastron respiration for overwintering. Adults of different species use very different microhabitats for overwintering: forest leaf litter (a number of belostomatids), soil in forests (some naucorids) and air bubbles in ice (*Cymatia americana*; Corixidae). Some species of Nepidae fly from ponds to streams to overwinter.

A number of nepomorph species are known to overwinter as nymphs in litter or moss on the soil (some ochterids), in

swift streams (some naucorids), on the bottom of water bodies (some corixids). Some species of Corixidae and Notonectidae overwinter as eggs under water. Species of Aphelocheiridae can probably overwinter on the bottom of streams at any developmental stage.

Reproductive diapause has been proved to be under photoperiodic control at least in some nepomorph species. Adults of a number of species can live longer than a year and it has been shown that the timing of reproduction and dormancy is controlled by day-length and temperature in *Kirkaldyia* (= *Lethocerus deyrollei*) (Belostomatidae). Adults of some Corixidae and Naucoridae species can have two copulation seasons – in the autumn and spring, being sexually mature both before and after overwintering. Oviposition in several species can also start before overwintering, then stop for the winter and resume in the spring.

Lethocerus americanus (Belostomatidae) has a seasonal period ('drift') from the autumn to spring, when adults swim in rivers (sometimes under ice) as a means of dispersal. A number of notonectids swim under ice in the winter and active adults of *Glaenocoris propinqua cavifrons* (= *G. quadrata*; Corixidae) were collected from water in a pond covered with 45 cm of ice in Alaska when air temperature was –38 °C [Sailer, 1952].

Some adults of Belostomatidae and Corixidae have flight muscle polymorphism, a phenomenon in which wings are fully developed but muscles are underdeveloped in young adults and their further growth is dependent on environmental conditions. Muscles can grow if conditions in the water body deteriorate and migration is necessary. Flight muscles can degenerate after migration and then the resources can be re-directed to reproduction. Body colour polymorphism is known in Corixidae and wing polymorphism is well represented in many families. A few nepomorph species are known to have summer diapause (aestivation).

Ch. 7. Leptopodomorpha

This infraorder of semiaquatic bugs consists of 4 families and more than 300 species. The infraorder is distributed worldwide, but the biggest family (Saldidae) is more diverse in the Temperate Zone than in the Tropics. Species mostly inhabit shores of various water bodies and the inter-tidal zone of seas, though some species dwell in terrestrial habitats, sometimes far from open water.

Seasonal development of Leptopodomorpha is poorly studied. Many species of Saldidae and, perhaps, Aepophilidae and Leptopodidae overwinter as adults. Some genera of Saldidae typically overwinter as eggs, though some other species in this family can overwinter as nymphs. In general, some species of Saldidae seem to have rather unstable seasonal cycles and overwintering strategy may differ both between and within populations, a feature very unusual for Heteroptera. Saldids produce 1–3 generations in the Temperate Zone. Micropterous *Aepophilus bonnairei* (Aepophilidae) spends most of its life under the water, probably overwinters as adults and produces one generation annually. Wing polymorphism is common in Saldidae, though it is probably not seasonal.

Conclusions

Seasonal development of aquatic and semiaquatic Heteroptera is strongly influenced by their relationship with water habitats and seasonality of this environment. In the

Temperate Zone, these insects typically overwinter as adults and annually produce 1 or 2 generations (sometimes the 2nd generation is only partial). Many other species, however, overwinter as eggs or nymphs, produce more generations or have semivoltine cycles. Subtropical and tropical species or populations often breed all the year round and thus have homodynamic pattern of seasonal development. Aquatic and semiaquatic heteropterans utilize a very wide range of aquatic, terrestrial and sometimes subterranean microhabitats for overwintering.

The physiological mechanism controlling facultative winter diapause has been studied only in a few species of Gerridae, Veliidae, Belostomatidae, and Notonectidae, but perhaps at least its induction is generally under the photoperiodic control.

Sexual maturation before overwintering, winter activity, and instability of seasonal cycles are features unusual for terrestrial heteropterans but are known in some aquatic and/or semiaquatic bug species.

Wing polymorphism is typical for many aquatic and semiaquatic Heteroptera species. It can be under environmental control, at least in some species, and sometimes is associated with polymorphism of both flight muscles and coloration.

Seasonal timing of growth, reproduction and dormancy, migrations, polymorphism and seasonal polyphenism as well as other seasonal adaptations create great diversity of seasonal cycles making each species of heteropterans ecologically unique. These seasonal adaptations allow true bugs' populations to survive under environmental conditions with pronounced alternation of favorable and unfavorable seasons.

Seasonal development of many aquatic and semiaquatic taxa of Heteroptera remains poorly studied. Further detailed research of phenology and seasonal eco-physiology is needed for better understanding of ecology and evolution of these unusual insects in their unusual environment.

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Morphological intergradation between *Sigara dorsalis* & *S. striata*.

Robert Angus & Gary Moody

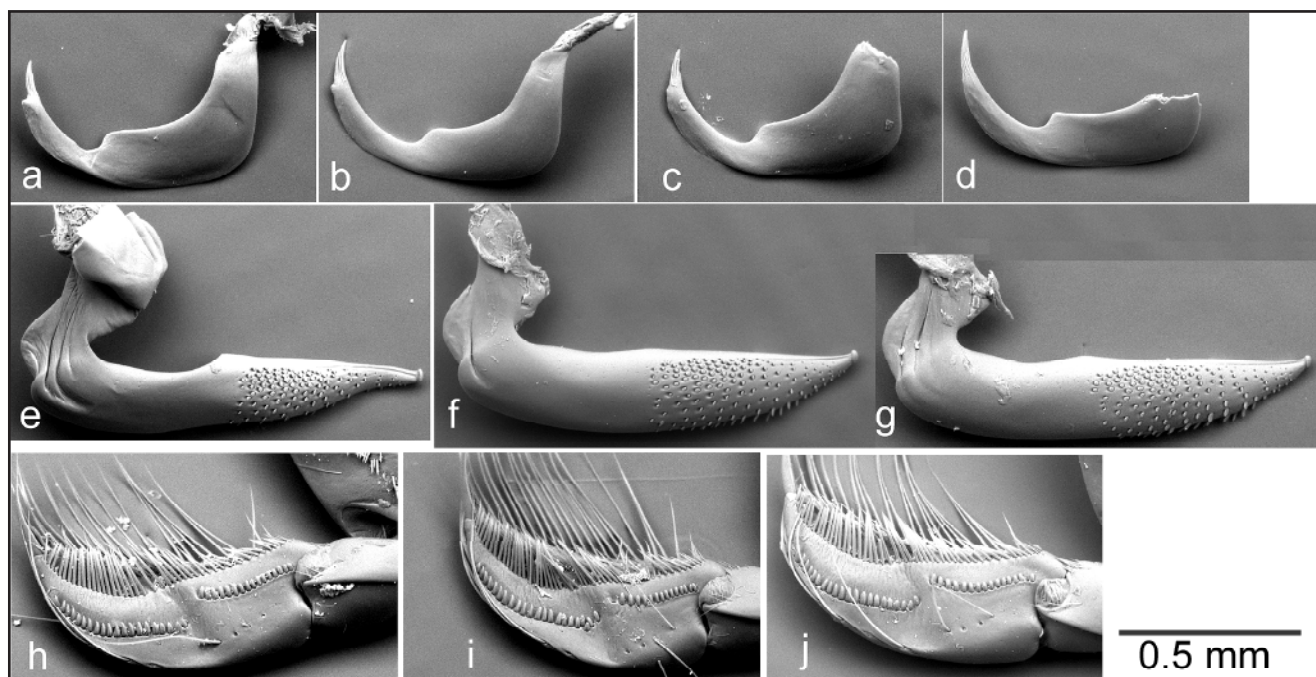


Figure 1 - Parameres & palae of *S. striata* & *S. dorsalis*.

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a – d, right parameres: a, type 4, l. of Lewis; b, type 3, Staines; c, type 2, Staines; d, type 1, Slapton. **e – g, left parameres:** e, *dorsalis*, l. of Lewis; f, *striata*, Camber; g, hybrid, Camber. **h – j, palae:** h, typical *dorsalis*, Staines; i, *dorsalis* with *striata* pattern, l. of Lewis; j, *dorsalis* with *striata* pattern, Staines.

