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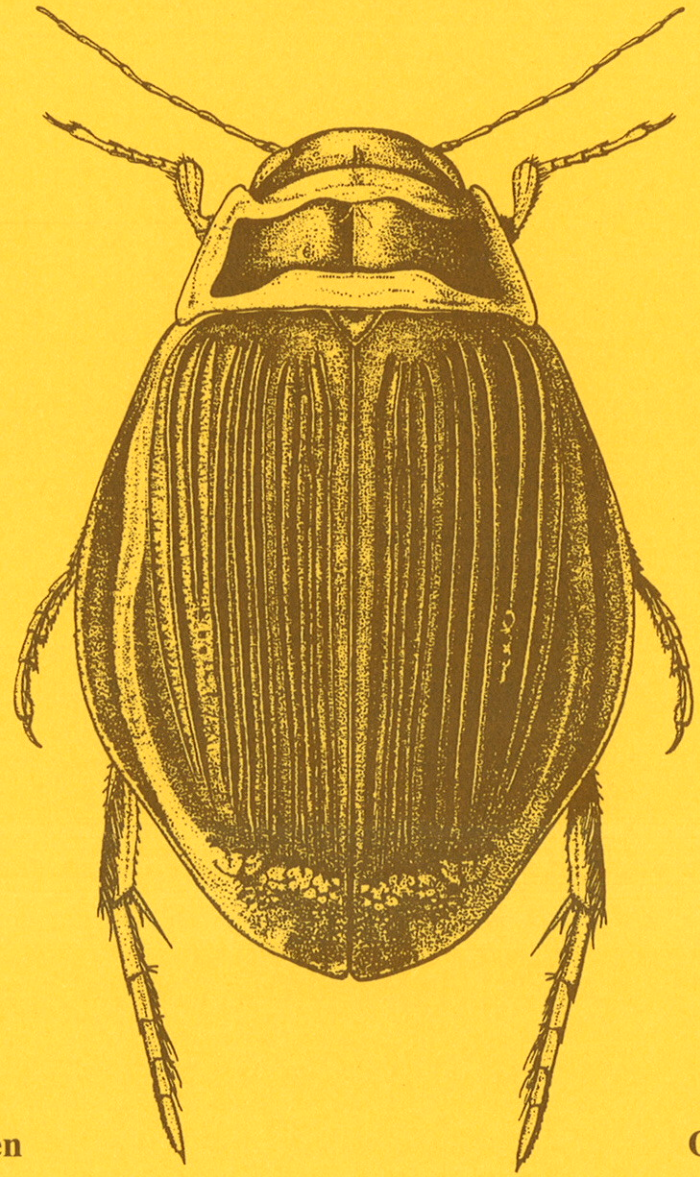

Number Ten **October 1998**

ÁDÁM'S CHECKLIST OF HUNGARIAN DYTISCIDAE AND THE STABILITY OF NOMENCLATURE

by Anders Nilsson

Lázlo Ádám is a Hungarian coleopterologist who has published several papers on various groups of beetles, also including the aquatic forms. He is obviously well read, especially in the older literature, and his treatment of names often results in changes unwanted by most people using them. We should therefore ask if these changes really are necessary, or if at least some of them can be avoided.

The situation got more intense after the publication of Ádám's *A check-list of the Hungarian caraboid beetles (Coleoptera)* in *Folia Entomologica Hungarica* 1996, **57** 5-64. Most of this huge work deals with carabids, but the few pages on aquatic Adephaga include many interesting things; enough to make most water beetlers quite upset. It may seem strange that this paper is being discussed after some years of silence, but for me it was very interesting as I will have to decide if Ádám's changes should be followed in the forthcoming catalogue of Palaearctic Dytiscidae. To get an open discussion of the problems I will here list the changes he has found it necessary to make, and then give my view on them with the hope that others will join in. I will restrict myself to the family Dytiscidae, i.e. Dytiscidae + Laccophilidae + Hydroporidae *sensu* Ádám.

Replacing invalid type species of genera There are lots of type designations for genera around, but only a few of them are valid and the oldest ones have priority. They are easy to overlook, and it is not always clear what constitutes a valid designation. Ádám suggests the following changes:

Ilybius: *ater* instead of *fenestratus*.
Bidessus: *parvulus* (= *unistriatus*) instead of *unistriatus*.
Deronectes: *elegans* instead of *latus*.
Scarodytes: *lineatus* instead of *halensis*.
Hydroporus: *fusculus* (= *planus*) instead of *pubescens*.

Some of these changes of type species have almost no consequence whereas others will lead to profound changes in the way the generic names are used. I agree on *Hydroporus* and *Ilybius* as the changes are necessary, and the usage of names is not changed. The *Scarodytes* case is a question of whether Zimmermann's designation of *halensis* as type species is valid. I will continue to view it as valid as the alternative is to start using *Scarodytes* for what we now call *Porhydrus* and the new name *Rhiacodytes* for the old *Scarodytes*. The suggested changes for *Bidessus* and *Deronectes* have a common cause, i.e. that Bedel (1881) cited Sharp's names before he had published them himself (1882). The dramatic consequences for the usage of *Deronectes* makes this change impossible to accept. I am now investigating if it is possible to view Bedel's names as being not available as they were used as synonyms by him; or if his names will have to be formally rejected and Sharp's name conserved. The alternative is to start using *Deronectes* for the current *Nebrioporus* and *Bartheus* for what we now know as *Deronectes*.

