Het News

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Editorial: Yet again, we are able to present details of several new arrivals in Britain, look out for these as they establish themselves & spread more widely! In response to the many requests for copies of the 1st series of newsletters, we have scanned these & placed them on the Hetnews website, for downloading. Finally we are grateful to the many authors contributing to this issue & know that they would welcome readers' thoughts & comments on their work.

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Recent Publications

The land and water bugs of the British Isles.

T.R.E. Southwood & D. Leston

Facsimile edition published by Pisces Conservation Ltd, Lymington, Hants, 2006
Price £41.95 plus p&p, further details from www.pisces-conservation.com

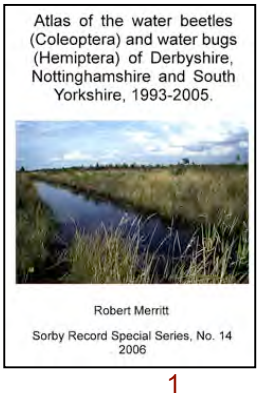
This is a very nice reproduction of the classic original work, now in a larger format than the original and with colour plates actually better reproduced. On the other hand, the 509 species covered therein, whilst comprehensive in 1959, when the book was first published, falls well short of the 580 species of the current list. However, the price is only about 20% of that of a second-hand copy of the original, so is good value.

Atlas of the water beetles (Coleoptera) and water bugs (Hemiptera) of Derbyshire, Nottinghamshire and South Yorkshire, 1993-2005.

Robert Merritt, 2006

Sorby Record Special Series **14**,ISSN 0260-2032, 160pp, A5, soft cover, 24 colour photographs, ca.230 maps.
Published by Sorby Natural History Society, Sheffield
£6 +£1.50 p&p from: Austin Brackenbury, 76 Crawford Road, Sheffield S8 9BU. Cheques payable to Sorby Nat. Hist.Soc.

The survey area covered by this fine local atlas is 5345 km^2, covering parts of three counties near the centre of England, and varying widely in geology, altitude and climate. The fieldwork was largely carried out by the author and provided 29,000 records of water beetles and 8,000 of water bugs. For each species there is a distribution map (1km dots) with a paragraph of supporting text.



Colour plates illustrate significant sites, each with a species list and habitat notes. For the survey area as a whole a table shows the number of 1km-squares in which each species occurred, and the number of records. For the commonest water bugs the latter range up to an impressive 600 or so - *Gerris lacustris, Hydrometra stagnorum, Notonecta glauca* & *Sigara dorsalis*.

Book Review

Hémiptères Pentatomoidea Euro-Méditerranéens, Volume 1

Valeriu Derjanschi & Jean Péricart

Faune de France **90**, 2005, published by Fédération Française des Sociétés de Sciences Naturelles, Paris
ISBN 2 90 3052-27-1, 240x160mm, 510pp including, 16 colour plates, 55 maps, 153 figs, soft cover, ca.£62

This volume begins to fill the long-felt need for a comprehensive monograph covering the European shieldbugs – a further three volumes are planned. In fact the scope of this major work extends beyond continental Europe, extending E to the Caspian Sea, Iraq, & Egypt; southwards to North Africa, as far as the Tropic of Cancer, westwards to the Canary Is., Madeira, British Isles & Norway; and northwards to the northern limit of continental Europe.

This first volume includes 60+ pp of introductory material – morphology, biology, distribution patterns, ecology, etc. This is both useful and informative. There is also a 39 page bibliography and extensive indexes, including a particularly useful index to species by plant associates. The bulk of the content is identification keys and species accounts.

The diagnostic keys are helpfully bilingual – individual couplets are in French, followed by an English translation. The work includes keys for:

- stages of nymphal instars
- superfamilies of infraorder Pentatomorpha
- families of superfamily Pentatomoidea
- genera by family
- species by genus

The keys are complemented by numerous excellent diagrams clarifying diagnostic details.

Volume 1 treats the Dinidoridae, a single-species family, and the first 127 species of the Pentatomidae. Unfortunately for readers in the British Isles this includes rather few of our species, just those within five genera:

Sciocoris, Aelia, Neottiglossa, Eysarcoris, Eurydema

Channel Islands readers get several additional species.

Each species has its own detailed text account, extending from half a page upwards and, for European species, a distribution map is usually included. The format of each species account begins with details of type specimens and their present location, then a list of synonyms. This is followed by a detailed description of the adult stage, and of eggs and nymphal stages where information is available. This is followed by accounts of available knowledge on the ecology, and the distribution. The latter is complemented by a list of localities & dates of records, including sources of the information; this is listed by country. For the British Isles the status information is out of date, the main sources being Massee's 1955 county tables, and S&L 1959; the recent range changes are not taken into account.

In addition to the preceding, volume 1 contains 16 colour plates, each illustrating up to four species, from a wide range of shieldbug families. Most of these plates are excellent but the first few seem to have suffered a printing problem, being excessively dark.

The attention of readers in the British Isles, can be drawn to several unfamiliar names for vol. 1 species, names to note are:

- *Eysarcoris fabricii* => *E. venustissimus* (Schrank)
- *Sehirus bicolor* => *Tritomegas bicolor* (L.)
- *Eurydema ornatum* => *E. ornata* (L.)

Some species to look out for, whose range approaches the English Channel and might therefore join the recent flow of continental species arriving in Britain, include:

Sciocoris microphthalmus
Aelia klugii,
A. rostrata
Neottiglossa leporina
Eysarcoris ventralis
Stagonomus bipunctatus
Eurydema herbacea
Eurydema ventralis

I notice that in the key to *Eysarcoris*, the English version of the couplet for *E. venustissimus* (=*E. fabricii*!) somewhat inaccurately refers to the scutellum & underside as 'dark green' although the French version says 'vert bronzé'. I have always thought of the scutellum as 'maroon' although the underside is certainly metallic bronze.

In case the first author's name appears unfamiliar, the contents page explains that it is Moldavian but has been transliterated into Russian (Derzhansky) in his Russian publications, and it appears thus in the bibliography of the present work.

This excellent work will be invaluable to anyone regularly wishing to identify shieldbugs encountered in continental Europe. However, in view of the cost of the full 4-volume set, most British heteropterists will probably have to be content with referring to a library copy.

BSN

Obituary — Thomas Richard Edmund Southwood

Professor Sir Richard Southwood 1931-2005

'Dick' Southwood left his mark on all the diverse fields which received his attention, including:

Entomological research - especially but not only that concerned with Heteroptera — his PhD subject was their systematics and ecology, undertaken at Rothamsted Experimental Station.

Ecology - in its formative years he wrote an influential textbook on ecological methods published in 1965.

Academia - where he rose to become Vice Chancellor of the University of Oxford.

Governmental adviser – among 10 other public posts, chairing a Royal Commission on Environmental Pollution in the early 1980s and a 1988 working group set up to advise on the control and risks of bovine spongiform encephalopathy (BSE), then rife in the UK.

Education - he was an inspirational university teacher, researcher and leader of research groups; and, not least, he was prominent in the councils of our various entomological societies and his name has figured prominently on the editorial boards of our entomological journals.

He became an under-graduate at Imperial College, London, in 1949, equipped with a library of 800 entomological works and a degree-level knowledge of entomology. In 1952, he graduated top of his class. From there he went to Rothamsted Experimental Station, in Hertfordshire, to work on a PhD, which he was awarded in 1955 for a thesis entitled "Some studies on the systematics & ecology of Heteroptera".

He then returned to Imperial College where he researched applied problems, as diverse as mosquito dynamics and the improvement of habitat for partridges, before turning to the more fundamental issues in ecology for which he is, perhaps, best known. He had an encyclopaedic knowledge of insect faunas and in the early 1960s turned to the question of why different species of tree support such very different numbers of herbivorous insect species. He compiled a database for insects on trees in different regions, identifying the roles of history, biochemistry and the taxonomic isolation of tree species.

Over the next 20 years, studies of insect communities by Southwood, and the many he inspired, became classics of community ecology. For instance, they explored the application of theories of island biogeography to non-overlapping resources and the extent to which terrestrial insect communities are structured by environmental interactions.

From the days of his PhD research, Richard Southwood was interested in the evolution of life histories, especially how the scale and structure of the habitat of different species led to selection for different reproductive and dispersal strategies. He summarized this approach in 1977, in a classic review: "Habitat, the templet for ecological strategies?" This work was notable for linking the traditional approach to studying life histories with mathematical methods.

In 1967 he became Professor & Head of Department of Zoology & Applied Entomology and remained at Imperial until 1979, building a strong research group in pure and applied ecology, before moving to the University of Oxford as Professor & Head of the Department of Zoology, and eventually becoming vice-chancellor of that university. A rare accolade for a scientist in a haven of the classics and arts! At Oxford, as at Imperial, he built up an interdisciplinary group which gained renown & influence worldwide.

Those who knew Professor Sir Richard Southwood personally speak of him as a man of great charm, and he is remembered with some awe by generations of ecologists. He had an infectious enthusiasm for science and natural history and never lost the love of natural history developed in his summer holidays as a schoolboy on the family farm in the Kent countryside. It is said that he became attracted by insects at the tender age of three. At the age of eight his father took him to meet the museum entomologists at what is now the Nat.Hist.Mus., here he was advised to specialise on Heteroptera. He did this to such effect that he published his first paper at the age of 16, in the *Ent.Mon.Mag.* and followed this 2 years later with a substantial paper in the *Proceedings of the Royal Society*, co-authored by C.G.Johnson; this as he began his undergraduate career at Imperial!

As heteropterists, we have been fortunate indeed that Sir Richard leaves us the 1959 handbook for the identification of British Heteroptera. Written with Dennis Leston, *The Land and Water Bugs of the British Isle*. This is a fitting testimony to his lifelong interest in the Heteroptera. The present writer did not have the opportunity to meet him but did benefit from correspondence about Heteroptera in his later years. Less directly too from his many published works; not least a well-used copy of his masterly 1953 review of genus *Orthotylus,* written at Rothamsted and a fine piece of work by any standards, let alone for a 22 year-old graduate student!