Madness takes many forms! In this case it was taking students pond-dipping (“Ecological Methods”) in Langham Pond, Runnymede (Berks) on a cold February day, about 10 years ago. Not surprisingly, we didn’t catch very much, but that was actually an advantage. The “ecological method” that day was serious use of identification keys (what else would you expect as an ecological method from a taxonomist?), & back in a warm lab we got stuck in. Among the few invertebrates captured were several *Sigara dorsalis*, males & females. Identification (using Macan’s key) didn’t take long, but then, towards the end of the day, a couple of perceptive students drew my attention to the outer row of palar pegs of one of the males – the basal couple of pegs were out of line, in the manner of *S. striata*. So, for the first time in my life, I dissected a male *Sigara*. To my astonishment the small right paramere lacked any trace of the subapical lateral spine characteristic of *S. dorsalis*, & looked exactly like the illustration of *S. striata*. The large left paramere was entirely normal *dorsalis*, with a strong excision of the dorsal margin towards the base. By that time in the afternoon the rest of the material had been thrown away, but my immediate thought was that the known hybrid zone between these species, in Kent & East Sussex, had moved west to our area of Surrey & Middlesex. Clearly worth investigating, but I had a lot going on, & it was not until 2005, when I suggested the topic for a student project, & got a taker (Gary Moody) that the investigation began.

The first discovery was that *S. dorsalis* was not to be had in Langham Pond, but it was abundant in the nearby River Colne on Staines Moor (Middlesex). Most specimens were normal *S. dorsalis*, but some had the inner palar pegs of the apical row out of line, & some had the subapical spine of the right paramere reduced or absent. None showed any variation in the left paramere – always of the typical *dorsalis* pattern. The next discovery was that the River Colne (strictly the Colne Brook) at Colnebrook, about 3 km upstream of Staines Moor, was one of the sources of material used by

Savage & Parkin (1998). Savage & Parkin concluded that the two parameres & the palar pegs were the most useful characters for separating *S. dorsalis* & *striata*, & devised a method of scoring these which, they hoped, would separate hybrids from variants of either species. In their scheme a *striata* left paramere counted as –3, & a *dorsalis* one +3. The right paramere scored either –2 or +2, & the palar pegs either –1 or +1. Intermediate characters would score a lower value, either – (striata side) or + (dorsalis side). Using this scheme pure *dorsalis* would score +6, pure *striata* –6. They suggested that individuals scoring –1, 0 or +1 should be regarded as hybrids, but those with scores between –2 & –5, & +2 & +5 should be regarded as variants of *S. striata* & *S. dorsalis*. Since the left paramere was invariably pure *dorsalis* (+3) in the Surrey & Middlesex material, only specimens with *striata* palae (–1) & *striata* right parameres (–2) would count as hybrids. None of the 2005 material counted, but the first, Langham Pond, male obviously did. Further thought led to the realisation that the occurrence of specimens with hybrid scores using this system must be a function of the frequency of specimens with deviant palar pegs & right parameres. The more common these specimens were, the more likely it was that the two deviant characters would occur in the same specimen.

The obvious next step was to study material from the known hybrid zone. The site chosen was at Camber (E. Sussex, the sandpit where I found *S. iactans* – see *HetNews* 6). This site has typical *S. striata*, numerous hybrids with both parameres & the palar pegs showing introgression & some almost typical *S. dorsalis*, though never with the subapical spine of the right paramere fully developed. The impression given by these bugs was quite unlike our River Colne material. It thus seemed that what we had been finding could well have been variation in normal *S. dorsalis*, whose palar pegs & right parameres could occasionally be of the *striata* pattern. To investigate this further we would need material of *S. dorsalis* from areas far removed from *S. striata*.

Table 1 - Palar peg scores for *S.striata* & *S.dorsalis*.

Category	Hebrides	Staines Moor	Slapton Ley	Camber
"s"	10	15	6	47
"d"	43	45	46	19
Total	53	60	52	66

Table 2 - Right paramere scores for *S.striata* & *S.dorsalis*.

Category	Hebrides	Staines Moor	Slapton Ley	Camber
1	0	6	1	45
2	0	9	9	13
3	0	21	27	8
4	67	24	28	9
Total	67	60	65	66

As it happened, I had two trips "out West" lined up – one to the Hebrides for *Corixa iberica* (see *HetNews* 7) & one to Plymouth for a friend's wedding – here Slapton Ley seemed a promising place.

The other necessity was a system of scoring the characters to be used for analysis. This is shown in Fig. 1, scanning electron microscope pictures of the structures. The character assessments are as follows: Right paramere – category 4, full-blown *S. dorsalis*, refers to strong subapical spines, & includes the weakest found on the Hebrides (where no *striata*-type parameres were found) (Fig. 1a); category 1 comprises *striata*-type parameres, completely devoid of subapical spines (Fig. 1 d); category 2 (Fig. 1c) has a slight angulation of the outer margin of the paramere in the position where the subapical spine would be, & category 3 has a very slight projection at this point (Fig. 1b). The left paramere was not used in the analysis as no *striata*-like specimens were found except at Camber. Fig. 1e shows a normal *S. dorsalis* paramere, & Fig. 1f a normal *S. striata* one. Fig. 1g shows a hybrid with a very weak basal excision to the inner margin. In practice, the appearance of the left paramere is very sensitive to orientation, so that intermediates would be hard to assess.

Representative palae are shown in Fig. 1h...j. Figure 1h is typical *S. dorsalis*, with the pegs at the basal end of the distal row in line with those preceding them. Fig. 1j shows a typical *S. striata*-type pala (actually *dorsalis*!), with the basal peg clearly out of line, while Fig. 1i shows a *S. dorsalis* from the Isle of Lewis with the basal pegs clearly out of line. Some other *S. dorsalis*, from all the localities, showed an appearance like Fig. 1j, with 1 – 3 pegs out of line with the preceding ones, but without the "snaggled" appearance of Fig. 1i.

For analysis the palar pegs were scored as either "d" (*dorsalis*) or "s" (*striata*). The full breakdown of the material is given in tables 1 & 2. Note that the specimens from the two Hebridean localities (I. of Lewis, lochan at N end of the B895 road, 3 km N of Tolsta Head, & I. of Skye, Loch Leathan, about 8 km² N of Portree) have been pooled to give a sample similar in size to the others, & because there appeared to be no difference between specimens from the two localities.

Statistical analysis of these data is by χ^2 tests on contingency tables. For palar pegs analysis of all sites gives a χ^2 value of 60.19, with a $p < 0.001$ for the samples showing no difference from one another – i.e. there is a highly significant difference between arrangement of the palar pegs in at least some samples. However, if the Camber sample (*S. striata* & hybrids) is excluded the χ^2 value is 3.3 & the $p = 0.19$ – i.e. there is no significant difference between the frequencies of *striata*-type palar pegs in the three *S. dorsalis* populations.

In the case of right parameres the situation is more complex. Analysis of all the populations gives a χ^2 value of 222.4 & again $p < 0.001$ for the samples showing no differences from one another.

Examination of the raw data (Table 2) shows that the samples from the Hebrides (all type 4 parameres) & Camber (no type 4 parameres & two thirds of the specimens with type 1) are strikingly different, both from each other & also from the Staines Moor & Slapton Ley samples. Analysis of the Staines Moor & Slapton Ley samples gives a χ^2 value of 4.44 & $p = 0.22$ – no significant difference between them.

Thus, we now have a situation where all the *S. dorsalis* populations investigated show a small proportion of individuals with *S. striata*-type palar pegs, so this character fails as a diagnostic. However, none of the Hebridean *S. dorsalis* shows reduction of the subapical spine of the right paramere, but this character is present, in similar proportions of individuals, in both Middlesex & Devon *S. dorsalis*.

The question is, how did these *S. dorsalis* populations acquire the reduced subapical spine? If it is simply a component of the *dorsalis* gene pool, then it might be expected to occur in all the populations, as with *striata*-type palar pegs.

Examination of the figures of the right parameres of the six European species of *Sigara* (*Sigara s. str.*) figured by Jansson (1986) shows that two of them, *S. janssoni* Lucas, from the NW part of the Iberian Peninsula, & *S. servadeii* Tamanini, from Corsica & Sardinia, have parameres sometimes with & sometimes without subapical protuberances. So, it could be that *S. striata*-type right parameres are simply part of the natural variation of *S. dorsalis*, but not found throughout its range. There remains the intriguing possibility that they might have infiltrated southern English *S. dorsalis* via the hybrid zone in Kent & Sussex.

Acknowledgement

I thank Professor Alan Gange for help with the statistical analysis.

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Biting bugs found in association with imports in England and Wales

Sharon Reid & Chris Malumphy

Exotic heteropterans are regularly transported between countries as a consequence of the international plant trade. Terrestrial and aquatic predatory heteropterans, some capable of inflicting painful bites with their piercing-sucking mouthparts, are occasionally intercepted with imported plants and plant material. Many of the interceptions consist of nymphs and cannot be identified to species rank. Of those that could be identified, the most notable intercepted species are discussed below.