Changes in taxonomic rank We may remember the Romanian entomologist M.-A. Ienistea for his ambition to raise most insect families to orders to be in line with other less diverse animals. Ádám is up to something similar, although on a smaller scale, making families of subfamilies, subfamilies of tribes, etc. I will here list only some examples:

Subgenera raised to genera in: *Acilius, Agabus, Copelatus, Cybister, Hydaticus, Hydroporus, Ilybius*, and *Rhantus*.
Species-groups raised to genera: *Hydroporus tristis*-, *striola*- and *puberulus*-groups as genus *Hydrocoptus*; *H. angustatus*-group as new genus *Schizoporus*; *Bidessus minutissimus*-group as new genus *Calliporus*.
Subspecies raised to species: *Hydroporus discretus ponticus* as *H. ponticus*.
Synonym raised to species: *Hydroporus incertus* (not synonym of *memnonius*).

As no new evidence is presented in relation to phylogeny etc. the changes in taxonomic rank suggested by Ádám should best be ignored and his new generic names listed as junior synonyms.

Ignoring the ICZN rulings The following names that have been conserved by the International Committee for Zoological Nomenclature (ICZN) are listed by Ádám as junior homonyms instead of as valid names:

Generic names: *Acilius* (replaced with *Heteroelytrus*), *Rhantus* (replaced by *Rantus*)
Species names: *Agabus biguttatus* (replaced with *nigricollis*), *Ilybius ater* (replaced by *ungularis*)

The following species that have been rejected by the ICZN are listed by Ádám as valid:

Hydroporus ater (instead of *planus*)

ADDRESSES OF AUTHORS The addresses of authors of articles, and of the contacts for reviewed works, are given at the end of this issue of ***Latissimus***, together with a selection of e-mail numbers. The address for other correspondence is:- Professor G N Foster, 3 Eglinton Terrace, Ayr KA7 1JJ, Scotland, UK.

Rantus (instead of *Rhantus*).

It is my firm opinion that the ICZN rulings are there for us to follow, i.e. Ádám's ambition not to do so should not be supported.

Introducing old names of uncertain identity as valid The old insect literature abounds with species names the identity of which is very difficult to give with any certainty. These names were followed by short general descriptions suitable for many species. In the absence of reference material such "*species incognita*" are best left unused, especially when they may cause the replacement of well-known names. Ádám has introduced a couple of such names as valid, based on the assumption that their identity can be known:

Bidessus parvulus instead of *unistriatus*.
Graptodytes minimus instead of *granularis*.
Ilybius foetidus instead of *fuliginosus*.
Rhantus roridus instead of *frontalis*.
Suphrodytes fimbriatus instead of *dorsalis*.

I suggest that we stick to the names we are used to as the interpretation of the old names is a difficult business and the resulting changes are largely unwanted.

Replacing junior homonyms instead of conserving them Even if their identity often remains unclear, old unused names enter into homonymy, and the only way to keep a junior homonym as a valid name is to have it conserved by ICZN, getting the senior homonym rejected at the same time. The following junior homonyms, not already conserved by ICZN, have been replaced by Ádám:

Cybister subgenus *Trochalus* replaced with *Scaphinectes*.
Hydroglyphus pusillus replaced with *geminus*.

As both these cases refer to names which have not been consequently in use for a long time, my opinion is that we will have to accept their replacement.

Some other unwanted changes Balke & Fery (1993) selected a lectotype of *Hydroporus neuter*, thereby fixing its position as a senior synonym of *discretus*. They also stated an ambition to have *discretus* conserved by ICZN. Their case is not strengthened by Ádám's usage of *neuter* as the valid name of this species.

Strangely enough, Ádám is reintroducing *variegatus* as the valid name of the *Laccophilus* species we presently know as *ponticus* [but see p. 3 of this ***Latissimus***. ed.]. The reason for not using *variegatus* is that it is preoccupied, i.e. *Dytiscus variegatus* was described first by Geoffroy in 1785 (supposed to be a junior synonym of *Hydroporus palustris*) and then by Gravenhorst in 1807 and again by Germar in 1817 based on the *Laccophilus* species. Now Ádám argues that *Laccophilus variegatus* Sturm, 1834, is valid and not a homonym of the Geoffroy name. I have a difficulty in following this argument as it seems clear to me that Sturm's name has to be considered a junior homonym of both Gravenhorst's and Germar's names, and consequently cannot be used for this species.

There is some confusion on the correct authorship and date of the family name Dytiscidae. In Opinion 619 of the ICZN the name Dytiscidae Leach, 1817, was placed on the Official List of Family-Group Names in Zoology, and at the same time several other names were rejected. One small problem is that Leach had already published his name in 1815 in Brewster's Edinburgh Encyclopaedie, which was overlooked in the Opinion. Instead of Leach, Ádám attributes Dytiscidae to Ahrens 1811. However, as Ahrens applied his "Dytici" [*sic*] only to species of the genus *Dytiscus* it is not suprageneric and therefore not available as a family name.