[More extensive obituaries have been published in *Nature* **438**, 928 (15 December 2005) and the *Bull. Roy.Ent. Soc.* (*Antenna*) **30**, 2, April 2006.]

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Corixa iberica in Scotland and Spain..... Robert Angus

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My interest in *Corixa iberica* stems from supervising a student research project on the chromosomes of the British species of *Corixa* (Waller & Angus, 2005). *C. iberica* is the only species not available in Surrey, and in September 2004 I managed to collect it in Argyll and on Arran. Here, to my surprise, I found what appears to evidence of hybridisation between *C. iberica* and the far commoner and more widely distributed *C. punctata* (Angus, 2006).

Fig. 1. Distribution of *C. iberica* plus Scottish intermediates and Spanish *C. punctata*.Spanish distributions based on Jansson (1986) plus my data; Scottish distributions based on Huxley (2003) and Savage (1989). No attempt has been made to mark all 10 km square records.

Corixa iberica is a very perplexing bug! To begin with, it displays the legendary "Lusitanian distribution" attributed to some plants and insects recorded from the Hebrides (Fig. 1). Such distributions seem to have had an almost hypnotic effect on some people during the earlier part of the 20th century, including J. W. Heslop-Harrison, whose notorious "Hebridean rarities" include a number of water beetles which, to put it politely, have never been found on the Hebrides by anyone else, before or since. See Garth Foster's (2000) "The Rum Affair – Heslop-Harrison's Hebridean Rarities", review of K. Sabbagh's (1999) book. But *Corixa iberica* is true! For those who enjoy irony, it is even present among Hebridean material from Heslop-Harrison's collection, in Oxford University Museum – though since it was not recognised till 1981 he didn't realise its importance!

Two other features of *C. iberica* deserve mention at this stage. The first is its apparent rarity – Jansson (1986) lists the type series as comprising 19 specimens, and although he shows some additional localities on his map, the impression given is that not much material is involved. Huxley (2003) quotes Kirby (1992) as stating that *C. iberica*, on present evidence, is the rarest of the European aquatic bugs found in Britain, and this matches my experience in 2004, when a lot of hard work produced very few specimens (Angus, 2006). The other feature is the apparent differences between the diagnostic right parameres of Spanish and Scottish *C. iberica*. Savage (1991) comments that the mid-dorsal process on the right paramere appears to be distinctly stronger in some Spanish material than in that from Scotland. He mentions having studied about 50 specimens of *C. iberica*, but not all were male and not all males were dissected (Angus, 2006). Savage's (1989, 1991) and Jansson's (1981, 1986) figures are shown as Fig.2.

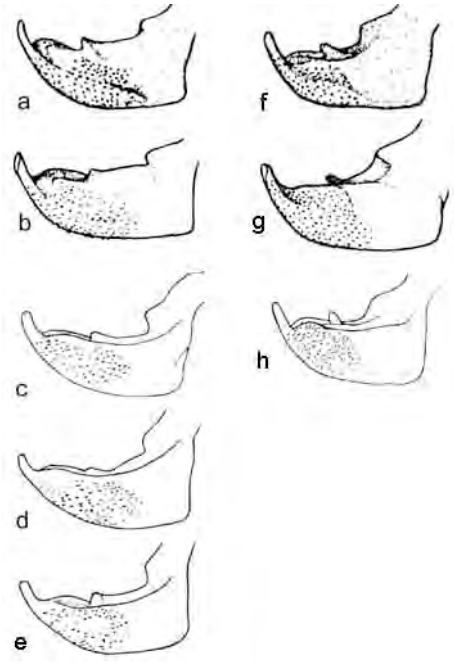

Fig. 2. Published illustrations of right parameres of *C. iberica* (a – e) and *C. punctata* (f – h). a & f, Jansson, 1981; b & g, Jansson, 1986; c & h, Savage, 1989; d & e, Savage, 1991.

As stated by Savage (1991) Jansson's 1981 figure shows *C. iberica* with a distinctly stronger mid-dorsal process than either his 1986 figure or Savage's 1989 figure. Savage's 1991 figures include one specimen from Orkney, which he regarded as

having an unusually large mid-dorsal process for a Scottish specimen, though apparently not for a Spanish one.

These observations raise the possibility that Scottish *C. iberica* may not be quite the same as the true *C. iberica* from Spain. A further interesting feature of these published figures is that they tend to suggest that the mid-dorsal process of *C. iberica* lies on the inner edge (top) of the outer face of the paramere, while in *punctata* the top of the paramere face runs behind the process. Most of the figures also show an additional ridge running in front of the process of *C. punctata*, compared with that of *C. iberica*. There are thus a number of questions needing to be answered.

Spanish material.

In mid February 2005 I made a short collecting-trip to Spain, taking advantage of the students' mid-term reading week. That winter was a particularly cold one in Spain, but on February 17th and 18th I was able to collect 30 male *C. iberica* in the Provincia de Cáceres. For those with *Google Earth* on their computers, the main localities were: 1, a small deep pond beside the road from Torremocha to Aldea del Cano, by the 12 km post (the kilometres are measured from Aldea), 39°19'38" N, 6°11'47" W; 2, a field-pond near Montanchez, 39°13'24" N, 6°10'29" W (this field had cows and at least one bull!); 3, a pond beside the road just west of Albalá (Albalá del Caudillo on maps, but the Caudillo (Franco) is considered passé!), 39°15'10.22" N, 6°12'13" W. The present *Google Earth* maps of this area are excellent and the localities can be viewed from an "eye altitude" of about 2000 feet! Nevertheless I get differences of up to 1" each time I "visit" the sites.

In all I collected 28 male *C. iberica* at these sites, with one male *C. punctata* along with the *C. iberica* in the Albalá pond. The bugs like deep water – I was working at depths of 50 cm – 1 metre, requiring waders and vigorous (but careful – it was cold!) use of the net. I don't know how important the cold winter was in terms of seasonality – I revisited the area this last February, after a milder winter following last summer's drought, effectively 1 week later. The Montanchez and km 12 ponds were very low, too shallow for *C. iberica*, but the Albalá pond was full. A serious search produced only one male *C. iberica* plus several females (not kept as both species are present in this locality) from this pond and another one just beside it (over a wall!). Perhaps the season for adults is already passing.

The pattern shown by these bugs is very consistent. All the males have a fairly well-developed mid-dorsal paramere peg, as in Jansson's 1981 figure. Fig. 3 shows scanning electron micrograph (SEM) pictures of the mid-femora and right parameres of the material from Albalá. In the labels SEM numbers refer to specimens used solely for SEM pictures, while prep. numbers refer to chromosome preparations. Both labels identify the individual bugs illustrated. One *C. iberica* paramere is missing – it jumped from my forceps and I lost it. It did not appear different from the other *C. iberica* in the sample. Both species are distinct and there is no obvious evidence of hybridisation. There is a hint of hybridisation in two male *C. iberica* taken in 2005 in a field pond near Villar de Plasencia (40°8'28" N, 6°2' 34" W – but the *Google Earth* map is poor here, and I could not find or recognise the place this year as a result of roadworks) (Fig. 4). One specimen (prep. 2) has the mid-dorsal paramere peg abnormally strong, suggesting input from *C. punctata*.

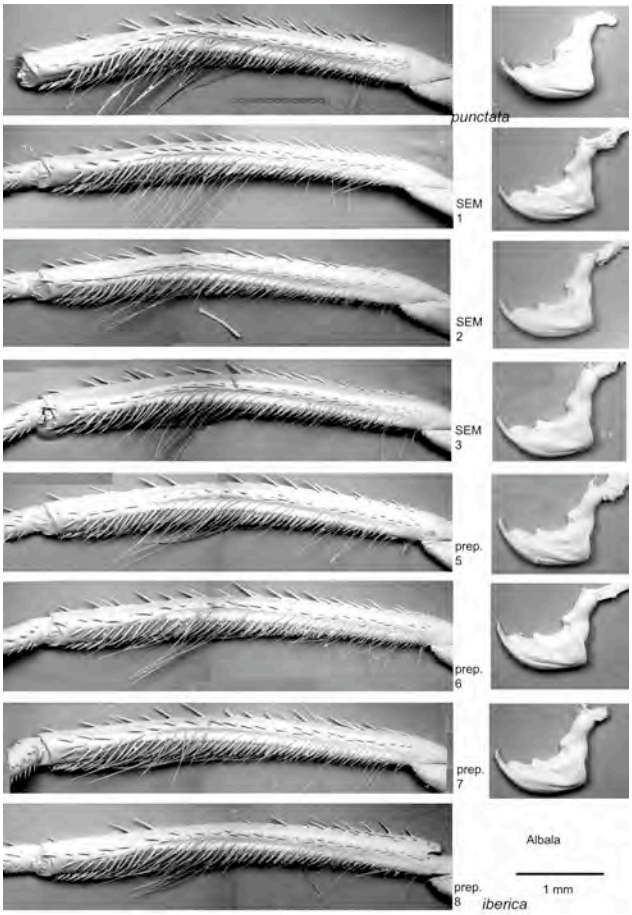

Fig. 3. SEMs of mid femora and right parameres of *C. punctata* and *C. iberica* from Albalá, Spain. SEM numbers refer to specimens used only for SEM illustrations and prep. Numbers refer to specimens used for chromosome preparations as well. Both numbers link the illustrations to individual specimens.

Fig. 4. SEMs of mid femora and right parameres of *C. iberica* from near Villar de Plasencia, Spain.

Scottish material.

In early September 2005 I went out on to the Hebrides to get "pure" Scottish *C. iberica* for better comparison with the Spanish and apparent hybrid material already studied. The bug was abundant in two localities: 1, Isle of Lewis, Loch an t-Siumpain, near Tiumpan Head at Brocair at the tip of the Eye Peninsula, east of Stornoway, Grid Ref. NB 566368; and 2, Isle of Skye, *Juncus* and *Menyanthes* pool below Digg old school, Grid. Ref. NG470698, a locality listed by Huxley (1997). Additional males were taken on Great Bernera island (just off the west coast of Lewis), a loch at Breacleit, Grid Ref. NB 159365.