Probably the largest and most conspicuous species intercepted were members of the Belostomatidae, commonly known as 'giant water bugs' or 'toe-biters'. These fierce predators stalk, capture and feed on aquatic crustaceans, fish and amphibians. Bites to people usually result from accidental contact or deliberate handling, and are considered one of the most painful that can be inflicted by a non-hymenopterous insect. The longer the bug is allowed to inject its saliva, the worse the resulting bite, and as the saliva can liquefy muscle tissue, it can in rare instances lead to permanent damage. Belostomatids commonly feature in Asian cuisine and are a common sight in Thai markets. *Lethocerus annulipes* (Herrich-Schaeffer) (Fig.1) was found in association with *Coccinia grandis* (L.) imported from the Dominican Republic in November 2007. Previous records include *Lethocerus indicus* (Lepeletier & Serville) which was discovered aboard a general cargo ship at Avonmouth Docks, Bristol in 1967. Another large Belostomatid, *Hydrocyrius columbiae* Spinola, was found among West African palm kernels aboard a cargo ship at Hull Port in 1951.



Figure 1. *Lethocerus annulipes*
(Image Crown Copyright courtesy of CSL)

There are many examples of bugs of the family Reduviidae imported accidentally on plant material; many of the larger species could potentially bite humans. Some reduviids, the 'assassin bugs' or 'kissing bugs', will probe and suck blood from humans and are capable of transmitting potentially deadly parasitic diseases. A single *Triatoma rubrofasciata* (De Geer) (Fig. 2) adult was intercepted on imported dessicated coconut from Philippines in 1977. This species is believed to have spread from Latin America to parts of North America, Asia, Oceania and Africa with rats on sailing ships between the 16th and 19th centuries (Schofield, 2008). It is an important vector of Chagas disease, a human tropical parasitic disease, which occurs in the Americas. Transmission of the causative agent, *Trypanosoma cruzi*, occurs by consumption or contact with infected bugs or their faeces; *T. cruzi* is not transmitted by the bite of the insect. It is believed that some Latin American Triatominae species, including *T. rubrofasciata* and *T. infestans* (the most important vector of

Chagas disease), could survive in temperate areas, including Southern Europe, where environmental conditions would be similar to those at the southern and northern limits of distribution in the Americas (Schofield, 2008). Even in colder regions, domestic species could survive in heated urban dwellings (Schofield, 2008). Chagas disease is becoming of increasing concern in 'non-endemic' countries, the World Health Organisation last year launched a special task force in relation to this. Cases have been reported from USA, Canada, Japan, Australia, and many European countries - including Spain, Switzerland, France and the UK where there are currently about 10 cases known. These cases are mainly due to people arriving infected from Latin America, others are due to transmission from blood transfusions or organ transplants from infected donors (Schofield, pers. comm.)

Interceptions of another biting reduviid, *Arilus cristatus* (L.) the wheel bug, were reported previously in *Het News* (Reid, 2005).

The most frequently encountered biting bug in the UK is the common bed bug *Cimex lectularius* L., which is becoming more common, some recent estimates are as high as a 300% increase in London year on year. The second author has had



Figure 2. *Triatoma rubrofasciata*
(Image Crown Copyright courtesy of CSL)

the misfortune to share accommodation in India with the tropical bed bug, *Cimex hemipterus* Fabricius, even finding dead specimens in his rucksack on returning to the UK. *Cimex hemipterus* was once intercepted on a consignment of mixed fruit and vegetables from Bombay, but is more likely to be transported in luggage and other belongings. The most-cited reason for the dramatic rise in bed bug cases worldwide is the increase in international travel (Masetti & Massimo, 2007).

Prevention of bites from heteropterans is best accomplished by being aware of situations you might come in contact with them and taking care when required to handle them.

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SPECIES REPORTS

New to British Isles: *Nysius huttoni* White, 1878

Nigel Cuming

On 17th September 2007 I found a small hairy *Nysius* whilst working an area recently treated chemically to eradicate Bracken (*Pteridium aquilinum*) at North Warren RSPB reserve (TM4559, VC 25, E. Suffolk). On reaching home I endeavoured to identify it from the literature I had to hand (forgetting the excellent short paper by Berend Aukema in *Het News* 6, Autumn 2005).

I met Bernard Nau at the BENHS autumn meeting and he agreed to check the specimen for me. He tells me that after puzzling for a while he posted the bug to Bill Dolling, only to remember next day that *N. huttoni* was colonising the Low Countries and, on checking the literature, found that this was the identity of the Suffolk specimen, as was also confirmed by Bill Dolling. He also advised me to look for more in the spring.

My search commenced at the original site & in early May I found the bug in good numbers; many "in cop" during the second week of May & large numbers of nymphs of various ages were also seen.

The habitat favoured was sparsely vegetated sandy soil with Sheep's sorrel (*Rumex acetosella*). So far I have found the bug at 4 sites on the Suffolk coast, including RSPB Minsmere reserve. Would local or visiting entomologists let me know, please, if they find the bug in Suffolk as I hope to give a more comprehensive account in the next issue. Also I wish to thank the RSPB for permission to work on the above reserves.

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Zicrona caerulea associating in spring with *Altica palustris* Weise (Col.: Chrysomelidae).

Jerry Bowdrey

On the morning of 31st March 2008 (seemingly the first day of any appreciable spring sunshine this year!) large numbers of a small chrysomelid, recognised as an *Altica* sp., were seen basking on low plants and dead leaves in the flowerbeds of the author's garden at Thorpe-le-Soken, (V.C.19, TM173229).

Closer examination of one group of beetles (Fig.1), on the leaf of a Mullein (*Verbascum* sp.), revealed that one individual was considerably larger than the others, although matching them perfectly in colour, on closer inspection this proved to be the shieldbug *Zicrona caerulea*.

Little interaction between *Z.caerulea* and the beetles was observed other than the bug pushing away with its hind legs any beetle that came too close. The insects continually adjusted their position in relation to the sun and the bug was seen on one occasion to walk over the beetles, but without eliciting any jumping response from them. At no time did *Z. caerulea* investigate the beetles with either its antennae or rostrum, or in any way seem interested in them as potential prey. Nearby, a second example of *Z. caerulea* was found, again basking with a group of *Altica*.

Species of the Genus *Altica* are difficult to separate and some examples of the Thorpe-le-Soken beetles were collected for dissection. These proved to be *Altica palustris* Weise, a widespread species. Cox (2007) lists no recorded predators for this species.

Hawkins (2003) recorded several instances of adult *Z. caerulea* being found close to colonies of *Altica lythri* Aube, up to 20 adult bugs being found together on one occasion, with feeding on a larval beetle also being observed. According to Cox (*loc.cit.*), *Z. caerulea* is known to prey on adults and larvae of a variety of chrysomelid beetles including adults and larvae of *Altica oleracea* (L.), and 'various life stages' of *A. lythri* Aube. However, Hawkins (*loc.cit.*) found that, in captivity, the nymphs, at least, of *Z. caerulea* seemed unable to cope with adult beetles.

Whilst occasional examples of *Z. caerulea* have been seen in the garden over the last ten years, *A. palustris* had not been recorded there before. *A. palustris* feeds as a larva on willowherbs (*Epilobium* spp.) (Cox, *loc.cit.*), a plant which is not present in the garden, but which occurs on a poorly drained, set-aside field across the road. A likely explanation

is that both *A. palustris* and *Z.caerulea*, enjoying similar overwintering conditions, had moved into the garden from the open field to hibernate.

Acknowledgement

Thanks are due to my friend and colleague Nigel Cuming for his assistance in confirming the identity of *Altica palustris*.

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Figure 1 - *Zicrona caerulea* with *Altica palustris*.

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Water-cricket, whirligig beetle, water scorpion & horse leech interactions.

Adrian Chalkley

Through my garden in Boxford in Suffolk (TL969404) runs a stream called Hol Brook, a headwater of the River Box. It starts life as a few farm ditches which join together and are added to by a couple of springs on the clay hillsides above the village. Its course is interrupted by an earth dam causing it to swell into a lake, once used to breed trout for fishing, now shallow and silted up at one end and used by kingfishers, also for fishing.

The Water Cricket, *Velia caprai* is a species which is common on most streams in the area. However I have modified our stretch of Hol Brook so that there are always several relatively deep pools with a fairly still surface, whatever the season or flow rate. As a consequence the population of *Velia* in our garden has soared and sometimes, in the sunlight or at night by torchlight, the surface seems to be literally alive with randomly moving individuals. Elsewhere down the stream shallow water in summer and tumultuous flows in winter seem to result in much smaller numbers of all surface bugs.

One Monday night last June I went down with the torch at about 10pm. *Velia* were present in great numbers after a very successful first brood of young. Hundreds and hundreds were swirling round and round either running across the surface film or skating as if jet propelled, searching for small prey. But that night there were also a couple of Whirligig Beetles (probably *Gyrinus substriatus* although some Hairy Whirligigs, *Orectochilus villosus*, were seen in the village streams that week) and this caused a strange behaviour I have never seen before from the water crickets.