More to come? In spite of the introduction of unwanted changes of names that should have been avoided in most cases, Ádám's checklist is welcome in that it provides the possibility to gain knowledge of the Hungarian fauna. It is rumoured that Ádám has worked on a manuscript on the Hungarian dytiscid fauna, which would give a more detailed view of the faunistics and habitat preferences of the species together with identification keys and descriptions. The eventual publication of this work is very uncertain. We have to ask ourselves if it is wanted. On the positive side it will provide lots of important information, but the stability of names will not be easier to gain if this set of unwanted changes of names will be published again. Would it not be possible for Ádám to accept that priority is not the only rule in nomenclature, return to the old, well-known, names and have the fauna published and welcomed by everybody? So far, I have not been able to get in contact with Ádám to discuss these things. Let's hope this will be possible in the near future so that we can get an open and constructive discussion about dytiscid nomenclature and taxonomy that surely will benefit from his great knowledge in these matters. We should no longer accept nationally isolated usage of names,

and instead work for European and ultimately worldwide consensus by making the available information accessible for everyone everywhere.

Received August 1998

LACCOPHILUS POECILUS KLUG, 1834 – THE VALID NAME FOR *L. PONTICUS* SHARP, 1882

by Rowaida Saleh Ahmed & Robert Angus

Hans Silfverberg's (1977) discovery that *Dytiscus variegatus* Germar 1817 (*Laccophilus variegatus*) is a junior homonym of *Dytiscus variegatus* Fourcroy 1775 (= *Hydroporus palustris* (L.)) has ushered in a period of nomenclatorial instability for the *Laccophilus*, and illustrates the justification for applying to the International Commission for Zoological Nomenclature rather than resurrecting old, long-abandoned names.

Anders Nilsson (1985) suggested that *Laccophilus obsoletus* Westhoff, 1881 would be the appropriate name for the *Laccophilus* but later (Nilsson 1988) had to withdraw this in favour of *L. ponticus* Sharp 1882 when he realised that Westhoff's *obsoletus* was described as a variety of *Haliplus variegatus* Sturm 1834.

In the course of revisional work on Egyptian Dytiscidae, R. S. Ahmed became convinced that *Laccophilus poecilus* Klug 1834 was merely a form of *L. variegatus*, basing this conclusion on a female in the Alfieri collection, identified by Geschwendtner as *L. poecilus*. In particular, this female resembled specimens she had collected in the company of males with normal *L. variegatus* aedeagophores.

This conclusion is confirmed by study of Klug's type specimen (presumably the holotype as only one type seems to exist), sent from Berlin and studied by R. B. Angus following R. S. Ahmed's return to Egypt. The replacement of the name *Laccophilus variegatus* (Germar) by *L. ponticus* Sharp 1882, a name nearly 50 years younger than *L. poecilus* means that the valid name for this species must now be *Laccophilus poecilus* Klug 1834.

The holotype is 3.6 mm long, female, dull yellowish, with the elytra with a fine undulate pattern of brown zigzag lines ("vermiculations") with sub-basal and subapical patches where the dull yellow background is clear of the lines. It bears a printed label "9987" and an old green one with "Ehrenb" written on it. A newer label has "Aegypten Ehrenberg Nr 9987" and an old one (white) has "Lacc. poecilus". Finally there is Brancucci's label "Laccophilus poecilus Klug det. M. Brancucci 82". The appearance of this specimen is typical of middle eastern material of the species – i.e. without the vivid yellow flashes on the almost black background of typical European *variegatus*. Guignot (1959) distinguishes *L. poecilus* from "*variegatus*" (and most other species of his *variegatus* group) by stating that it has the larger elytral reticulation more prominent than the fine reticulation, whereas in the other species the fine reticulation is much more prominent except at the base. In fact, the type of *L. poecilus* has the reticulation rather feebly impressed, but, except at the base of the elytra (discounted by Guignot), the larger reticulation is scarcely visible. Sharp's *L. ponticus* was described from "Mesopotamia" and a female paralectotype from there closely resembles Klug's *L. poecilus* type except that it is about 10% larger and has the fine reticulation of the elytra a little more prominent. This is also true of a female taken by Angus in Kuwait in 1996, and this specimen is almost exactly the same size as Klug's type (length 3.7 mm as against 3.6). The difference in the strength of the fine reticulation between these specimens and Klug's type is very slight, and the agreement of the specimens in all other details of pattern, shape, form of the anal sternite etc. leaves no doubt that they are conspecific.

We thank Dr M. Uhlig (Humboldt Museum, Berlin) for the loan of Klug's type material, and also the Egyptian Government for funding most of this research.

GUIGNOT, F. 1959. Revision des Hydrocanthares d'Afrique, 2. *Annls Mus. R. Congo Belge*. **78** 323-648.

KLUG, J. C. 1834. *Symbolae Physicae*, **4**, Coleoptera, **13**. Berlin.

NILSSON, A. N. 1985. Towards a European check list of Dytiscidae. *Balfour-Browne Club Newsletter* **32** 1-5.