In all 56 males have been dissected and mounted, 23 from Lewis, 5 from Great Bernera and 28 from Skye. I have not yet produced SEM pictures of the femora, but all are clearly of the *C. iberica* pattern. Females were also taken (in Scotland as in Spain, females appeared more numerous than males), and these are kept in alcohol for possible DNA study.

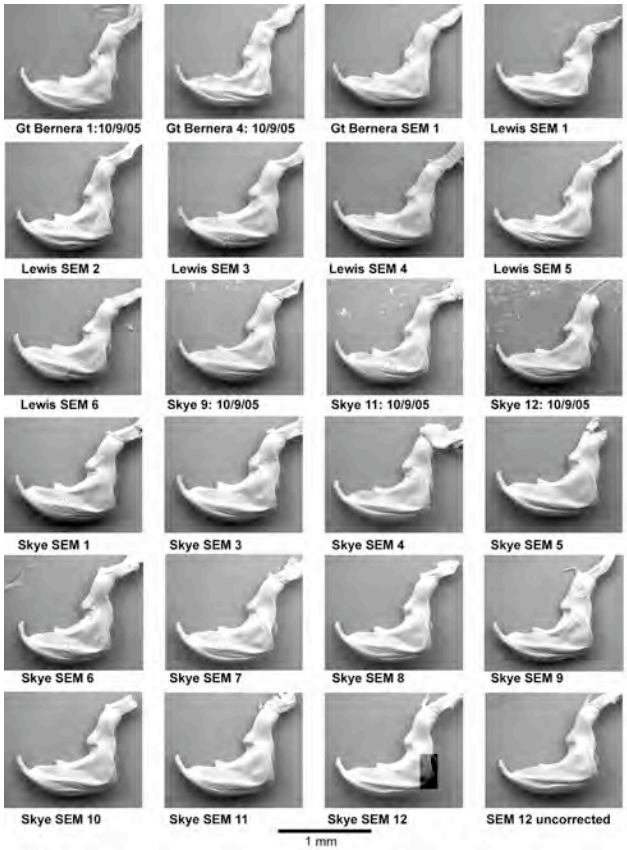

Fig. 5. SEMs of right parameres of Hebridean *C. iberica*. The darkened area at the base of the paramere in Skye SEM 12 is placed horizontally to achieve a standardised orientation.

Right parameres of 24 of these specimens are shown in Fig. 5. The results are striking and very surprising. I had expected a sample showing the very reduced mid-dorsal progress figured by Savage as typical of Scottish *C. iberica*, but this is very clearly not the case, with most specimens appearing more or less as Spanish material. There has to be an explanation for this, and the obvious suggestion is in the orientation of the parameres, especially as the Spanish and Scottish parameres have been figured by different people (Jansson and Savage).

When exploring the apparent hybridisation shown by the material taken in 2004 I was very aware of this problem. Virtually all parts of the paramere are to some extent variable, and this makes definition of a standard orientation difficult. However, I have found that the lower part of the basal section of the outer face of the parameres can be placed in a more or less horizontal plane to give a fairly consistent result. This area of the paramere is shown darkened in the Skye SEM 12 preparation figured on the bottom row, second from right, in Fig. 5. In practice, this orientation is often achieved by tilting the SEM stub on which the specimen is mounted back by up to 12°. If the stub is placed horizontal the outer face of the paramere frequently tilts downwards towards its upper edge. This orientation is shown in the "uncorrected" picture of the Skye SEM 12 paramere shown at the right hand end of the bottom row in Fig. 5, and more or less matches Savage's figures. So, the apparent difference between the right parameres of Spanish and Scottish *C. iberica* is an illusion resulting from the differing orientations of the parameres used by different authors.

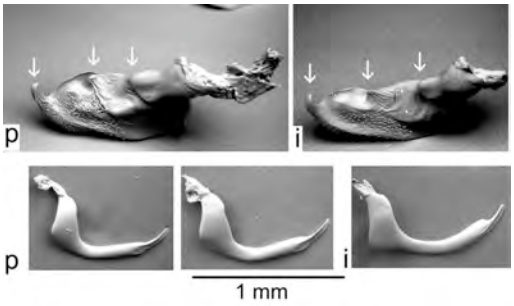

Fig. 6. SEMs of parameres of *C. punctata* (p) and *C. iberica* (i). Top row, right parameres in semi-dorsal view, *C. punctata* from Thompson Common, Norfolk, *C. iberica* from Albalá, Spain. The apical projections, mid-dorsal processes and basal angles are arrowed. Bottom row, left parameres in lateral view. From the left: *C. punctata* from Sedgemoor, Somerset, with only a weak widening behind the apical spike; *C. punctata* from Thompson with a strong widening; *C. iberica* from Albalá with a very strong widening. The apical spike is broken at the tip in this specimen.

Two other factors need to be considered at this stage. One is the position of the mid-dorsal projection of the right parameres of the two species. Fig. 6 shows the right parameres of both species mounted more nearly vertically. The mid-dorsal process is shown clearly to be the same structure in more or less the same place on the outer face of the paramere in the two species. The mid-dorsal process, apical projection and basal dorsal angle are arrowed in these figures. In *C. iberica* these arrows are clearly equidistant from one another, while in *C. punctata* the mid-dorsal process is nearer the base, as stated by Savage (1991). The second feature

concerns the left paramere. In my 2006 paper I dismissed this as a diagnostic feature separating the two species as *C. punctata* from Thompson Common (Norfolk) showed an abrupt widening at the base of the narrow apical section, a feature claimed to be typical of *C. iberica*. SEM pictures of left parameres are shown in Fig.6. They show that in both species there may be a distinct and fairly abrupt widening at the base of the narrow apical section, though this is more abrupt in the Spanish *C. iberica*. Jansson figured this in a *C. punctata* from Caithness (Scotland), where there is at least the possibility of genetic input from *C. iberica*. However, this is not the case in Norfolk! The Somerset specimen shows the absence of abrupt widening, regarded as more normal in *C. punctata*. In fact, this feature is also susceptible to small changes in orientation and is not suitable for critical evaluation of possible hybrids.

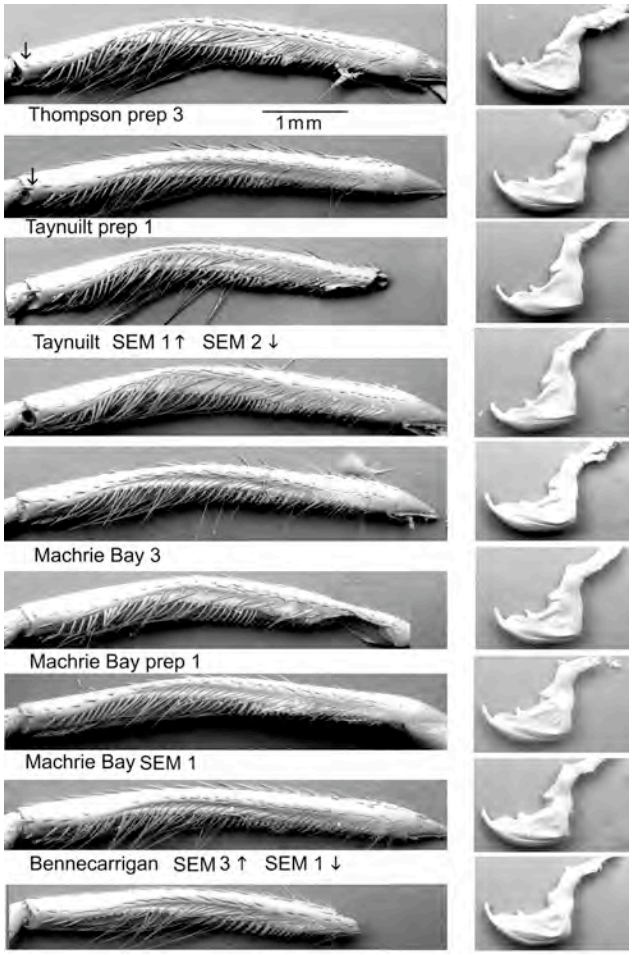

Fig. 7. SEMs of mid femora and right parameres of *C. punctata* and *C. iberica*, used by Angus (2006).

Hybridisation

When I wrote my account of evidence of hybridisation between *C. punctata* and *C. iberica* (Angus, 2006), I thought that the published accounts of the parameres of Scottish *C. iberica* showed its normal appearance, and that virtually all of my material failed to pass muster as true *C. iberica*. However, my initial acute disappointment vanished when I realised that the material suggested that there was a hybrid zone where the two species met. Fig. 7 shows the montage used in this paper. It should be possible to zoom in on parts of the figure and scrutinise the structures more clearly.

The problem is that the parameres of some of the Hebridean *C. iberica*, supposedly well clear of the hybrid zone, match those of the presumed hybrids. Thus Skye SEM 8 (Fig. 5, row 5) is a good match for Taynuilt prep. 1, described by Angus (2006) as a specimen with a *C. iberica* mid femur but a *C. punctata* right paramere. However, if the parameres of three Taynuilt specimens shown in Fig. 7 are compared, it is very difficult not to see a cline showing increasingly *punctata*-like parameres from prep. 1, through SEM 1, to SEM 2. The mid femur of the first specimen (prep. 1) is weakly and rather evenly curved, clear *C. iberica*, while the other two are more strongly curved and appear to show all the features of *C. punctata* (see Angus, 2006, for a discussion of the femora).