Every few seconds a water cricket would go up close to one of the whirligigs and apparently touch or bump into it, causing the beetle to swim away. This was followed by another cricket repeating the procedure. I watched for 20

minutes or so and this behaviour continued more or less constantly. One explanation is that the water crickets were 'mobbing' or intimidating the whirligig beetles, though I realise it could also be that they were simply examining them to see if they were edible. Certainly I saw no actual attempt by either species to eat the other. By next morning the whirligigs had gone, outnumbered a few hundred to one and fed up with the situation no doubt. I wonder if anyone else has seen similar behaviour or has any information that may lead to a better explanation of *Velia* motivation?

During the rest of the summer occasional whirligigs appeared but although I saw no repeat of this behaviour neither did the whirligigs remain for more than a few hours, though I except that this could be coincidence.

On the same night down on the stream bottom I watched a very large Horse Leech (*Haemopsis sanguisuga*) snaking its way along the mud until it bumped into one of the many Water Scorpion (*Nepa cinerea*) patrolling the bottom. Both backed away and moved to one side, bumped heads again and this time managed to go in opposite directions. I suppose if neither predate the other then this was the equivalent of many a pedestrian encounter in any town.

Both leech and scorpion have had a constant presence in my stream since we moved here, in 1984, as has the water cricket. It's rather nice to have a breeding population of animals on your land and in your care. Certainly these three 'signature' species have all increased in numbers over the years and seem to have responded well to the changes I have made to the stream.

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SHORT NOTES

Reduvius personatus : One in central Peterborough in April 2008. in the house of one of the *Buglife* staff who brought it to the office to be admired!

Cimex lectularius : I now have a bed bug too. Last year the local press said that the bed bug was spreading in Peterborough but otherwise this is a biodiversity secret of this 'Environment City'. However, she of *Reduvius* fame noticed a city pest control van next door. It turned out that they were fumigating the house, let out to E European immigrants. The penny dropped that the reason for the mystery bites in her house had an explanation, & yes it was, & yes fumigation was implemented (*Reduvius* & all). The fumigation people said the city is rife with bed bugs, especially in terrace housing where they easily spread between houses - there is one terrace where they now refuse to intervene as it is like painting the Forth Bridge! One mode of spread is second-hand furniture.

For mapping purposes Peterborough can be depicted as a black spot for bed bug, but may be equalled by other places with many immigrants. Just as well the insect was not put forward as a BAP species, though qualifying as threatened (by fumigation).

Alan Stubbs

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Canthophorus impressus : My son & I found and photographed this bug at Durlston Country Park, Swanage, Dorset (VC9) on 3rd May 2008, it was on downland just above the mile markers. We showed the park rangers, they said it had not been recorded there before.

Lucie Aggas

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***Crocistethus waltianus* - news from the supermarkets:**

My coleopterist friend Peter Kendall recently gave me a shieldbug found in a cabbage on 3rd March 2008. It was a ♀ *Crocistethus waltianus*, so far as I know the first in Britain. The species belongs to the Cydnidae, subfamily Sehirinae and has a circum-Mediterranean distribution. In size & build it resembles *Legnotus* but is instantly recognisable as a *Crocistethus* because corium, clavus and tibiae are largely creamy and the membrane whitish with brown, reticulate venation. The cabbage came from the Tesco supermarket in Goole (SW Yorks, VC63) & originated in Spain.

This is not the first time Peter has encountered an alien shieldbug in Yorkshire. In 1994 he presented Stuart Foster with a specimen of *Eurydema oleracea* found, on May 31st of that year, on Potatoes at a branch of Sainsbury's in York.

Bill Dolling

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Eurydema oleracea : Peter Brough reported that although this species had previously been very scarce in N Hants (VC12), in spring of 2007 it appeared in large numbers. It was also recorded in the Bristol area during 2007, where previously it had been absent. The Bristol records are:

- Bristol Downs ST5674 (VC 34) 19th April 2007 Robert Cropper, one on *Alliaria petiolata*.
- Lawrence Weston Moor, Bristol ST537 784 (VC34) 29th April 2007 Ray Barnett one swept just outside the reserve on the edge of allotments.
- Bristol Downs ST563745 (vc 34) 5th June 2007 Ray Barnett, 3 swept.

Have other recorders noticed an expansion of range?

Ray Barnett

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AROUND THE BRITISH ISLES

Jonty Denton

Some records of note from SE England, 2006-2007

S HAMPSHIRE

GERRIDAE

Aquarius paludum - having turned up in Dorset (*Het News* 9) it is no great surprise to find this pondskater in S. Hampshire, where adults were present on an open fishing pond at Abshot Fen (SU5105), in May 2007.

PENTATOMIDAE

Holcostethus vernalis - one male in a rough grassy glade at Locks Heath (SU5006), 29.v.07, was new for Hampshire and VC11.

N HAMPSHIRE

MIRIDAE

Calocoris roseomaculatus - was present at Farnborough Airfield (SU8654). It is a scarce bug in N. Hampshire and rare in adjacent Surrey.

Miridius quadrivirgatus - acid grassland at Minley (SU8356), 27th July 2007.

LYGAEIDAE

Rhyparachromus pini - singleton alighted on top of a 'tin' in middle of open field at Minley, although suitable habitat was within 100m.

COREIDAE

Ceraleptus lividus* & *Podops inuncta: on & under corrugated tin & roofing felt pieces used to monitor reptiles. The latter species is easily overlooked but in my experience abounds under such refugia at most grassy sites in Southern England.

Bathysolen nubilus - several under black medick (*Medicago lupulina*) on disturbed heathy grassland on edge of Farnborough Airfield (SU8654), 4th June 2007, new for Hampshire.

PENTATOMIDAE

Podops inuncta - with *Ceraleptus* (see above)

W KENT

GERRIDAE

Aquarius paludum

Following on from my report of huge numbers on the pools at this site in 2005. It was a surprise to find no sign of this species on the same ponds until well into June 2006, despite *G. lacustris* being active from March onwards. Vegetation cover had increased dramatically and the area of open water greatly reduced. However four more new ponds were created in July, which were rapidly colonised by *A. paludum*.

COREIDAE:

Ceraleptes lividus: several on remnant of undisturbed chalk grassland, July 2006.

RHOPALIDAE:

Stictopleurus abutilon: one male in tall grassland 30th June 2006.

The following in rough ruderal grassland, 20th June 2007:

COREIDAE: *Corizus hyoscarni*, *Bathysolen nubilus*.

RHOPALIDAE: *Stictopleuron abutilon*.

PENTATOMIDAE

Sciocoris cursitans: on sparsely vegetated track, in herb rich

Vice County 11

open grassland, 6th August 2006 Woolwich Arsenal (TQ 7268)

LYGAEIDAE: *Aphanus rolandri*, *Megalonotus praetextatus*.

SURREY

LYGAEIDAE

Megalonotus antennatus - two under roofing felts left to monitor reptiles, Wormley, Combe Lane (SU9437), 12.th June 2007, first in Surrey since 1954.

Address:

Dr.Jonty Denton,
29 Yarnhams Close, Four Marks, Hants, GU34 5DH.

Vice County 17

John Campbell

BERKSHIRE & OXFORDSHIRE Vice Counties 22 & 23 Update to Massee's 1955 list for Oxfordshire

Below are listed the species of Heteroptera recorded since the publication of *The County Distribution of the British Hemiptera-Heteroptera*, 2nd edition, A. M. Massee, *Entomological Monthly Magazine*, 91, 1955. The Oxfordshire Biological Records Centre compiled these records, which cover the administrative county of Oxfordshire, created in 1974, and which is composed of the 'old' Oxfordshire, vice-county 23, and northwest Berkshire, part of vice county 22. Records from the remainder of vice-county 22 have not been included. The River Thames is the boundary between the two vice-counties and some 10km squares are shared.

1st records are given showing vice-county, 10km square, location, date and recorder. Subsequent records are given in the form of 10km. squares. Full details of all records, including where appropriate the determiner, are held by the Thames Valley Environmental Records Centre.

There could well be earlier records for some species and species of which I am unaware. I would be grateful for any further Oxfordshire records.

Abbreviations:-

BN - Dr. B.S. Nau, RR - Dr. R. Ryan, JMC - J.M.Campbell, WjleQ - Dr. W. J. le Quesne, PK - Dr. P. Kirby, WS - Wytham Survey;
M - Massee; where one vice-county has been recorded by Massee the vice-county is given followed by a capital M.

Heteroptera new to Oxfordshire since 1955

Micronecta griseola

vc22 - SP40 R.Thames, both Wolvercote & Eynsham, 2002, BN

Micronecta minutissima

vc22 - SP40 R. Thames, both Wolvercote & Eynsham, 2002, BN

vc23 - SP51 Gosford, 1934, VCH.. SP40, SP42.

Cymatia bonsdorffii

vc22 - SU28 Bourton Pond, 1988, PA. SU59.

vc23 - SP50 Oxford, 1975, PK. SP31, SP51.