NILSSON, A. N. 1988. *Laccophilus obsoletus* is a *Haliplus*. *Balfour-Browne Club Newsletter* 43 6.

SHARP, D. 1882. On aquatic carnivorous Coleoptera or Dytiscidae. *Sci. Trans R. Dublin Soc.* **2** (2) 179-1003.

SILFVERBERG, H. 1977. Nomenclatoric notes on Coleoptera Adephaga. *Notulae ent.* **57**.41-44.

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AUSTRIAN INVENTORY

The German language version of this directory was noted in an earlier ***Latissimus***. The English language version throws up some interesting questions. It is in loose leaf form with several sections including comprehensive coverage of water beetles by Manfred Jäch, Jan Kodada, Stefan Schödl and the editor. The need for the comprehensive nature of the catalogue stems from Austrian water standards, which rely heavily on assessment of biological communities in their entirety, including calculations of saprobity. Water ranges from Class O for utterly clean water ("xenosaprobic") to Class IV for polysaprobic, extremely polluted water. This type of classification has to be linked to the zone being assessed, which ranges from mountain springs to lake bottoms. One section gives a full species inventory for Austria; one might question the use of some names - *Coelambus, Potamonectes, Nartus* - but then the text was probably prepared before 1995. Of considerable interest are the saprobic valencies, i.e. the pollution indicator scores, assigned to beetles. It would be interesting to test these on data-sets from other European countries, and also to find out how they were established in the first place. Perhaps the most pollution-tolerant species in Britain is *Ilybius fuliginosus* and this scores 2 in Class IV (very few invertebrates score higher, e.g. *Culex pipiens* at 6). But then *Agabus uliginosus* and *A. undulatus* also score 2; this may be true in terms of their tolerance of pollution but it would certainly raise problems in conservation in Britain, where they are both valued as relict indicator species, albeit sometimes in rather unpleasant places. I was surprised that *Laccobius sinuatus* did not get a rating for pollution-tolerance as it lives in heavily polluted areas in Britain. The classification of functional feeding guilds is straightforward - but why? Is it just that the original groupings are inappropriate to water beetles? Why are we stuck with most beetles being in two categories, "scrapers", i.e. plant-feeders, and "predators"? Why can't we have "opportunist predators which are scavengers with a tendency to cannibalism"? Can someone revisit these very crudely defined guilds and extract something more meaningful in describing water beetle communities?

Other questions are perhaps too narrow and irrelevant. Could the British environmental agencies produce a similarly comprehensive catalogue? Also, when does one ever get additions to a loose-leaf book? It is probably just as cheap - and also space-saving - to issue a bound book when new editions are required. I shall certainly value my copy of this work, and greatly respect the fact that trouble has been taken to produce an English version. I suspect that additional copies may be obtained from Dr Veronika Koller-Kreimel, Bundesministerium für Land- und Forstwirtschaft, A-1030 Wien, Marxergasse 2 (veronika.koller-kreimel@bmlf.gv.at).

MOOG, O. (ed.) 1995. *Fauna Aquatica Austriaca. A comprehensive species inventory of Austrian aquatic organisms with ecological notes.* Bundesministerium für Land- und Forstwirtschaft, Vienna.

NEW GERMAN CHECKLIST

The last great checklist in Germany was prepared by Adolf Horion in 1951, but this was superseded by *Die Käfer Mitteleuropas* by Freude, Harde & Lohse (or Freeman-Hardy-Willis as it sometimes affectionately known by those old enough to remember the shoeshop of that name in Britain). This latest checklist reports all Coleoptera for each of the 18 regions. 6,479 species are reliably recorded from Germany as a whole, with Bavaria, the largest region, having the largest number, 5,456, and the Saarland, the smallest, having 2,790. There is also a discernible north-west increase in species biodiversity. The checklist takes into account most recent name changes in water beetles, though *Coelambus* is retained as a genus, *Potamonectes* is retained for *Nebrioporus depressus* (Fab.) (perhaps as an error, because it appears between *N. canaliculatus* (Lacordaire) and *N. assimilis* (Paykull)). This is an authoritative work, drawing upon the knowledge of a large number of German coleopterists. It will certainly prove invaluable in checking on whether casual collecting in Germany has produced new records. An example of good practice for us all is a section listing all the name changes that have been noted in the four supplements to F-H-L. The editors' addresses are given at the end of ***Latissimus***; it should be assumed that this is a priced publication.

KÖHLER, F. & KLAUSNITZER, B. (eds) 1998. Verzeichnis der Käfer Deutschlands. Entomofauna Germanica. *Entomologische Nachrichten und Berichte* **4** 1-185.

GERMAN WATER BEETLE GROUP - ARBEITSGRUPPE WASSERKÄFER

The first newsletter of this group was issued in February 1998. It describes the Balfour~Browne Club Meeting in Gotha in 1997, and lists some changes in beetle nomenclature. Fifteen members are listed, and those wishing to join should contact Dietmar Spitzenberg.

GERMAN BIBLIOGRAPHY

Wolfram Sondermann's bibliography is arranged on a regional basis and starts in 1940. Entries are annotated with records of individual species.