The Machrie Bay specimens also support the idea of morphological intergradation between the two species. Thus Machrie Bay prep. 3 shows a very clear *C. iberica* femur as well as the extreme paramere. Machrie Bay prep. 1 shows a *C. punctata*-like femur and a fairly well-developed *C. punctata* paramere, while Machrie Bay SEM shows

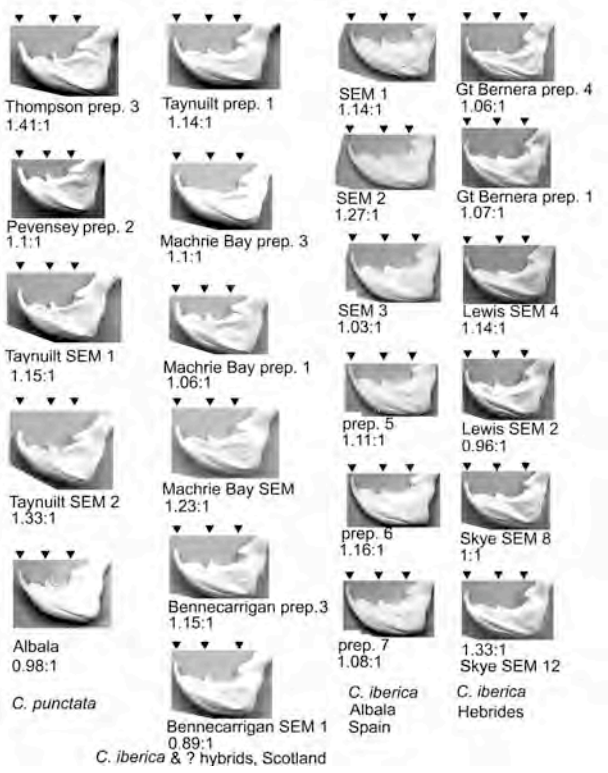

Fig. 8. SEMs of right parameres of *C. punctata*, *C. iberica* and possible hybrids, orientated for measurements of the distances between the three paramere measuring-points (apical projection, mid-dorsal process and basal angle). The positions of the measuring-points are indicated by black triangles above the parameres, while the specimen labels and ratios of the distances are given below the parameres.

a somewhat intermediate femur (the groove with the swimming-hairs runs closer to the anterior margin of the femur than in either Taynuilt prep. 1 or Machrie Bay prep. 3), and a *C. iberica* type paramere, but with the mid-dorsal process strong.

Savage (1991) suggested that the position of the mid-dorsal process of the right paramere was crucial in distinguishing *C. iberica* from *punctata*, and could avoid confusion caused by the variation in the strength of this process. In *C. iberica* the mid-dorsal process is equidistant from the apical projection and the basal angle, but in *C. punctata* it is distinctly nearer to the basal angle. This is illustrated in Fig. 8, where a selection of parameres have been orientated so that a line joining the apical projection and the basal angle is horizontal (which maximises the distance between the measuring points), and black triangular markers have been placed above these measuring points. The ratio of the distance between the apical projection and the mid-dorsal process to that between the mid-dorsal process and the basal angle is given below each paramere.

At this stage it must be pointed out that even with this technique I could not get completely consistent results – when I processed the same illustration on two or three different occasions I could not get the ratios to come out with a consistent agreement closer than 0.1. The problem lies in choosing the exact locations of the three measurement points. Because the processes and angle are all variably rounded, there are no clear and absolutely precise points from which to take the measurements. Nevertheless, there is a general pattern. In *C. punctata* the distance between the mid-dorsal projection and the apical process is about 1.3 X that between the mid-dorsal projection and the basal angle, while in *C. iberica* the distances are approximately equal.

The *C. punctata* from Thompson Common shown at the top left in Fig. 8 illustrates the normal appearance of British *C. punctata*, and it matches the illustrations by Jansson, 1981 (Fig. 2 f) and Savage, 1989 (Fig. 2 h). Most of the Spanish and Scottish *C. iberica* parameres shown have the ratio not far from equality, but there notable exceptions – Skye SEM 12 (Fig. 8, bottom right) has the ratio 1.33:1 – typical of *punctata*, and Albala SEM 2 (Fig. 8, second row, second to right) has the ratio 1.27:1.

The problem becomes more complicated when the Spanish (Albalá) *C. punctata* is measured – it has the ratio 0.96:1, clearly in the *C. iberica* range (Fig. 8, bottom left). Further, Jansson's 1986 figure *C. punctata* (Fig. 2 h) shows the position of the mid-dorsal process clearly referable to *C. iberica*. Jansson does not give the locality of origin of this specimen. In view of this I dissected more English *C. punctata*, from the material used for chromosome analysis (Waller & Angus, 2005), and soon came upon the Pevensey (East Sussex) specimen shown second from top left in Fig. 8. This, from the general appearance of the paramere and the mid-femur, as well as its location, is very clear *C. punctata*, but the ratio is 1.1:1, very definitely a value typical of *C. iberica*.

It therefore seems that the position of the mid-dorsal projection, like its strength, is subject to variation within the species and that these characters cannot be used to demonstrate that isolated individual specimens are hybrids.

However, the arrangement of the characters in specimens from different populations does suggest some hybridisation. The Taynuilt and Arran material suggested as involving hybrids by Angus (2006) are shown in the second column from the left in Fig. 8, while the suggested *C. punctata* from Taynuilt are shown in the left hand column. All except Machrie Bay prep. 3 have strong mid-dorsal projections, and all except Taynuilt SEM 3 have the ratio more typical of *C. iberica*. These characters, presented by a non-selected sample (all my material is included!) do suggest introgression. This is further supported by the selection of Hebridean parameres shown in Fig. 5. The nine specimens from Lewis and Great Bernera show the mid-dorsal projection to be generally weaker than in the 15 from Skye – and Skye, in the inner Hebrides is geographically closer to *C. punctata* than is Lewis.

One final point is that the range of variation shown by the Hebridean *C. iberica* used in the study is not new – the three dissected males among the Oxford material, dating back to the 1930s, appear broadly similar to the present material.

Conclusions.

Although the material reported here presents a somewhat confusing picture, a number of conclusions can be reached.

1. Spanish and Scottish *C. iberica*, on detailed morphological analysis, appear to represent the same taxon.
2. The diagnostic right paramere of males is variable in both species, and while it provides a clear separation of the two species it does not enable isolated individual specimens of apparently intermediate appearance to be identified as hybrids.
3. The overall appearance of specimens from areas where both species occur (Arran, western Argyll) does suggest hybridisation, and this is supported by comparison of material from the Hebridean islands of Skye and Lewis.
4. The situation is less clear in Spanish material, but there are hints that hybridisation may occur.
5. The present situation is not new, and is therefore apparently stable. This suggests that some biological mechanism is preventing the two species from merging.
6. *C. iberica* is not a rare species in the areas where it occurs. Habitat and season are very important in determining the success of collecting.

Further work?

My impression is that the morphological analysis reported here probably takes the story as far as is possible with morphology alone. Comparison of larger samples from the Outer Hebrides with material from the zone of supposed hybridisation might clarify matters. DNA analysis might help, especially in demonstrating the relationship between Spanish and Scottish material of both species.

Acknowledgements.

I thank Garth Foster for his hospitality during two Scottish collecting trips, and Garth and David Bilton for good company on the Hebrides in 2005. Thanks also to Darren Mann for the loan of *Corixa iberica* from Oxford University Museum

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County Recording, April 2006

This is an updated list of County Recorders. It is not complete but gives information supplied to us to date; so if you can add to, or correct the list (is your email address correct?) please let us have details.

Where there are no existing arrangements, if you are willing & able to coordinate het recording in your area send details & we can add you to the list for the next update.

[* denotes that recording area includes administrative county]

VC 1 & 2	Cornwall	Keith Alexander	keith.alexander@waitrose.com
VC 3 & 4	Devon	Keith Alexander	keith.alexander@waitrose.com
VC 9	Dorset	Ian Cross	I.Cross@dorsetcc.gov.uk
VC10	Isle of Wight	David Biggs	Plum Tree Cottage, 76 Albert Road, Gurnard, Cowes, Isle of Wight PO31 8JU (& Galls, Leaf-miners & Microfungi)
VC 15 & 16	Kent	Eric Philp	eric.philp2@virgin.net
VC 18 & 19	Essex	Peter Kirby	peter.kirby7@ntlworld.com
VC 20	Hertfordshire	John Widgery	21 Field View Road, Potters Bar, Herts EN6 2NA
VC 23 (22)	Oxfordshire*	John Campbell	john@jcampbell9.free-online.co.uk
VC 25 & 26	Suffolk	Adrian Chalkley (water)	adrian@boxvalley.co.uk
		Nigel Cuming (land)	marionnigel@onetel.com
VC 30	Bedfordshire	Bernard Nau	nau.bsn@btinternet.com
VC 32	Northamptonshire	Tony Cook	tony.cook@newtonfieldcentre.org.uk
VC 37	Worcestershire*	John Partridge	records@wbrc.org.uk
VC 53 & 54	Lincolnshire*	Annette Binding	allan.binding@ntlworld.com , (& spiders)
VC 55	Leics & Rutland	Ray Morris	ray.morris@ntlworld.com
VC 56	Nottinghamshire	David Budworth	dbud01@aol.com
VC 57	Derbyshire	David Budworth	dbud01@aol.com
VC 58	Cheshire	Steve Judd	Steve.Judd@liverpoolmuseums.org.uk
VC 59 & 60	Lancashire	Steve Judd	Steve.Judd@liverpoolmuseums.org.uk
VC 65	NW Yorks	Steve Hewitt	SteveH@carlisle-city.gov.uk
[—]	Cumbria*	Steve Hewitt	SteveH@carlisle-city.gov.uk
VC 69	Westmorland	Steve Hewitt	SteveH@carlisle-city.gov.uk
VC 70	Cumberland	Steve Hewitt	SteveH@carlisle-city.gov.uk

Water Bugs of the Isles of Scilly ..... Thomas Huxley

There are records for the Isles of Scilly, off SW England, in the data for the Provisional Atlas (Huxley,T., 2002. *Provisional atlas of the British aquatic bugs (Hemiptera Heteroptera).* Huntingdon, Biological Records Centre). They include records by A.T.Thornley in the years 1888, 1919, 1925 and 1945; also records by H.G.Morgan in 1940, J.A.Lindley, in 1968 by an unknown person, in 1970 and 1987 by S.J.Lambert and P.Kirby. Altogether these records are for the following ten species: *Hydrometra stagnorum*, St Mary's (1919) and Tresco (1968); *Plea minutissima,* St Mary's (1919); *Notonecta glauca,* St Mary's (1919); *Notonecta viridis,* Isles of Scilly, (1888); *Corixa affinis* Isles of Scilly, (1940), Big Pool, St Agnes (1970 and 1987); *Corixa punctata* (1940); *Parasigara concinna* (as *Sigara concinna*), Abbey Pool, Tresco, (1987); *Sigara lateralis,* Isles of Scilly (1925 and 1940) and St Agnes (1987); *Sigara nigrolineata,* Isles of Scilly (1925) and Big Pool, St Agnes (1970); and *Sigara stagnalis,* Isles of Scilly, (1940). The original sources did not state whether the Isles of Scilly records by A.T.Thornley are all St Mary's.