Cymatia coleoptrata

vc22 - M

vc23 - SP41, Blenheim Park, 1957, Hope Collections. SU69, SP40, SP50, SP60, SP51.

Arctocoris germari

vc22 - SU28, Ashbury, 1988, PA. SP40.

vc 23. SP21, Swinbrook, 1988, PA. SP51.

Corixa affinis

vc22 - SU49, Frilford, 1932, Hope Collections.

Corixa panzeri

vc23 - M

vc22 - SU38, Letcombe Regis, 1988, JMC. SU28, SU49, SU59, SP40.

Hespercorixa castanea

vc23 - SP40, Oxford Canal, 1940, A. MacFayden. SP51.

Paracorixa cocinna

vc22 - SU28, Ashbury, 1988, PA. SU49, SP40.

vc23 - SP21, Ascott-under-Wychwood, 1981, JMC. SP41, SP51.

Sigara scotti

vc 22 - M

vc23 - SP31, Wychwood Forest, 1968, WS. SP30, SP40, SP51.

Mesoveliea furcata

vc22.

vc23 - SP31, Wychwood Forest, 1976, WS. SP21, SP41, SP44..

Gerris lateralis

vc22 - SP50, Bagley Wood, 1983, JMC.

vc23 - SP51, Wendlebury Meads, 1981, JMC. 1/33

Salda littoralis

vc22 - SP30, River Thames, 2004, JMC. 1/11

vc23 - SU58, South Stoke, 1997, JMC.

Myrmedobia exilis

vc22 - SP50, Bagley Wood, 1980s. Dr. W. Wint. .

***Bryocoris pteridis* vc23 M**

vc22 - SU29, Badbury Forest, 1986, JMC. SU28, SU49, SP40..

Dicyphus annulatus

vc23 - M

vc22 - SU58, The Breach, 1993, JMC. SU39, SU49, SU59.

Dicyphus constrictus

vc22 - M

vc23 - SP21, Widley Copse, 1981, JMC. SP50, SP31, SP41, SP32, SP42.

Macrolophus rubi

vc22 - SU49, Cothill, 1988, Dr K. Porter.

vc23 - SP22, Foxholes, 1985, WJleQ. SU78, SU59, SP51.

Tupiocoris rhododendri

vc22 - SP50, Bagley Wood, 1992, JMC.

vc23 - SP31, Eynsham Hall Park, 1985, JMC.

Deraeocoris flavilinea

vc23 - SP53, Cottisford, 2004, JMC.

Alloeotomus gothicus

vc22 - SU49, Tubney, 1987, JMC. SU38, SU58, SU29, SU39, SU59.

vc23 - SP31, Fairspear, 1986, JMC. SU68, SP50, SP60, SP21, SP32, SP23.

Calocoris alpestris

vc23 - SP44, Hanwell, 1993, JMC. SP21, SP32.

Dichroscytus gustavi

vc22 - SU58, Aston Upthorpe, 1968, Dr L.K Ward. SU28

vc23 - SU68, Nuffield Cmn, 1968, Dr L K Ward. SU69, SU79, SP70.

Lygocoris populi

vc22 - SU49, Frilford, 2005, JMC.

vc23 - SU59, Clifton Heath, 1993, BN. SP20, SP40.

Lygocoris viridis

vc23 - M

vc22 - SP50, Bagley Wood, 1942, WS. SU28, SU58, SU29, SU49, SU59, SP40.

Lygus maritimus

vc22 - SU48, Knollend, 1995, JMC. SU49.

vc23 - SU77, Caversham, 1990, JMC. SU68, SU59, SU79, SP50, SP60, SP31, SP51, SP33, SP34.

Megacoelum beckeri

vc22 - SU59, Sutton Courtenay, 1982, JMC. SU58, SP40.

vc23 - SP33, Hook Norton, 1982, JMC. SP40, SP22, SP63.

Orthops basilis

vc22 - SU49, Frilford, 2033, JMC.

vc23 - SP33, Lambs Pool, 1988, JMC. SP20, SP53, SP63.

Phytocoris dimidiatus

vc22 - SU68, Cholsey Marsh, 1984, JMC. SU28, SU68, SU29, SP50.

vc23 - SU79, Aston Rowant NNR, 1947, WS. SU68, SU79, SP30, SP40, SP50, SP60, SP70, SP21, SP41, SP51, SP61, SP22, SP32, SP33.

Polymerus palustris

vc22 - SU68, Cholsey Marsh, 1986, JMC.

vc23 - SP62, Blackthorn Pond, 1981, JMC. SP30, SP31, SP51, SP52.

Myrmecoris gracilis

vc23 - SP50, Oxford, 1999, D. Mann.

Acetropis gimmerthali

vc22 - M

vc23 - SP41, Blenheim Park, 1992, JMC. SP50, SP60.

Teratocoris antennatus

vc23 - M

vc22 - SU68, Cholsey marsh, 1986, JMC.

Teratocoris saundersi

vc23 - M

vc22 - SU28, Shrivenham, 1993, BN. SU49.

Trigonotylus caelestialium

vc22 - SU49, Frilford, 1997, JMC. SU39.

vc23 - SP21, Burford, 1992, JMC. SP20, SP50, SP41, SP51, SP33, SP34.

***Malacocoris chlorizans* vc23 M**

vc22 - SP40, Wytham Woods, 1956, WS. SU28, SU38, SU29, SU49, SU59, SP40.

Mecomma dispar

vc23 - SP231, Burford, 1986, JMC.

***Orthotylus tenellus* vc22 M**

vc23 - SP31, Wychwood Forest, 1965, G.E. Woodroffe. SU67, SU77, SU59, SU69, SP20, SP30, SP40, SP50, SP60, SP21, SP41, SP51, SP61, SP32, SP42, SP52, SP23, SP33, SP43, SP63, SP34, SP44. SP45.

Orthotylus viridinervis

vc22 - SU49, Marcham, 1998, Dr J.S. Denton.

vc23 - SP50, Oxford, 1956, Dr G.C. Scudder. SP40, SP21, SP31, SP41.

Orthotylus adenocarpi

vc22 - SU49, Tubney, 1992, JMC.

vc23 - SU59, Clifton Heath, 1997, JMC. SP50, SP41, SP33.

Orthotylus bilineatus

vc22 - M

vc23 - SP60, Spartum Fen, 1988, JMC. SU68, SU78, SP50, SP45.

***Orthotylus flavosparsus* vc22 M**

vc23 - SP44, Hanwell, 1983, BN. SU77, SU68, SU59, SU69, SP20, SP30, SP40, SP50, SP60, SP21, SP31, SP51, SP52, SP33, SP63, SP34.

Orthotylus caprai

vc23 - SP50, Oxford, 2006, RR.

Pilophorus cinnamopterus

vc22 - M

vc23 - SP70, Thames Park, 1988, JMC. SP50, SP31, SP51.

Hallopdapus montandoni

vc23 - SU79, Aston Rowant NNR, 1986, Dr. S. Judd.

***Hallopdapus rufescens* vc22 M**

vc23 - SU79, Aston Rowant NNR, 1956, WJleQ.

Amblytulus brevicollis

vc23 - SP31, Wychwood Forest, 1986, WJleQ.

Asciodema obsoletum

vc22 - M

vc23 - SU79, Shirburn Hill, 1986, JMC. SU68, SU59, SP50, SP21, SP41, SP62, SP33.

Atractotomus parvulus

vc23 - SP61, Whitecross Green Wood, 1984, WJleQ. SP31, SP22.

Brachyarthrum limitatum

vc23 - SP60, Spartum Fen, 1987, JMC. SU68, SU59.

Campylomma annulicorne

vc23 - SP40, Lower Windrush Gravel Pits, 1985, JMC. SU59, SP41.

***Megalocoleus tanacetii* vc23 M**

vc22 - SU49, Tubney, 1982, JMC. SU28, SU48, SU29.

Monosynamma sabulicola

vc22 - SU49, Frilford, 1998, JMC.

vc23 - SP40, Lower Windrush Gravel Pits, 1988, JMC.

Oncotylus viridiflavus

vc23 - SP42, Nethercott, 2002, JMC. SU68, SU79, SP20, SP40, SP50, SP21, SP31, SP32.

Placochilus seladonicus

vc22 - SU39, Buckland, 1993, BN. SU58, SU49.

vc23 - SU68, Wood House farm, 1986, R.D. Hawkins. SU67, SP20, SP31, SP41.

Plesiodema pinetellum

vc22 - SU49, Tubney, 1995, JMC. SU28.

vc23 - SP33, Heythrop Park, 1988, JMC. SP44.

Psallus wagneri

vc22 - SU29, Buscot park, 1988, JMC. SU49, SP40, SP50. vc23 - SU79, Aston Rowant NNR. 1956, WJleQ. SP30, SP40, SP50, SP21, SP31, SP41, SP51, SP22, SP32, SP62, SP44.