SONDERMANN, W. & BOHLE, H.-W. 1997. Neuere Publikationen zur Faunistik der aquatischen Coleoptera (Hydradephaga, aquat. Hydrophiloidea, Dryopoidea, aquat. Curculionidae, aquat. Chrysomelidae) und Heteroptera (Amphibiocorisae und Hydrocorisae) in Deutschland - eine regionalisierte und kommentierte Bibliographie. *Entomologische Nachrichten und Berichten* **41** 233-272.

DIETRICH BRAASCH, 65 YEARS

An appreciation of Dietrich Braasch at 65 includes a bibliography. From this one gathers that Herr Braasch began to take a special interest in water beetles in 1988, since when he has published at least 26 papers on them.

JOOST, W. & KLAUSNITZER, B. 1997. Personalia. Dietrich Braasch - 65 Jahre. *Entomologische Nachrichten und Berichte* **41** (4) 273-279.

WESTFALIAN BEETLES

A survey of the Senne, a dune area of Eastern Westfalia, produced 97 species of beetle and 24 of bugs. The most interesting of the beetles was undoubtedly *Graphoderus austriacus* Sturm.

SONDERMANN, W. 1996. Beitrag zur aquatischen Coleopteren- und Heteropterenfauna der Senne und angrenzender Gebiete in Ostwestfalen (Coleoptera: Hydradephaga, Palpicornia, Dryopoidea; Heteroptera: Hydrocorisae, Amphibiocorisae). Insektenfauna und Ökologie in der Senne. VI. Teil. *Mitteilungen der Arbeitsgemeinschaft ostwestfälisch-lippischer Entomologen* **12** 1-17.

THURINGIAN BEETLES

Sonder is a nature reserve in Thuringia with much seminatural mixed forest and bogs. The publication includes a list of 13 water beetle species, of which the most interesting is *Dryops anglicanus* (Edwards), found in 1961. Contact Ronald Bellstedt for a copy.

EHRLINGER, M., BELLSTEDT, R., ACHTZIGER, R., FRITZE, M.-A., SCHOLZE, M. & SCHULZE, C. 1997. Zur Fauna des Naturschutzgebietes "Sonder" bei Schlotheim, Unstrut-Hainrich-Kreis/Thüringen (Aves, Amphibia, Insecta, Mollusca). *Thür. Fauna. Abhandlungen* **4** 197-225.

THE "SURFACING TRAP"- A NOVEL METHOD FOR TRAPPING LIVE WATER BEETLES AND OTHER AQUATIC ANIMALS

by Jochen Mölle

Introduction Since 1992, the water beetle assemblages of 34 different ponds near Bonn have been examined quantitatively and their succession has been documented by the Institute for Evolutional Biology and Ecology, F-W University of Bonn. Automatic traps are used, which are able to catch most of the species present and keep them alive, thus eliminating the need for frequent checks. Since conventional trapping methods proved to be inappropriate for these studies (Schaeflein 1983, Balke & Hendrich 1987, Behr 1988), a totally new method was developed, which takes advantage of the essential need of air-breathing aquatic animals to surface periodically. Just below the surface, the animals are directed into a container from which they cannot escape. There are many other possible uses for this type of trapping. Various methods have been tested during the studies mentioned above, one of which is presented here.

Description of the method A surfacing trap mainly consists of a large funnel attached to the bottom of the trap container (Figures 1 & 2). The trap measures 56.4 cm in diameter and covers an area of ¼ m^2. An air tube supports the 1.5 kg trap by floating at the water's surface. This is particularly advantageous when the water level changes drastically. The funnel is attached via guide rings to three poles fixed in the ground at the bottom of the pond, where the guide rings enable the trap to move vertically up and down with the water level and the poles prevent the trap from drifting, thus ensuring that all samples are caught at the same location. About ¾ of the trap container is submerged and the trap has a draught of 12 cm. Animals which surface from under the trap glide along the ascending sides of the funnel through a flap valve into the trap container, where they are able to renew their air-supply and survive over a long period. While plants and other obstacles often hinder surfacing beetles, the funnel does not keep them from surfacing, but rather acts as a guide into the trap. The cone-

shaped valve consists of triangular lamellae which can be easily spread apart from below and then, after the beetle has passed through, closed again by means of their inherent tension (Fig. 3).

Since all parts of the trap are constructed of transparent plastic, there is minimal shadowing.

To check the trap, the screw cap, which is permeable to air, is removed and the animals are caught with a tea-strainer. The trap itself is never removed from its location. Weekly checks of the traps have proved to be necessary in order to catch the beetles alive. The traps may require additional emptying in spring due to the increased number of amphibians and their larvae caught at that time of the year.

In general, it has been shown that the trapping rate is particularly good in areas of dense vegetation (cf. Gräf 1979, Hilsenhoff 1987) where the water reaches a depth of about one metre. Beetles which avoid deeper water can only be caught in exceptional cases, even though they may be numerous. Catching these mostly semiaquatic beetles with surfacing traps requires substantially smaller traps, which float in a shallow location close to the water's edge.

As sufficient numbers of animals could be obtained during these long-term studies, the use of bait proved unnecessary. However, additional tests have shown that bait laid out beneath the traps or artificial light sources (cf. van den Brink & van der Velde 1989) may greatly increase the number of animals caught. Some species probably avoid shady areas, whereas others, such as *Dytiscus* spp., are more likely to be caught in traps constructed of opaque rather than transparent material.