To the best of my knowledge, all these records were entered into the water bug data base by me when I was acting as national organiser for the water bug recording scheme. As I no longer hold water bug records on my computer, they have been supplied as a spreadsheet by the Database Manager, Henry Arnold, at the request of the present national organiser, Sheila Brooke. Further interrogation of these data might reveal from where I obtained the records, and search of these sources might reveal errors. For example is it really true that A.T.Thornley recorded water bugs over a period of 52 years, or is the 1888 record an error?

Regarding location, it will be noted that most of the records are somewhat vague as to where recorded in the Isles of Scilly, only Lindley specifying Big Pool, St Agnes and Lambert/Kirby specifying the same location for two records and Abbey Pool, Tresco for another. This means that when I entered most of the Isles of Scilly records I could not be more specific regarding a grid reference than SV91 or SV80. Only Lindley's two records had a six figure grid reference; for Big Pool, St Agnes at SV875086.

Recently, I made a two-day visit to the islands and on 4 April 2006 obtained records at the following sites:

1. Abbey Pool, Tresco, in shallows on edge of cut grass area: SV 895142.
2. Great Pool, Tresco, east end, in sandy shore shallows: SV 897144.
3. Great Pool, Tresco, in *Phragmites* by bird hide: SV 893146
4. Cattle trough and nearby ditch west end of Great Pool, Tresco: SV 889147

The species recorded at these locations are given in Table 1, with the number of specimens collected for examination at each location given in columns 3–5 of Table 1.

As to locations, I searched in as many places as possible, e.g. the artificial ponds in the Abbey Gardens (two of which were dry), but found no other species. For example I did not find water crickets, *Velia caprai*, in the ditch.

Table 1

Species	Site	Male	Female	Sex ?
*A. germari**	1	1	8	
P. concinna			1	
S. lateralis		12	14	
P. concinna	2	1		
S. lateralis		7	9	
S. lateralis	3	2		
S. stagnalis		5		
Plea minutissima	4			8
S. lateralis		1	7	
S. stagnalis		3	2	

[* new to VC 1]

I also looked for water bugs in Big Pool, St Agnes, and in a nearby small weedy pond. This required paddling bare foot in Big Pool, as it was not practical to bring rubber boots. These two habitats were particularly disappointing; the small pond looked an ideal habitat for *Corixa punctata*. But both these bodies had water the colour of strong tea and, although thick with water fleas of some kind, including Cyprids, appeared to be inimical to freshwater macro-invertebrates.

Since returning home I have contacted the Isles of Scilly Wildlife Trust who referred me to Elizabeth Webley, an MSc student at University College, London. Elizabeth surveyed aquatic habitats at Higher and Lower Moors on St Mary's in 2005 and has kindly sent me the following information and records.

Higher Moors (SV924108) is a topogenous mire habitat which includes Porth Hellick Pool SSSI. The Pool is a shallow freshwater mesotrophic lake with occasional intrusions of salt water. Nearby there is also a ditch. In the Pool she recorded *Sigara lateralis* and *S. stagnalis* and in the ditch *S. lateralis* only.

Lower Moors (SV 912106) is another mire site with a ditch and a shallow open water area recently deepened and the banks profiled for migrating birds. *Corixa affinis* was recorded in the ditch and *Sigara lateralis* in both the ditch and the pool.

Both the Higher and Lower Moors sites were slightly brackish with the Lower Moors site having the highest conductivity.

Given the number of species recorded in earlier years in the Isles of Scilly, it would be interesting to learn whether species not recently recorded are still present, vis: *Hydrometra stagnorum, Velia caprai, Notonecta glauca, N. viridis, Corixa punctata* and *Sigara nigrolineata.*

The new record for *Arctocorisa germari* shows that changes in the water bug list are probably still taking place for the Isles of Scilly.

Acknowledgements

It is a pleasure to thank Tresco Estate Office for permission to collect water bugs, Sheila Brooke & Henry Arnold for accessing old records, & Elizabeth Webley for allowing me to include her data. I also thank my wife for allowing me to bring a small pond net & tubes; she had thought 'bugging' had ceased.

What's been bugging me? Shieldbugs in Warwickshire .....Brian Mitchell

I have been studying shieldbugs since the 1980s - they were the first and the only group of hets or True Bugs I was recording until the mid-1990s. The Green Shieldbug, *Palomena prasina*, wasn't that common in those early years, although I picked up the occasional specimen in North Warwickshire including the first for Alvecote Pools NR (SSSI). It wasn't until 2001 that I saw or swept 8 or more on umbellifers and off bramble along the Mineral Line at Baddesley Ensor on August 8th, and it was 28th September 2001 that I encountered the first in the garden. In 2002 I found one in August, very near to where the first was seen and then I found one on Red Valerian, *Centranthus ruber*, in September.

The following day I saw a nymph, also on valerian, and it was at that point that I began to establish a link. This species has been found on a very wide variety of wild and cultivated plants including many trees and shrubs, some of which are genuine foodplants. *The Shieldbugs of Surrey* cites 128 different species, and of garden plants, buddleia seems to be used throughout the year - something I noticed in 2004. Valerian, though, is not listed as one of its food plants in Surrey, although there is no reason why it shouldn't be.

In 2003 I checked the valerian on the first warm days of Spring and found the first *P. prasina* on March 26th in its darker overwintering colour. It was regularly found in the garden on a variety of plants, including valerian, buddleia & marjoram each year from 2003, 2004 being the most prolific. Adults were seen till June, with mating pairs noted from the end of April through May. It was noticeable that singletons had not 'greened up' as much as those mating.

Nymphs appeared in July and adults again in August. In 2005 a late instar nymph was seen surprisingly late on 9th November, and on 21st November 2005, an adult *Palomena* was partly enfolded in a dead brown valerian leaf on the plant, blending perfectly with its background. *Dolycoris baccarum* was also regular, & *Acanthosoma haemorrhoidale* the Hawthorn Shieldbug, *Pentatoma rufipes* the Forest Bug, *Elasmucha grisea* the Parent Bug, and *Tritomegas (*was *Sehirus) bicolor* the Pied Shieldbug brings the garden list to 6.

The latter was found indoors in 2000 and by then I had found this species at several sites in N. Warwickshire but in the late 1980s and early 1990s the only place I could be sure of encountering it was on dead nettles along the towpath of the Ashby Canal in Leicestershire. During 2004, I was delighted to note for the first time the 'complex courtship involving aggregation formation' referred to in S&L (1959) - a springtime assembly of 10 or more adults excited and swarming around two small figwort sp. in a recently cleared conifer area of Bentley Park Wood on May 15th - a few were in such a frenzy, they fell off the plants onto the ground.

A Provisional Atlas of the True Bugs of Warwickshire by John M. Price (June 1996) mapped 17 species of shieldbug, with *Thyreocorls scarabaeoides* listed in the addenda, having been found in April 1997 before the Atlas was published, Two further species, *Sehirus luctuosus* and *Aelia acuminata* have been found since (in 1998 and 2000 respectively), making a total of 20 for the county and I have found 15 in the Borough of North Warwickshire.

Several species, which I found in northern squares in the decade or so prior to 1996, were not mapped in the Atlas so some gaps appear in their northern distribution. *The Vice-county Distribution of Shieldbugs (Pentatomoidea) in Britain (Draft 1)* by B.S.Nau, published in *Het News* 5 May 2005 does not include the three recent discoveries.

I had recorded only 13 species by the beginning of 2005 when I made a chance visit to Baddesley Common (SP29) on 23rd August and decided to take out my net to sweep the heather, which I had done many times in previous years, in the hope of finding *Rhacognothus punctatus,* only taken so far in VC38 Warwickshire at Sutton Park. Serendipitously, with my first sweep I came across an adult Bishop's Mitre, *Aelia acuminata*. I knew that the first record had been taken only five years previously in N. Warwickshire (SP39) and I knew it was spreading. A note in *Het News* **6**, Autumn 2005 by Jerry Bowdrey says that in over 17 years he had never encountered thls species in Essex until August 2004, finding it again in 2005. My second sweep brought four adults as well as many nymphs. Further visits to Baddesley showed this species to be present in some numbers and easily swept. However, on my second visit on 26th August, I swept another shieldbug new to me - *Neottiglossa pusilla* and I swept two more specimens in early September. There is only one record in the 1996 provisional atlas for Warwickshire, swept at Bishop's Hill Quarry in the south of the county in 1993, although another was taken at the same northern site as the first *A. acuminata* in 2000. I suspect it has been present in low numbers for some time but Bishop's Mitre must have spread into North Warwickshire in the past 2-3 years, otherwise I would surely have swept it before then.

Shieldbugs are a relatively easy group of bugs to study and three recent publications can help with identification and information. What's more, populations and species are not static in these days of global warming so budding heteropterists should have plenty to excite their interest — it's something which has been bugging me for two decades!

[*Short version of an article in NORTHWORDS, the newsletter of N. Warwickshire Area Group of Warwickshire Wildlife Trust)*.]

Species Notes

CORIXIDAE

Cymatia rogenhoferi in Britain

Bernard Nau — On 29th September.2005 I visited some Bedfordshire gravel quarries on the floodplain of the River Great Ouse, between Bedford and Willington. The main site examined was an unvegetated one-year old lagoon (TL 085499, VC 30). This quarry had filled with water from the underlying water-table in winter 2004-2005, when excavation was complete, i.e. less than a year earlier.

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In the marginal shallows, in a water depth of up to one metre, corixids were numerous. After several net-sweeps a slender medium-sized corixid was noticed in the net. Examination with a hand lens revealed a distinctively 'speckled' bug recognised as *Cymatia rogenhoferi*, the first record of this species in Britain. It is separated from the other two British *Cymatia* by its finely yellow-speckled pronotum & hemelytra.