Psallus albicinctus

vc22 - SP40, Wytham Wood, 1960, WS. SP50.

vc23 - SP62, Goddington, 2002, JMC. SP31.

Psallus mollis

vc23 - M

vc22 - SU29, Fernham, 1988, JMC. SU38, SU39, SU49, SU59, SP40, SP50.

Psallus falleni

vc23 - M
vc22 - SU49, Cothill, 1962, English nature. SU28, SU38, SU48, SU29, SU39, SU59, SP40.

Psallus flavellus

vc22 - SU28, Ashbury, 1986, JMC. SU38, SU49, SU59.
vc23, SU79, Aston Rowant NNR, 1956, WJleQ. SP20, SP30, SP50, SP60, SP31, SP41, SP51, SP22, SP42, SP63, SP44, SP45.

Salicarus roseri

vc23 - M
vc22 - SP40, Farmoor, 1983, BN. SU48, SU49, SU59, SP50,

Tythus pygmaeus

vc23 - SP40, Wolvercote, 1956, Dr GC Scudder. SU77, SU68, SP21, SP41.

Brachynotocoris puncticornis

vc23 - SP50, Barton, 2006, RR.

Stalia boops

vc22 - SU49, Tubney, 1915, Hope Collections.
vc23 - SU79, Aston Rowant R, 1956, WJleQ.

Anthocoris butleri

vc22 - SU49, Marcham, 1995, JMC. SU28, SP40.
vc23 - SP20, Brize Norton, 1984, JMC.

Anthocoris limbatus

vc23 - M
vc22 - SP50, Kennington Pool, 1991, JMC. SU68, SU49.

Anthocoris simulans

vc23 - SP44, Cropedy, 1983, BN. SU78, SP30, SP21, SP31, SP23.

Elatophilus nigricornis

vc22 - SU28, Shrivenham, 1997, JMC.
vc23 - SP31, Oxford, 1990, JMC. SP21, SP33.

Temnostethus gracilis

vc22 - SP40, Wytham Wood, 1953, WS. SU39, SU49, SP50.
vc23 - SP31, Wychwood Forest, 1963, G.E.Woodroffe. SP30, SP40, SP21, SP41, SP33

Orius laticollis

vc22 - SU59, Sutton Courtenay, 1992, JMC. SU28, SU49.
vc23 - SP44, Cropedy, 1984, BN. SU77, SU68, SP60, SP21, SP41, SP51, SP61, SP42, SP52, SP33.

Cardiastethus fasciventris

vc22 - M
vc23 - SU67, Boze Down, 1994, JMC. SU68, SU59, SU79, SP50, SP31, SP41, SP42.

Nysius senecionis

vc22 - SU49, Frilford, 2004, JMC.

Orthillus depressus

vc23 - SP50, Oxford, 2006, RR.

Cymus melanocephalus

vc23 - M
vc22 - SP40, Wytham Wood, 1956, Hope Collections. SU28, SU38, SU48, SU58, SU29, SU39, SU49, SP40.

Heterogaster artemisiae

vc23 - SU79, Aston Rowant NNR, 1957, GC Scudder. SU69

Metapoplax dimitoides

vc22 - SU29, Shrivenham, 1992, JMC.
vc23 - SP50, Barton, 2006, RR.

Drymus latus

vc22 - SU49, Tubney, 1915, British Association HB 1926.
vc23 - SP41, Enslow, pre1938, Victoria County History. SU79, SP20, SP21, SP51.

Eremocoris podagricus

vc22 - SU49, Frilford, 2005, JMC.
vc23 - SU68, Cleve, 2001, M. Townsend. SP51.

Gastrodes abietum

vc23 - M
vc22 - SU49, Marcham, 2006, JMC.

Taphropeltus hamulatus

vc23 - SU79, Aston Rowant NNR, 1956, GC Scudder.

Trapezonotus dispar

vc23 - SU79, Aston Rowants NNR, 1957, WJleQ. SU67, SP60, SP51.

Trapezonotus desertus

vc22 - SU49, Tubney, 1995, JMC.
vc23 - SU78, Nettlebed, 1996, JMC. SU68.

Megalonotus emarginatus

vc22 - SU49, Frilford, 1997, JMC. SU39.
vc23 - SU77, Caversham, 1990, JMC.

Peretrichus nubilus

vc22 - SU49, Hitchcopse, 2001, JMC.
vc23 - SU77, Caversham, 1986, JMC. SU78, SP51.

Lasiosomus enervis

vc22 - M
vc23 - SP21, Ascott-under-Wychwood, 1981, JMC. SU69, SP40.

Parapiasma quadratum

vc22 - Wytham Farm, 1988, Det. PK. SU29, SU49.

Berytinus crassipes

vc22 - M
vc23 - SU79, Aston Rowant NNR, 1957, WJleQ. SP33.

Gonocerus acuteangulatus

vc22 - SU49, Marcham, 2007, JMC.

Spathocera dahlmanni

vc22 - SU49, Tubney, 2003, JMC.

Ceraleptus lividus

vc22 - SU59, Little Wittenham, 1985, T. Godfrey. SU49.
vc23 - SU59, Culham, 1997, JMC.

Corizus hyoscami

vc22 - SU49, Marcham, 2006, JMC.
vc23 - SP21, Burford, 2007, JMC. SP60.

Brachycarenum tigrinus

vc23 - SP50, Oxford, 2006, RR.

Stictopleurus abutilon

vc22 - SU49, Frilford, 2005, JMC.
vc23 - SP50, Barton, 2006, RR. SU68.

Stictopleurus punctatonervosus

vc23 - SP50, Sydlings Copse, 2006, RR. SU68, SP60, SP51.

Canthophorus impressus

vc23 - SU67, Hartslock, 1985, C. Hamblen.

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E SUFFOLK

Vice County 25

Adrian Chalkley

***Sigara iactans* in Suffolk**

I decided this winter it was high time I got my collection of voucher specimens in order and made a start with my aquatic bugs. Therefore, amongst other things, I re-examined all my specimens of *Sigara falleni*, comparing them to the descriptions by Sheila Brooke in *Het News* 5 and photographs by John Blackburn in edition 9. I was agreeably surprised when I found that 3 out of 9 individuals in a sample from Framlingham Mere, TL 288635, had palae which seemed to be *S. iactans*. I subsequently sent photographs to Sheila Brooke who confirmed my identification. Now that I have my eye in I am sure I will find it easy to pick up any further specimens and will be looking out for all *S. falleni* like corixids in the coming year.

Sigara iactans is therefore a new species for the Suffolk aquatic checklist. In addition the date of my visit to Framlingham was 29th August 2001, which Sheila informs me may be the earliest recorded occurrence of *S. iactans* in British waters. I expect however that more specimens are lurking elsewhere within tubes of *S. falleni* and are awaiting discovery. I recommend a quick check on anything collected, perhaps over the last ten years. I'm sure an earlier date can be found, though I would be happy if Suffolk did mark its first arrival from Holland.

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County Heteroptera Recorder's annual report

The following is an edited version of the author's 2007 annual report to the Beds Natural History Society on the county's Heteroptera - these reports are published annually in the *Bedfordshire Naturalist* (ISSN 0951 8959). Nomenclature follows the *Catalogue of Palaearctic Heteroptera*.

Heavy rains in the early summer of 2007 seemed to have an adverse effect on both adult and immature bugs, of many species. In particular, ground-loving xerophiles such as lygaeids and coreids became hard to find in the autumn. Nevertheless there were four additions to the county list: a mirid plant-bug new to Britain, a species hard to find in Britain; a reduviid assassin bug long expected, and a pyrrhocorid that was a real surprise! Details are given below ['RDB' refers to Red Data Book status in Kirby 1992, *A review of the scarce and threatened Hemiptera of Great Britain*].

New to Bedfordshire in 2007

Deraeocoris scutellaris [MIRIDAE]

On 14th June 2007 a single male of this all-black bug was caught in Ian Woiwod's garden moth trap. Elsewhere in Britain & Europe it has been found on both heather (*Calluna*) and Hazel (*Corylus*), and in light traps on several occasions. A very similar species, *D. morio*, has been reported from Britain in the continental literature, erroneously (Nau 2005).

Reuteria marqueti [MIRIDAE] New to Britain in Beds 2006]

On 15th August 2006 a female was caught in Ian Woiwod's garden moth trap. It was identified when the 2006 bug catches from this trap were sorted and identified in spring 2007, by BSN & SEB. Known hosts of this species are lime (*Tilia*), oak (*Quercus*) and elm (*Ulmus*). Abroad it ranges from The Netherlands to Spain, and eastwards to Greece, Ukraine and Poland.