Fig. 1: Surfacing trap, schematically; measurements in mm

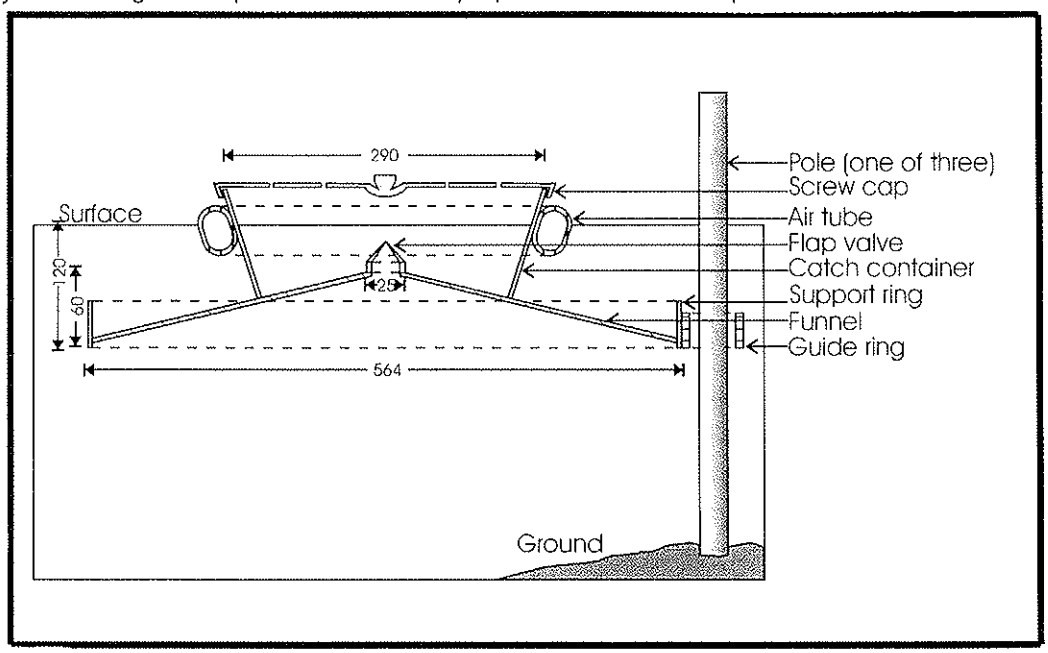
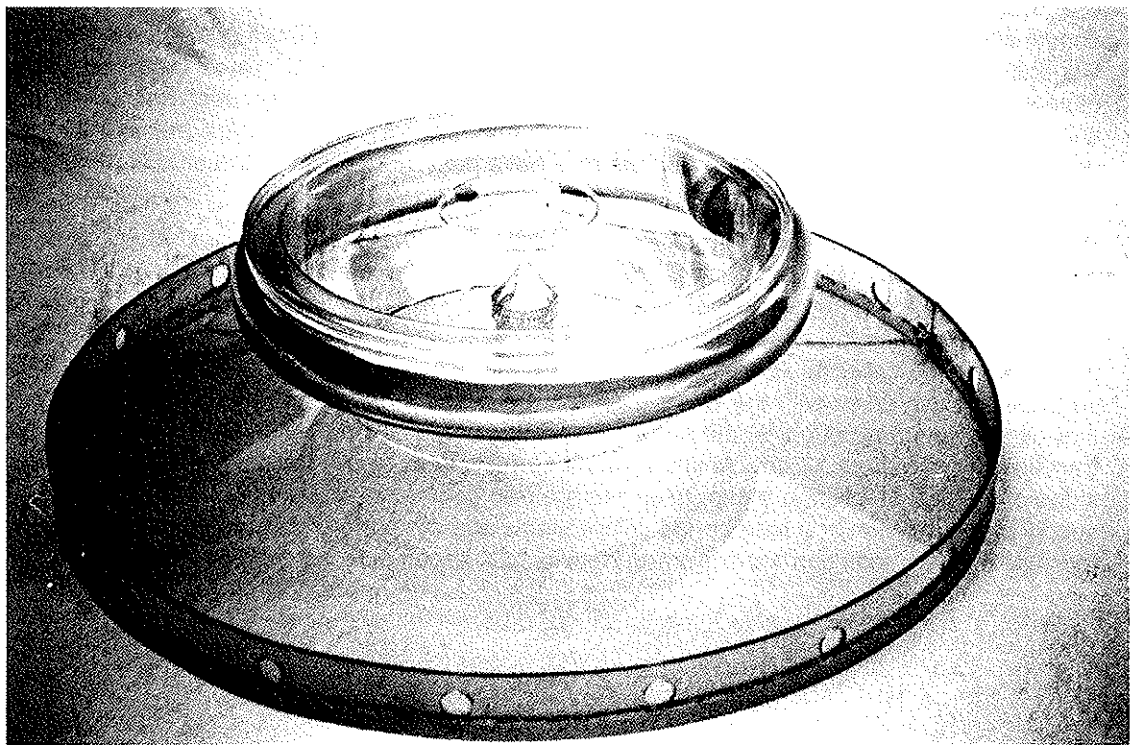