Searching continued for a further hour but no more were found. The corixid fauna was mainly *S. lateralis*, which were very numerous, and *Paracorixa concinna* in moderate numbers. There were also a few *S. distincta* and a male *S. falleni*. Return visits with SEB on 16th November 2005, 11th January & 18th April 2006 yielded no further examples of *C. rogenhoferi*.

Sigara iactans in Bedfordshire

Bernard Nau & Sheila Brooke — Since the first British records of this water-boatman were reported in *Het News (***5**, pp 4 & 7, Spring 2005) we have found it in gravel quarry lagoons at two Bedfordshire sites: on 11th January 2006 at the site near Bedford given under the previous species, and on 15th January 2006 at a site in the north of the county at Radwell (TL011584, VC 30).

In the unvegetated water at the Bedford site we caught a few female '*falleni*' and one male, which proved to be *S. iactans*. At Radwell we checked about 60 male '*falleni*' with x10 hand lens in the field, only the 10th bug was this species. The habitat was 0.2-0.3m of clear water over a substrate of sandy silt, along the outer fringe of sparse stumps of *Glyceria maxima*.

NAUCORIDAE

Naucoris maculatus in Britain

Bernard Nau & Sheila Brooke — Issue 4 (Autumn 2004) contained an interim announcement of the discovery of this new-to-Britain saucer-bug (Naucoridae) and promised further details for the next issue, after formal publication. In fact formal publication was not until October 2005 (*Ent. Mon. Mag.*, **141**, 193-196) so we now present the promised details.

N. maculatus (L) & *Ilyocoris cimicoides* (R) © 2006 B.S.Nau

On 11th September 2004 we visited Samphire Hoe (TR 2939, VC 15, East Kent). This site is an area of about 0.4 km^2 created circa 1990 by depositing 5 million cubic metres of chalk marl in the edge of the sea at the foot of 125m high chalk cliffs, just west of Dover. The material was excavated from the Channel Tunnel during its construction. The site contains a group of freshwater pools of fluctuating water-level in which we found numbers of a saucer-bug species which differed from the familiar *Ilyocoris cimicoides*. It was smaller (L=9-12mm compared to L=11-15mm), less shiny, browner and more strongly marked on the pronotum (see photo). The above publication includes a key separating the two species, drawings of each and of the genitalia. Late instar nymphs and adults were in approximately equal numbers, and fairly common in and around scattered submerged beds of mixed *Myriophyllum*, *Chara*, and *Potamogeton crispus*; also in sparse marginal patches of emergent *Scirpus maritimus*. The water depth was about 0.5 m, the substrate chalk marl and the location only 150m from the sea.

Faune de France volumes in preparation

- CARAPEZZA A., DERJANSHI V., KERZHNER I.M., LIS J., MAGNIEN P., PERICART J., RIBES J. et VILIMOVA J. *Hémiptères Pentatomoidea euro-méditerranéens.* volumes 2, 3, 4.
- HEISS E. et PERICART J. *Hémiptères Aradidae, Piesmatidae et Dipsocoromorphes.*
- MOULET P. & POUTCHKOV P. *Hémiptères Reduviidae d'Europe*

MIRIDAE

***Chlamydatus evanescens* in Hampshire**

Bernard Nau & Sheila Brooke — This tiny black mirid is extremely local and has been recorded in Britain only a few times, spread over a period of a hundred years or so. It was recorded on the coast of North Wales in 1890 and 1924, and at Dovedale in the Derbyshire Peak District in 1930 and 1936; there were no further records until very recently when it was found at two sites in North Wales (2003 & 2004), and near the original site at Dovedale (2001) (Foster & Howe, 2005, *Ent. Mon. Mag.*, **141**: 111-112). In the recent records the bug was associated with *Sedum* spp. on fragmented limestone.

On 17th September 2005, we found *C. evanescens* in numbers amongst *Sedum sp.* on sandy cliff-top grassland overlooking Poole Bay between Boscombe and Southbourne (VC11, Hants S, SZ134913), the bugs were mostly adults but there were a few 5th-instar nymphs. The adults were the normal brachypterous form. This site is almost 300 km south of the known sites and is on sand rather than limestone and has a very different climate. We found the bug at the first two sites where we examined *Sedum*, about 100m apart, but the host plant is widespread on the cliff-top grassland and cliff slopes so it is likely that the bug is widespread here.

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Further details can be found in *Ent. Mon. Mag.,* **142**, p40; note that the vice county & grid reference are incorrect in the latter but are given correctly above. (And we now know that the VC boundary between Dorset & Hants South bisects Bournemouth, rather than following the natural line presented by the R. Stour!).

***Hypseloecus visci* in southern England**

Bernard Nau & Sheila Brooke — Another belated announcement of a new-to-Britain species is that of this black mirid which lives on Mistletoe (*Viscum album*). It was found first on 22nd & 30th July 2003 by David Gibbs at two sites in Somerset (VC 5). The following year, 2004, Jonty Denton found it in large numbers in Bushy Park (VC21, Middlesex) on 27th June, and Richard Dickson caught several in a mercury light-trap in his garden in Fareham (VC11, Hants S.) on 2nd & 8th August.

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Details of the preceding are given by D. Gibbs & B.S.Nau in *Br. J. Ent. Nat. Hist.*, **18**, 159-162, Sept. 2005; this includes a key, & drawing of the aedeagus.

More recently, on 30th July 2005, we visited a site at Box End, Kempston (VC 30, Bedfordshire) where Mistletoe grows in quantity, at head height in several ancient apple trees, remnants of a former orchard. Here we found all three British Mistletoe bugs: *Anthocoris visci*, *Pinalitus viscicola*, and also *Hypseloecus visci*; the latter in large numbers. This extends the known range northwards by about 75km.

H. visci belongs to the tribe Pilophorini, but looks quite unlike our other members of this tribe (see photo), which all belong to the antlike genus *Pilophorus*. This relationship only becomes obvious on careful examination of the shape of the hind surface of the head, otherwise the bug would pass for a *Psallus* or *Atractotomus*.

Mistletoe is rarely checked for Heteroptera, as it is usually high up & out of reach, but in 2004 we visited Hatfield Forest (N. Essex, VC 19) on 6th July as there is much Mistletoe there, some easily accessible. However, we were unable to find any *H. visci* despite a careful search. Some years earlier, in late August 1996, John Hollier & Jonathon Briggs searched Mistletoe for Heteroptera at three sites, in Gloucestershire (VC33), Herefordshire (VC36), & Worcestershire (VC37) respectively. They found *P. viscicola* & *A.visci* but not *H. visci* (*Br. J. Ent. Nat. Hist.*, **12**, 237-239). It seems likely therefore that *H. visci* is a recent arrival in the south of England.

***Canthophorus impressus* in Isle of Wight**

Annette Binding: S&L mention marjoram as a possible alternative host plant for this species which is usually associated with bastard toadflax. When we found the species on the Isle of Wight in September 2005, we decided to try to rear some of the nymphs. We didn't find bastard toadflax although it has been recorded in the area. However, there was a plentiful supply of marjoram plants.

When we returned to our home in Lincolnshire the only plant then available was marjoram. I successfully bred two specimens through to adulthood on this plant.

Sehirus (Tritomegas) bicolor

Brian Mitchell: On 14th April 2006, near Grendon (Warwicks., VC 38), I noticed the rather frenetic activity of six or seven Pied Shieldbugs, *Sehirus* (*Tritomegas*) *bicolor*, mainly on and around a discarded and flattened polystyrene carton (noodles, I think!) on a pavement verge a foot or so from the base of a hedge. Further along the path there were several more scurrying around in close proximity, mainly on the ground. The bugs didn't seem to be anywhere near the usual host, White Dead-nettle (*Lamium album*). The emerging vegetation was Cow Parsley (*Anthriscus sylvestris*) and Common Nettle (*Urtica dioica*). Although I have previously seen several *bicolor* together on White Dead-nettle, in the late 1980s & early 1990s, along the Ashby Canal in Leicestershire, I have never seen such congregations before - it is more usual to see it singly, or at most in twos. The behaviour reminded me of swarming of *Dolycoris baccarum* last year, on and under plants of figwort (*Scrophularia* sp.) in a new clearing in Bentley Wood.

I can't find any reference to this phenomenon in S&L, nor in Roger Hawkins' more recent *Shieldbugs of Surrey*. However, I recall that in the old Heteropterists' Newsletter there was an appeal for help with a pheromone study of certain shieldbugs. Perhaps the unusual warmth on 14th April brought *bicolor* out from below ground & pheromones were emitted leading to the activity. The polystyrene carton would have been even warmer than the surrounding earth and low vegetation.

[**Editors:** In hot sun on 22nd April 2005, near Ware (Herts, VC 20) we saw 10+ *bicolor* on a footpath surfaced with loose limestone chips colonised by sparse tiny rosettes of Red Dead-nettle (*Lamium purpureum*) & other ruderal weeds. The bugs crawled purposefully, pushing their way under loose stones, seeking sites to oviposit we thought (c.f.: Southwood, 1950, *Ent. Mon. Mag.* **6**, 299-301). A year earlier, in hot sun on 25th April 2004, in Brede Wood (E. Sussex, VC14), we saw 100s of *Dolycoris baccarum* crawling over a few square metres of dead Beech leaves, twigs & bramble stems beside a woodland ride; some were mating. We took this to be mass emergence from hibernation. Can anyone offer similar observations, or explanations?]

Unusual hostplants in Yorkshire
Bill Dolling

1. *Acanthosoma haemorrhoidale*

Adults of the 'Hawthorn Shieldbug' (*Acanthosoma haemorrhoidale*) so often wander from their usual host that they can be found in the winter months in all sorts of strange places. I have records from under conifer bark and among curly kale. Nymphs, too, can be beaten from a variety of woody plants after storms so that it is difficult to be sure that the species breeds on the plants where they are found. Nevertheless, I have found nymphs of all sizes on fruiting Rowan (*Sorbus aucuparia*) and Tree Cotoneaster (*Cotoneaster* spp) in my garden (VC 61) so frequently that I am convinced that the bug can complete its life-cycle on these hosts. In August 2003 I encountered six adults accompanied by nymphs on Rowan at Fylingdales Moor (VC 62), a considerable distance from any Hawthorn, certainly well beyond walking distance for the immatures.