Empicoris baerensprungi [REDUVIIDAE] [RDB: Notable]

On 17th June 2007 one of these spindly little bugs was beaten from the dead branch of a tree in Kings Wood (Heath & Reach). On 4th August 2007 another was found in a similar site in Folly Wood (Flitwick Moor). It is likely that the species has long been present in the county but overlooked, since it requires a directed search to find it.

Pyrrhocoris apterus [PYRRHOCORIDAE] [RDB: Endangered]

On 21st July 2007 at Beeston, 1km SW of Sandy, Alan Wakeford noticed some conspicuous red & black bugs, about 10mm long. They had also been noticed in the spring by Roger Cope, the landowner. Following a message from AW, SEB & I visited the site and confirmed the identity on 24th July. We saw 100-200 along the edge of a roadway between and near derelict glasshouses. They were mainly under overhanging grass at the side of the tarmac but a few were on heads of Common Mallow (*Malva sylvestris*), abundant in the general area. We returned on 18th September and saw many 1st & 2nd instar nymphs as well as adults, numbers of the latter were in the old glasshouses, often between the wooden window frames and the glass. Most adults, as usual with this species, did not have fully developed wings and would have been flightless.

RC has suggested that the bugs arrived on *Eucalyptus* wood formerly imported to the site from Portugal, for construction of boxes to transport lettuces. This seems a very likely explanation.

Elsewhere in Britain, there is a population on Oar Stone rock, 1km off Torquay (Devon), known since the 1850s; and, a colony at an urban site in Epsom (Surrey), known since the 1990s which also probably derived from accidental import. Transient occurrences from a variety of other sites across England and Wales have been recorded. On the continent this bug is widespread and often abundant

Comments on some other species

Cymatia rogenhoferi (CORIXIDAE): This water-boatman was added to the British list in autumn 2005 from Meadow Lane Quarry, Bedford, and was found here in 2007 for the third successive year, in small numbers on 28th August. Several nymphs found on 12th October 2006 were the first direct evidence of breeding at the site.

Brachynotocoris puncticornis (MIRIDAE): added to the British list from Priory Park in 2006, this was found in 2007 on a number of young Ash trees (*Fraxinus excelsior*) on 28th August, along the former railway track near the original 2006 Ash tree which overhangs the River Great Ouse.

Buchananiella continua (ANTHOCORIDAE): This 2002 arrival in Bedfordshire now appears to be widely & commonly established across the county, particularly on dead leaves on fallen branches from deciduous trees. In 2007 it was recorded from three sites on the Greensand Ridge.

Cardiastethus fasciventris (ANTHOCORIDAE): This 1996 arrival in Bedfordshire is now very well established along the Greensand Ridge. It has been found here particularly on Gorse (*Ulex europaeus*) but also on Scots Pine (*Pinus sylvestris*), Norway Spruce (*Picea abies*), and Lawson's Cypress (*Chamaecyparis lawsoniana*).

Rhopalus parumpunctatus (RHOPALIDAE): in 2002 this breckland species was added to the county list from Cople landfill site. This formerly high grade brownfield site has now been destroyed to create a golf course! It was therefore good to find a specimen of this species on Sandy Heath on a weedy setaside field on 1st September 2007.

Spathocera dalmanii (COREIDAE): is now often found on the middle section of the Greensand Ridge, by careful search where moss and Wood Sorrel (*Rumex acetosella*) grow in the sun on sand. This year it was found in similar habitat on the Greensand Ridge in the west of the county, at Stockgrove Park.

Syromastus rhombeus (COREIDAE): new to the county in 2001, this large rhomboidal bug was recorded from five sites in 2007, mainly on the Greensand Ridge but also from the old railway station at Willington.

Statistics

Table 1 is a 10-year summary of my annual recording effort and results therefrom. This enables the year's figures to be considered in context. The number of site-visits, records and species in 2007 were the lowest of the 10 years, a reflection of the poor weather in 2007.

Table 1 - Heteroptera recording in Beds, 1996-2006

Year:	Mean	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998
Site-visits	104	67	79	135	76	105	109	166	115	90	85
Records	849	709	868	863	864	926	1261	870	578	775	774
Year's spp	217	218	231	221	226	221	239	222	187	215	220
New Beds spp	3.9	4	8	3	0	3	3	4	6	6	2
VC spp total	—	387	383	375	372	372	369	366	362	356	350

Note: 'Mean' is over the 10 years 1998-2007

Acknowledgements : Particular thanks are due to Sheila Brooke for valued help with the fieldwork.

John Widgery**Gloucestershire Heteroptera update**

The following are some of my recent records of terrestrial bugs from Gloucestershire (2 vice counties). Some of the species, although not necessarily nationally scarce, have hitherto been rare or overlooked in the county while some new arrivals reflect trends in other counties.

This scenically diverse West Country county has the Jurassic limestone of the Cotswold Hills in the east, the Carboniferous coal measures of the Forest of Dean in the west, and the Severn Estuary through the middle.

CERATOCOMBIDAE

Ceratocombus coleopratus : Only record was 30+ years ago until found in 2007 at Ashleworth Ham NR (SO8326, VC34).

MIRIDAE

Deraeocoris flavilinea : 1st record 2007, 5 sites, all VC33.

Lygus pratensis : 1st records, 2 sites in 2005; further 11 sites 2006-2007, VC33 & 34

Miridius quadrivirgatus : 1st record 1999; 2nd & 3rd records 2000 & 2003 then 4 more in 2006-2007, all VC33.

Phytocoris pini : 1st record 2007, May Hill (SO6921, VC34)

Hypseloecus visci : 1st record 2007, Woodmancote (SO9628, VC33)

Campylomma annulicorne : 1st records 4 sites in 2007, VC33

Hoplomachus thunbergii : Only 3 post-1940's records, one 2002-2003 and 2 further sites in 2007, at Naunton (SP1222) & Swift's Hill (SO8706), both VC33.

Macrotylus solitarius : Only 2 post-1940's records, in 1985 & 2000; a further site in 2006, Winchcombe (SP0226). VC3.

Oncotylus viridiflavus : 1st record 2003 & 3 new sites in 2007 [VC33 & 34]

NABIDAE

Nabis ericetorum : No records since 1957 until found in 2007, at Tidenham Chase (ST5599, VC34).

ANTHOCORIDAE

Elatophilus nigricornis : 1st record 2007, May Hill (SO69210, VC34) on *Pinus sylvestris*.

LYGAEIDAE

Nysius senecionis : 1st record 2003, 2 more in 2004 and 6 in 2006-2007 [VC 33 & 34].

Heterogaster artemisiae : Not recorded since 1944 but in good numbers on Cleeve Hill (SO9826, VC33) in 2006. No further records until refound in 2006. Not found in 2007.

Macroplox preyssleri : 1st record 1983 at Rodborough Common (SO8404), then in 1989 & 2003 at Daneway Banks (SO9303), both VC34.

Scolopostethus pictus : No records for over 50 years until swept from estuarine grassland adjacent to the R. Severn at Fretherne (SO7308, VC34) in 2007.

Trapezonotus dispar : No records for over 50 years until found in the Forest of Dean (SO6313, VC34) in 2006. **Megalonotus dilatatus** : recorded at Tidenham Chase (ST5598, VC34) in 2007, after a gap of over 50 years.

Peritrechus nubilus : 1st record was in 2003, the next in 2006, near Charlton Kings (SO9921, VC33).

Rhyparochromus pini : No records from 1957 until found in the Forest of Dean (SO6313, VC34) in 2006.

STENOCEPHALIDAE

Dicranocephalus medius : since 1955 only one record (1998) until 2007 when found at 2 sites in Forest of Dean [VC34].

RHOPALIDAE

Corizus hyoscyami : first found in the county in 2003 then only one other record until in 2006-2007 9 sites were found. [VC 33 & 34]

Stictopleurus abutilon : new to the county in 2006 then 7 sites in 2006-2007. [VC 33 & 34]

S. punctatonevrosus : 1st record in 2005, 4 records subsequently [all VC33].

SCUTELLERIDAE

Eurygaster testudinaria : only 3 post-1950 records to 2005 but 14 new sites in 2006-2007. [VC33 & 34]

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HEREFORDSHIRE & BRECONSHIRE

VC36 & 42

Jonty Denton**Waterbugs from the Welsh borders 2006-2007**

Aquarius najas (GERRIDAE) – on 2nd March 2006 my first pondskater of the year was *A.najas*. Four adults at margins of swift flowing Hardwicke Brook, Herefordshire (SO260441, VC36), with attempted mating observed. This was a partially shaded stream with a stoney substrate. According to Huxley (2002) there are no records from Herefordshire. *A. najas* proved to be abundant along the Wye, upstream into Breconshire to at least Llyswen (SO1338). Having last seen an active gerrid (*G.lacustris*) on 11.12.2006, this was certainly a very short 'winter' for pondskaters!

Micronecta poweri (CORIXIDAE) 10th May 2007, I netted a male from an area of quieter water of Hardwicke Brook, Herefordshire (SO260441, VC36) .