Fig. 2: Surfacing trap (without guide rings)



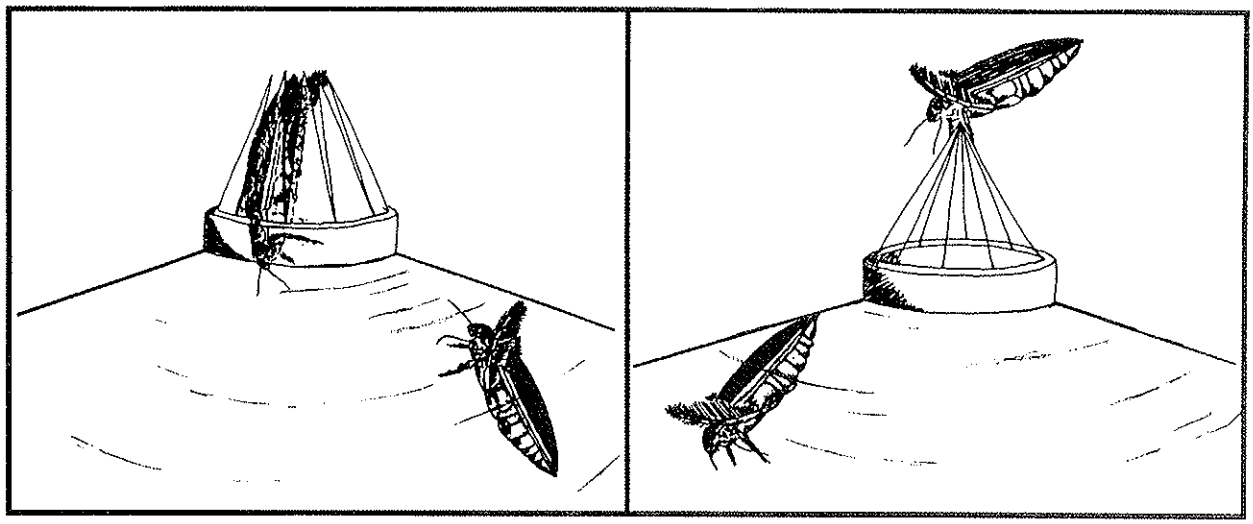
More simply constructed surfacing traps - so-called "holiday-traps" (Balke & Hendrich 1987) - such as an umbrella fixed in the bottom of the pond with a hole on top serving as the funnel and a bucket as the trap container, have also proved to be suitable for short-term surveys.

Results A total of 78,381 beetles of 98 species have been caught with surfacing traps during the five years of the studies. Forty-one traps have been used in 34 ponds for different lengths of time (Mölle 1998). Seven traps were set up for the entire period, the remainder for periods of 1 to 3 years. This resulted in an average of 968 beetles caught per trap and year. The absolute trapping rates per trap ranged from 87 to 5,987 individuals per year and 0 to 907 per week. In general, most animals were caught during spring and autumn, although high rates were also occasionally recorded in winter.

Table 1 shows all species found in the ponds, their maximum catching rates with the surfacing traps and a subjective assessment of the trapping data. In order to assess the catching rates, the real abundance of the species must be taken in account. As the real abundance is not known here, catching rates can only be rated either "high" or "low" as compared to other sampling methods (catching with a sieve or an insect net). Some of the species listed could only be caught using the additional methods.

It has been shown that, although the absolute catching rates are quite different at various locations in a single body of water, the dominance structure is generally the same when depth and vegetation are comparable as well.

Fig. 3: Function of the flap valve



Discussion As is the case for most methods of trapping animals, the results obtained with different types of surfacing traps measure activity, not absolute densities. This means that, without bait, successful catching primarily depends on the surfacing intervals of the animals. Surfacing intervals vary greatly according to species and sometimes even according to individuals, as the need to renew the air-supply is not the only reason for surfacing; this has been demonstrated in aquarium experiments. Many species mainly move horizontally, whereas others tend to move vertically up and down searching for food (Hilsenhoff 1987). The frequency of surfacing also depends on temperature and season. There is no correlation between successful catching and the size and mobility of beetles, because very mobile beetles are apt to swim under the trap more often than slow swimmers, but then also retreat again without surfacing. It is not usually possible to determine whether a species caught more frequently than another actually occurs more frequently. To verify this, it would be necessary to analyse the trapping results by statistically determining the different surfacing rates of the different species throughout the year in testing pools in which the real abundances are known. Nevertheless, many individuals and species can be caught with the surfacing traps and population dynamics can be investigated and interpreted.

The mortality rate is extremely low if the traps are checked weekly, because: 1) the beetle´s prey are also caught in large numbers, 2) the beetles are not normally aggressive towards one another and 3) the climate inside the large trap container is conducive to survival.

TABLE 1: List of all water beetles recorded during the studies (additional catches made using a net or sieve are also included) with data on the effectiveness of the surfacing trap. The maximum catching rates per trap are shown for each species and these rates are also classified as being "high" or "low" as compared to the results obtained using a net or sieve.
Max. C = Maximum catching rates of the species per surfacing trap. Rate = catching rates. Species which could not be caught at all with the surfacing traps, or were only found swimming in them in exceptional cases, even though they were frequently caught with a net or sieve, are marked as "-", all others being "+".