2. *Macrotylus solitarius*

This species is well known to be associated with Hedge Woundwort (*Stachys sylvatica*) so it is perhaps not surprising that I encountered adults in July 2005 on Marsh Woundwort (*S. palustris*) at Staveley (VC 64). I could find no Hedge Woundwort in the vicinity. More unexpected was the discovery of another Hedge Woundwort bug, *Dicyphus stachydis*, on Deadly Nightshade (*Atropa belladonna*) at Scampston (VC 61) in August 2005. The plants were growing in the shade of mature trees and were swarming with adults and nymphs.

***Ceraleptus lividus* in Dorset/Hampshire**
John Hunnisett

On 20th June 2001 whilst carrying out a survey at Mudeford Spit SZ183914 (VC 11), an area of sand dunes, I came across the body of a coreid bug amongst rough vegetation growing on the more established dunes. It was a species I hadn't seen before. After failing to key it out in S&L, due to lack of antennae, I sent it to Peter Kirby who identified it as *Ceraleptus lividus*. An email from Bernard Nau confirmed that as far as he knew it was the first Dorset record. Although not in the vice county of Dorset (VC 9) it was close.

Four years later, in 2005, Dorset Environmental Records Centre were contracted by Bug Life to survey the soft cliffs of Dorset. The aim was to establish a baseline of invertebrate species primarily found in this unstable habitat. Five sites were selected as representative of the habitat (St Gabriels SY398922, Eype Mouth SY451908, White Nothe SY765812, Worbarrow SY866802 and Chapmans Pool SY957770, all in VC 9). At White Nothe on 25th May 2005, whilst grubbing under prostrate grass in closed grassland (NVC CG4) I found a lethargic coreid bug. This time I had the remnants of the one from Mudeford to compare it with & identified it as *Ceraleptus lividus*. The site was ca.30m from the cliff base, ground cracked by the movement of the substrate. On 8th September 2005, again whilst grubbing under grass overhanging the cliff base, at Eype Mouth, I found two adults & a presumed immature (see photo) close to the junction of cliff base and shingle. On the basis of these two finds it can now be reported that *C. lividus* is a Dorset species but so far found only along the coast.

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An eminent 20th century Dorset entomologist, Dr F.H.Haines, spend much time collecting around Ringstead, close to White Nothe, and it is unlikely that he would have missed such a conspicuous bug. Therefore it is possible that it is spreading along the south coast, as far as I am aware this is the furthest west in the British Isles that it has been found.

From the Regions

Changing 'HetBugs' in South Yorkshire (VC 63)

Bill Ely,
Rotherham Biological Records Officer, Rotherham Biological Records Centre

The results of any programme of insect recording depend on a variety of factors, some of them subject to short-term changes and some affected by longer term ones. The 'hetbug' records in Rotherham Biological Records Centre's databank are no exception. This note highlights species which have been recorded during the last decade but not previously. The implication is that these are responding to changing climate, although other factors (chance, recorder effort, previously unsurveyed sites, etc.) also play a part.

This addition of 30 hetbug species to the Rotherham list is mirrored in many other groups of invertebrates. Some are likely to have been overlooked (e.g. *Trigonotylus caelestialum*) but records of *Loricula elegantula* & *Loricula pselaphiformis* from 1999, but not since, are not suggestive of an invading species. Also, improved surveying, for aquatic bugs in particular, has improved the records enormously.

However, those species which have turned up on a regular basis in recent years - *Eysarcoris fabricii, Heterogaster urticae*, *Microvelia reticulata, Ilyocoris cimicoides* and *Notonecta viridis* – seem to be genuine additions to the fauna.

Abbreviations:
RM= R. Merritt, WE= Bill Ely, WRD= W.R.Dolling

Aradus depressus - the only Rotherham record was collected in Swinton (SK4499), 26 May 2001 by WE.

Neottiglossa pusilla - only Rotherham record was collected in Wath (SE4301), 27 August 2004 by WE.

Eysarcoris fabricii - was collected by the Chesterfield Canal (SK5182) on 27 May 2000 by WE. It has since turned up in 16 sites within the Borough.

Palomena prasina - the first Rotherham specimen was photographed at Thrybergh Country Park (SK49) on 17 May 2004 by Mr D.Morris. It then turned up in a variety of instars in 5 sites last year.

Troilus luridus - was first reported in Treeton Wood (SK4486) on 9 September 1997 by Mr D.Whiteley, and we have added 2 more sites since then.

Coriomeris denticulatus - the only Rotherham record was collected at Clough (SK4293) on 13 June 2003 by Mr A.R.Godfrey.

Chorosoma schillingi - was found at Catcliffe (SK4187) on 25 August 2001 by WE and it has since been found at 3 further sites.

Heterogaster urticae - the first Rotherham specimen was found at Kilnhurst (SK4697) on 7 June 2000 by WE. It has since been found at 17 further sites.

Peritrechus nubilus - the only Rotherham record was collected in Anston Stones Wood (SK5382) on 5 September 2004 by WE and confirmed by WRD.

Berytinus montivagus - was found at Brampton Bierlow (SE4102) on 14 July 2002 and at Wath (SE4301) 29 July 2004, both by WE.

Berytinus signoreti - only Rotherham record was collected in Swinton(SK4599),14 August 2004 by WE.

Dictyla convergens - the only Rotherham record was found by River Rother (SK4483),20 June 2002 by WE.

Himacerus apterus - was first found at Woodsetts (SK5683) on 10 August 2002 by WE and it has subsequently turned up in 4 additional sites.

Orius laevigatus - first Rotherham specimen was found at Thorpe Salvin (SK5480), 1 September 2002 by WE and has since been found at 2 further sites.

Loricula elegantula - was found at Hail Mary Hill Wood (SK4387) on 7 July 1999 and Treeton Wood (SK4487) on 31 July 1999 and (SK4486) 21 August 1999 by WE and confirmed by WRD.

Loricula pselaphiformis - was found in Hawks Wood (SK5281) on 29 May and 9 & 15 June 1999 by WE.

Amblytylus nasutus - the first Rotherham specimen was found at Maltby (SK5291) on 30 June 2001 by WE and has since been found at 6 further sites.

Psallus mollis - found at Wingfield (SK4194) on 4 July 2001 and Lindrick (SK5582), 25 June 2004 by WE.

Psallodema fieberi - was found at Droppingwell (SK3794) on 16 July 2000 and Broad Wood (SK5481) on 8 July 2003 by WE.

Megacoelum infusum - only Rotherham record was found at Woodsetts (SK5583),10 August 2002 by WE.

Stenodema trispinosum - only Rotherham record was found in Swinton (SK4599),14 August 2004 by WE.

Trigonotylus caelestialum - was first recorded at Silverwood (SK4794) on 6 August 2003 by WE and has been found at 5 further sites since.

Mesovelia furcata - the only Rotherham record was collected in the Rother Valley Country Park (SK4581) on 30 June 2004 by RM.

Microvelia reticulata - was first found at Catcliffe Flash (SK4288) on 30 April 1999 by RM and has been recorded from 10 further sites by the same collector.

Ranatra linearis - the first Rotherham record was collected in the Rother Valley Country Park (SK4581) on 30 June 2004 by RM and has been recorded from 3 further sites by the same collector.

Ilyocoris cimicoides - was first found in the Rother Valley Country Park (SK4581) on 31 July 1995 by RM and has been recorded from 8 further sites by the same collector.

Notonecta viridis - the first Rotherham record of was from Catcliffe Flash (SK4288) on 30 April 1999 by RM and has been recorded from 10 further sites by the same collector.

Plea minutissima - was first recorded at Firsby Reservoir (SK4995) on 31 August 2002 by RM and has been recorded from 7 further sites by the same collector.

Micronecta scholtzi - was first recorded at Firsby Reservoir (SK4995) on 31 August 2002 by RM and has been recorded from 5 further sites by the same collector.

Micronecta poweri - The only Rotherham record was collected in Ravenfield Park (SK4895) on 27 May 2005 by RM.

Leicestershire & Rutland VC55

The purchase of the *Provisional atlas of British aquatic bugs* (Huxley 2003) drew my attention to the scarceness of common species of hets in VC55! This is due to a lack of recording in the vice-county, which I intend to try to put right! I'm still in the early stages of learning about hets and would always welcome any practical hints on how best to be certain about identifications. The notes being published in *HetNews* certainly help (an excellent publication by the way!).

As a starter it would be useful to obtain any records for VC55 (regardless of age) in order to really see what has been recorded here. Sheila Brooke has kindly provided some records from Don Goddard (also a prolific lepidopterist in VC55) and I have retrieved others from the NBN Gateway (although it is not a particularly easy database to use even for one with some computer experience). In addition, Loughborough Nats have provided a short list probably originating from county coleopterist Derek Lott. However, I am sure that there some out there and details would be appreciated!

Records (including any published references) should be sent to:

Ray Morris
ray.morris@ntlworld.com

South Devon VC3

I have found my first ever ***Hebrus pusillus*** recently in south Devon. It was taken commonly, with ***H. ruficeps***, from wet Sphagnum areas in a large flushed slope on the margins of Dartmoor at Lower Cadworthy (SX5564), 27 September 2005. A leaf-sucker made easy work of finding it! I believe that this may be a new county record?

Keith Alexander

Breconshire VC 42

An excellent entomological weekend was organised by the Powys Local Records Centre and the Brecon Beacons National Park in September 2005. ***Mesovelia furcata*** was taken at Llangorse Lake, SO126262, on the 17th. The following day, ponds on Mynydd Illtud produced ***Sigara scotti*** at SN958258 (coll. Ilona Carati, BBNP) and ***Microvelia reticulata*** at SN986269. All were determined by JB and all are new to VC 42 according to the 2003 atlas. I also took ***Macrosaldula scotica*** at the confluence of the Rivers Clydach and Usk, SO242155, on the 19th.