Plea minutissima several at the *M. poweri* site.

Notonecta viridis (NOTONECTIDAE), one male taken in the Afon Llynfi (SO172384, VC42), Breconshire, on 14.v.2007, according to Huxley, 2002, there are no previous records for VC43.

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S LINCOLNSHIRE Vice County 53

Annette Binding**Two new species for Lincolnshire**

Aphanus rolandri (LYGAEIDAE) – I received a bug specimen from John Lamin which he had found hibernating under bark whilst cutting logs at Bourne South Fen on the 20th November 2006. John thought it might be *A. rolandri* and I was able to confirm his identification. The bug was new to Lincolnshire and appears to be the most northerly British record to date. John tells me that the Bourne South Fen location where the bug was found, is a 5Ha site with black sedge peat soil planted with various species of spruce, pine, fir & some ornamental conifers and native trees; 3Ha are surrounded by thick hedges making it very warm and sheltered in summer. The bug was found under bark on an area of south facing bare ground.

Salicarus roseri (MIRIDAE) – At the beginning of December 2007 I was sent a photograph of a bug taken by Michael Talbot on the 27th June 2007 at 'The Backies', Boultham Moor, Lincoln. The bug had been identified by Joe Botting. I confirmed the identification but because I had never seen the species before and because I needed to know it's current distribution, I forwarded the photograph to Bernard Nau. He told me that the species appears to be spreading north. The bug is new to Lincolnshire and was photographed on a stinging nettle although Bernard told me its usual host plant is sowthistle.

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Martin Hammond

Some aquatic Heteroptera in Yorkshire, 2007

VC65 NW Yorks: Visits to Upper Teesdale (long since administered as part of County Durham) produced the common moorland species such as *Gerris costae*, *Callicorixa wollastoni* and *Hesperocorixa castanea* but none of the scarcer montane Corixids.

VC62 NE Yorks: A foul, turbid village duck pond at Tholthorpe in the Vale of Mowbray (SE46) produced an unexpected northerly record of abundant *Micronecta scholtzi* on 13th August. I had thought of this species as needing clear water over a clean sandy bed; clearly I was wrong.

Coatham Marsh at Teesmouth (NZ52) produced a single

male *Sigara limitata* from a slightly brackish lagoon on 14th August. It's nearest known regular station is an acidic, oligotrophic moorland pond. This apparently scarce Corixid seems quite tolerant in relation to water chemistry so what are its ecological requirements?

VC61 SE Yorks: just east of the City of York, *Ranatra linearis* was found at Hassacarr Pond, Dunnington (SE65) on 11th October. This reflects its continuing northwards spread commented on in the last *HetNews*. In Holderness, near Spurn Point, a sample of *Sigara* from saline lagoons at Easington produced seven male *S. selecta* and five male *S. stagnalis* on 2nd November.

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GADGET CORNER

Tailor-made tools for bug manipulation

Adrian Chalkley

The manipulation of insects under a stereo microscope, to see diagnostic features clearly or to remove genitalia is usually done with mounted needles. Personally I have never been happy with commercially available needle holders, they are frequently too heavy and the needles too large for the smallest bugs and beetles. Removing genitalia can often result in destruction of at least part of the abdomen.

The wooden pin holders shown in the photo are my answer, which I hope are worth describing. Each consists of about a 150mm length of 4mm wooden dowel, easily obtainable at local do it yourself stores. One end is drilled with a small diameter hole, about 1.5mm with the drill held in a pin chuck or the 'Dremel' type of electric hobby drill. Next round both ends with sandpaper and varnish for more comfort in use. To finish each tool the required pin can be dipped in epoxy resin such as Araldite and glued into the hole. Spreading the Araldite over the end of the dowel increases the overall strength.

Tools A & B have plain entomological pins, it is worth using varying sizes to make tools suitable for bugs from Notonecta to Micronecta. A small grindstone, Dremel or even a small slipstone, allows the point to be smoothed off, useful for avoiding tearing when manipulating delicate structures such as wings (or water flea carapaces, I don't only identify hets!).

Other pins can be ground into a micro knife with a sharp cutting edge or, most usefully of all, a long thin hook. I find I can insert this hook into the posterior segments of a Corixid

and withdraw the genital capsule very easily, even if it is totally hidden inside. In fact 9 times out of 10 the capsule still remains attached, perched at the end of the undamaged abdomen. The parameres can usually be seen and the genital capsule can be pushed back in with the smoothly rounded tool. The result is fast, positive identification and an undamaged specimen.

To make tools C & D hold two pins together in a pair of pliers and twist together with another pair. The free ends are then bent in the shape of a Y. This tool makes it easy to pin down your invertebrate so it doesn't move whilst manipulating other body parts, rather like using a forked twig to capture a snake. You can again vary the size of pins and the angle of the Y to make a set of tools to suit all specimen sizes.

Examining the diagnostic features of invertebrates often involve manipulating legs or other parts. Looking at the pegs on the palae or the spines and hairs on the middle femur of a corixid are examples. As invertebrates often die awkwardly with legs in completely the wrong orientation this can mean removing legs. Tools E & F have pairs of parallel pins. With practice holding the body still with

a Y shaped tool, sliding the two pins either side of the leg and twisting makes it easy to move and hold the leg in the correct orientation. This is especially useful if the specimen is a voucher you want to keep in one piece.

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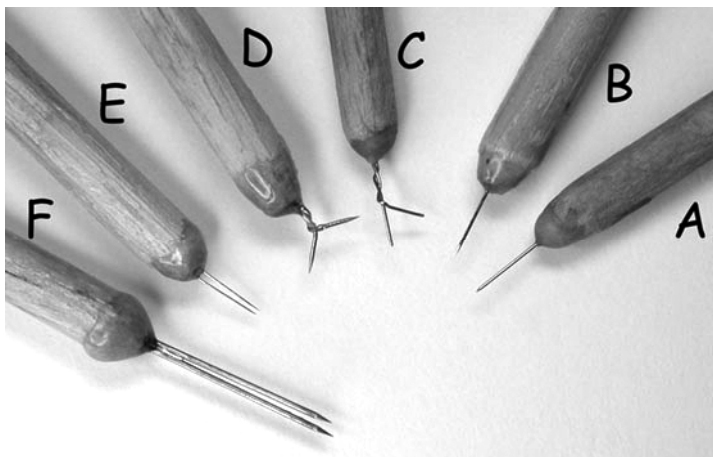


Figure 1 - The tools described.

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BRC RECORDING SCHEMES

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VC 53 & 54	Lincolnshire*	Annette Binding	allan.binding@ntlworld.com (also spiders)
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VC 59 & 60	Lancashire	Steve Judd	Steve.Judd@liverpoolmuseums.org.uk
VC61 & 62	SE & NE Yorkshire	Stuart Foster	stuart@blackdan6.plus.com
VC63	SW Yorkshire	Jim Flanagan	jimflanagan@btopenworld.com
VS64	Mid-W Yorkshire	Stuart Foster	stuart@blackdan6.plus.com
VC 65	NW Yorkshire	Steve Hewitt	SteveH@carlisle-city.gov.uk
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VC 69	Westmorland	Steve Hewitt	SteveH@carlisle-city.gov.uk
VC 70	Cumberland	Steve Hewitt	SteveH@carlisle-city.gov.uk
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* records from administrative county too. **not Berks admin. county

INFORMATION REQUEST Wildlife Surveys in National Trust Gardens

Matthew Oates, Advisor on Nature Conservation

The National Trust needs to learn more about the wildlife occurring in its 130 formal gardens, attached to historic mansions. Recent surveys of a small sample of gardens discovered four species of invertebrate new to Britain: a Mediterranean whorl snail, a bug on mistletoe, an obscure leaf-litter fly and a paper wasp. Also, grassland fungi surveys identified several National Trust lawns as being of national importance, particularly for wax cap fungi. It is likely that many Trust gardens are of importance for rare or declining species, perhaps especially invertebrates (e.g. mining bees & dragonflies). Clearly, it is the resident and regularly visiting species that count, rather than odd vagrants.

Obviously, these places are gardens, rather than nature reserves, but the Trust will do whatever it can to encourage wildlife in its gardens, especially rare species, so long as this does not unduly compromise garden management.

The Trust wishes to hear from naturalists visiting its gardens, particularly specialists in the less widely recorded wildlife groups. Entrance to gardens is free to NT members. Some care will need to be taken over recording methods, such as using nets publicly and entering garden ponds: do please contact the Trust property in advance should your recording techniques necessitate such disturbance (see NT web site or *Members Handbook*).

Many properties will welcome detailed surveys by specialists and can enable free entrance, including on days when gardens are not open to the public.

Details of existing survey knowledge, garden by garden, & information for surveyors, are on the Trust web site:

www.nationaltrust.org.uk/wildlifeingardens

Records of interest are welcome via a special email address:

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