John Bratton,
18 New Street, Menai Bridge, Anglesey, LL59 5HN.

Lincolnshire VC53

A single specimen of ***Dolycoris baccarum*** was swept from low herbage in a clearing in Skellingthorpe Old Wood near Lincoln on the 16th October 2005 by Allan Binding. The specimen was in winter colours and was the first record of this shieldbug in Lincolnshire.

Annette Binding

Isle of Wight VC10

Good numbers of the very local southern shieldbug ***Canthophorus impressus*** (Status: Nb) were found at Littleton Down on the Isle of Wight on the 1st September 2005. There were the bright red nymphs of all stages from 1st to 5th instar plus several adults. They were actively crawling over the low vegetation and on the pathways.

Allan & Annette Binding

Shropshire VC40

While spending a weekend walking along parts of the Montgomery Canal with some friends I did a spot of sweeping and found ***Dolycoris baccarum*** and ***Palomena prasina***. Neither show on the VC shieldbug chart although I feel sure they will not be new for the VC. An adult and 2 nymphs of *Dolycoris* were found at Llanymynech Rocks NR SJ2621 and nymphs of *Palomena* were found at Maesbury Marsh SK3125 and at Llanymynech, Lime Kiln SJ2621. SEB

Denbighshire VC50

After purchasing the *Provisional atlas of British aquatic bugs*, I was inspired to go out and see what I could find locally in the Wrexham area. In the atlas the total for Denbighshire (VC 50) was 26 species. After many enjoyable visits to local ponds and streams, I have managed to add seven new species to the county list, so the total for Denbighshire is now 33 species. The additions are as follows:

Gerris odontogaster
Wynstay Park lake SJ307429 2 on 1-10-04
Penley field pond SJ427404 2 on 29-10-04
Gerris thoracicus
Erddig on River Clywedog SJ342485 1 on 11-6-04
Plea minutissima
Allington Farm pond SJ369558 10 on 15-10-04
Ranatra linearis
Hanmer Mere SJ454396 2 on 19-8-05
Cymatia coleoptrata Local
Wynstay Park lake SJ307429 2 on 1-10-04
Hesperocorixa linnaei
Hem House pond SJ389552 2 on 1-11-04
Callicorixa wollastoni
Hafod Moor pool SJ255513 1 on 4-11-04

Bryan Formstone
bryanformstone@dsl.pipex.com

International Heteropterist's Society (IHS) - 3rd Quadrennial Meeting
18-21 July 2006*, Wageningen, The Netherlands
Information & form on IHS website or from Berend Aukema at b.aukema@freeler.nl
[* Dates given in Het News 6 were incorrect!]

Updated water bug checklist, May 2006 ..... Sheila Brooke

A. Corrections to the previous list (*Het News* Issue 3, 2004), my apologies for the errors:

1. *Glaenocorisa* was mis-spelt despite numerous readings, it should NOT be *Glaencorisa.*
2. *Gerris costae* – The correction previously issued (*Het News* **6**, Spring 2005, p5) correctly stated that Herrich-Schäffer described the species and that Wagner & Zimmerman were authors of the sub-species. However, the date for H-S should be 1850, not 1853, for the following reason: the year 1853 was that in which the final issue of the series of publications was published but it was in 1850 that the species *Gerris costae* was described.

B. Additions to the previous list (*Het News* Issue 3, 2004):

Three additional species have been found in Britain recently:

Naucoris maculatus, Sigara iactans, *Cymatia rogenhoferi*.

C. Software package checklists:

1. *Recorder 2002*: has a new checklist '*An annotated checklist of British water bugs (Hemiptera-Heteroptera)*, this does not include *S. iactans* and *C. rogenhoferi*.
2. *MapMate*: the latest checklist does not include *Cymatia rogenhoferi.*

D. Explanatory notes are not repeated in this issue of the checklist (for these refer to the 2004 checklist).

Family	Species	Synonym
Nepidae		
	Nepa cinerea Linnaeus, 1758	
	Ranatra linearis (Linnaeus, 1758 - *Nepa*)	
Corixidae		
	Micronecta scholtzi (Fieber, 1860 - *Sigara*)	= *meridionalis* (Costa, 1862 - *Sigara*)
	Micronecta griseola Horváth, 1899	
	Micronecta minutissima (Linnaeus, 1758 - *Notonecta*)	
	Micronecta poweri (Douglas & Scott, 1869 - *Sigara*)	(=*minutissima* non Linnaeus, 1758)
	Cymatia bonsdorffii (C.R.Sahlberg, 1819 - *Corixa*)	
	Cymatia coleoptrata (Fabricius, 1777 - *Sigara*)	= *coleoptrata insularis* Walton, 1942
	Cymatia rogenhoferi (Fieber, 1864)	
	Glaenocorisa propinqua propinqua (Fieber, 1860 - *Corisa*)	
	Glaenocorisa propinqua cavifrons (Thomson, 1869 - *Corisa*)	= *alpestris* Douglas & Scott, 1870
	Arctocorisa carinata (C.R. Sahlberg, 1819 - *Corixa*)	
	Arctocorisa germari (Fieber, 1848 - *Corisa*)	
	Callicorixa praeusta (Fieber, 1848 - *Corisa*)	= *boldi* Douglas & Scott, 1870 = *sodalis* Douglas & Scott, 1870
	Callicorixa wollastoni (Douglas & Scott, 1865 - *Corixa*)	= *cognata* Douglas & Scott, 1870 = *caledonica* Kirkaldy, 1897
	Corixa affinis Leach, 1817	
	Corixa dentipes (Thomson, 1869 - *Corisa*)	
	Corixa iberica Jansson, 1981	
	Corixa panzeri (Fieber, 1848 - *Corisa*)	
	Corixa punctata (Illiger, 1807 - *Sigara*)	= *geoffroyi* Leach, 1817
	Hesperocorixa castanea (Thomson, 1869 - *Corisa*)	
	Hesperocorixa linnaei (Fieber, 1848 - *Corisa*)	
	Hesperocorixa moesta (Fieber, 1848 - *Corisa*)	
	Hesperocorixa sahlbergi (Fieber, 1848 - *Corisa*)	
	Paracorixa concinna (Fieber, 1848 - *Corisa*)	
	Sigara selecta (Fieber, 1848 - *Corisa*)	= *stali* Douglas & Scott, 1865
	Sigara stagnalis (Leach, 1817 - *Corixa*)	= *lugubris* (Fieber, 1848 - *Corisa*)
	Sigara nigrolineata (Fieber, 1848 - *Corisa*)	= *fabricii* (Fieber, 1851 - *Corisa*) = *saundersi* Kirkaldy, 1899
	Sigara limitata (Fieber, 1848 - *Corisa*)	
	Sigara semistriata (Fieber, 1848 - *Corisa*)	
	Sigara venusta (Douglas & Scott, 1869 - *Corixa*)	
	Sigara dorsalis (Leach, 1817 - *Corixa*)	(=*striata* non Linnaeus, 1758) = *lacustris* Macan, 1954

Sigara striata (Linnaeus, 1758 - *Notonecta*)	
Sigara distincta (Fieber, 1848 - *Corisa*)	= *douglasi* Fieber in Douglas & Scott, 1865
Sigara falleni (Fieber, 1848 - Corisa)	
Sigara fallenoidea (Hungerford, 1926 - *Arctocorisa*)	= *pearcei* Walton, 1936
Sigara fossarum (Leach, 1817 - *Corixa*)	
Sigara iactans Jansson, 1983	
Sigara scotti (Douglas & Scott, 1868 - *Corixa*)	= *prominula* Thomson, 1869
Sigara lateralis (Leach, 1817 - *Corixa*)	= *hieroglyphica* (Dufour, 1833 - *Corisa*)
Naucoridae	
Ilyocoris cimicoides (Linnaeus, 1758 - *Nepa*)	
Naucoris maculatus Fabricius, 1798	
Aphelocheiridae	
Aphelocheirus aestivalis (Fabricius, 1794 - *Naucoris*)	= *montandoni* Horváth, 1899
Notonectidae	
Notonecta glauca Linnaeus, 1758	
Notonecta maculata Fabricius, 1794	
Notonecta obliqua Thunberg, 1787	= *furcata* Fabricius, 1794
Notonecta viridis Delcourt, 1909	= *halophila* Edwards, 1918
	= *marmorea viridis* Delcourt: Esaki, 1928
Pleidae	
Plea minutissima Leach, 1817	= *leachi* McGregor & Kirkaldy, 1899
	(= *atomaria* non Pallas, 1771)
Mesoveliidae	
Mesovelia furcata Mulsant & Rey, 1852	
Hebridae	
Hebrus pusillus (Fallén, 1807 - *Lygaeus*)	
Hebrus ruficeps Thomson, 1871	
Hydrometridae	
Hydrometra gracilenta Horváth, 1899	
Hydrometra stagnorum (Linnaeus, 1758 - *Cimex*)	
Veliidae	
Microvelia buenoi Drake, 1920	= *umbricola* Wroblewski, 1938
Microvelia pygmaea (Dufour, 1833 - *Velia*)	
Microvelia reticulata (Burmeister, 1835 - *Hydroessa*)	(= *pygmaea* non Dufour, 1833)
Velia caprai Tamanini, 1947	(= *currens* non Fabricius, 1794)
Velia saulii Tamanini, 1947	(= *currens* non Fabricius, 1794)
Gerridae	
Aquarius najas (De Geer, 1773 - *Cimex*)	
Aquarius paludum (Fabricius, 1794 - *Gerris*)	
Gerris argentatus Schummel, 1832	
Gerris costae (Herrich-Schäffer, 1850)	
Gerris gibbifer Schummel, 1832	
Gerris lacustris (Linnaeus, 1758 - *Cimex*)	
Gerris odontogaster (Zetterstedt, 1828 - *Hydrometra*)	
Gerris thoracicus Schummel, 1832	
Gerris lateralis Schummel, 1832	(= *lateralis asper* non Fieber, 1860)
Limnoporus rufoscutellatus (Latreille, 1807 - *Gerris*)	

Please send contributions for the next issue by 30th September 2006