	Max. C beetles/trap				Max. C beetles/trap		
	/year	/week	rate		/year	/week	rate
Hygrobia hermanni	3	1	-	*Ilybius ater*	85	28	+
Peltodytes caesus	2	1	+	*Ilybius fenestratus*	8	3	+
Haliplus obliquus	27	7	+	*Ilybius fuliginosus*	94	24	+
Haliplus confinis	160	65	+	*Ilybius subaeneus*	1	1	+
Haliplus lineatocollis	102	24	+	*Rhantus suturalis*	2	1	+
Haliplus ruficollis	612	164	+	*Rhantus exsoletus*	1	1	+
Haliplus heydeni	399	122	+	*Colymbetes fuscus*	75	15	+
Haliplus wehnckei	355	132	+	*Hydaticus seminiger*	18	10	+
Haliplus fluviatilis	378	75	+	*Graphoderus cinereus*	13	7	+
Haliplus immaculatus	225	42	+	*Acilius sulcatus*	117	19	+
Haliplus laminatus	3	2	+	*Acilius canaliculatus*	2	1	+
Haliplus flavicollis	79	10	+	*Dytiscus marginalis*	270	68	+
Haliplus fulvus	10	2	+	*Dytiscus circumflexus*	8	3	+
Noterus clavicornis	549	140	+	*Gyrinus substriatus*	2	1	-
Noterus crassicornis	15	9	+	*Ochthebius minimus*	1	1	-
Hyphydrus ovatus	382	37	+	*Hydraena subimpressa*	0	0	-
Hydrovatus cuspidatus	3	2	+	*Hydraena testacea*	0	0	-
Nebrioporus depressus	48	11	+	*Hydraena riparia*	0	0	-
Guignotus pusillus	8	2	+	*Limnebius truncatellus*	0	0	-
Hygrotus impressopunctatus	109	38	+	*Hydrochus elongatus*	1	1	-
Hygrotus versicolor	24	6	+	*Hydrochus carinatus*	30	14	+
Hygrotus decoratus	12	3	+	*Hydrochus brevis*	4	1	-
Hygrotus inaequalis	1825	494	+	*Hydrochus angustatus*	0	0	-
Suphrodytes dorsalis	2001	342	+	*Helophorus porculus*	0	0	-
Hydroporus angustatus	46	13	+	*Helophorus aquaticus*	0	0	-
Hydroporus marginatus	2	2	+	*Helophorus aequalis*	0	0	-
Hydroporus palustris	1999	173	+	*Helophorus grandis*	0	0	-
Hydroporus incognitus	1	1	+	*Helophorus brevipalpis*	0	0	-
Hydroporus striola	2	1	+	*Helophorus granularis*	1	1	-
Hydroporus erythrocephalus	1	1	+	*Helophorus discrepans*	0	0	-
Hydroporus neglectus	2	2	+	*Helophorus minutus*	1	1	-
Hydroporus pubescens	1	1	+	*Helophorus griseus*	1	1	-
Hydroporus planus	21	5	+	*Helophorus nanus*	1	1	-
Hydroporus discretus	1	1	+	*Helophorus dorsalis*	0	0	-
Hydroporus nigrita	5	3	+	*Helophorus flavipes*	1	1	-
Hydroporus memnonius	3	2	+	*Helophorus obscurus*	1	1	-
Graptodytes bilineatus	2	2	+	*Coelostoma orbiculare*	1	1	-
Graptodytes pictus	6	2	-	*Cercyon ustulatus*	1	1	-
Stictotarsus 12-pustulatus	1	1	+	*Cercyon convexiusculus*	3	3	-
Laccophilus minutus	441	141	+	*Megasternum obscurum*	0	0	-
Laccophilus hyalinus	1530	327	+	*Anacaena globulus*	3	1	-
Copelatus haemorrhoidalis	2	2	+	*Anacaena lutescens*	0	0	-
Platambus maculatus	12	3	+	*Anacaena limbata*	3	2	-
Agabus chalconotus	73	24	+	*Hydrobius fuscipes*	84	28	+
Agabus montanus	5	2	+	*Laccobius minutus*	0	0	-
Agabus neglectus	10	6	+	*Laccobius striatulus*	0	0	-
Agabus biguttatus	1	1	+	*Helochares lividus*	5	3	-
Agabus guttatus	1	1	+	*Helochares obscurus*	8	4	-
Agabus melanarius	2	1	+	*Enochrus ochropterus*	1	1	-
Agabus bipustulatus	340	70	+	*Enochrus quadripunctatus*	4	2	-
Agabus sturmii	151	16	+	*Enochrus testaceus*	32	6	+
Agabus congener	1	1	+	*Enochrus affinis*	9	3	+
Agabus uliginosus	3	2	+	*Enochrus coarctatus*	27	8	+
Agabus paludosus	1	1	+	*Cymbiodyta marginella*	8	2	-
Agabus nebulosus	28	8	+	*Hydrochara caraboides*	1	1	+
Agabus undulatus	2124	385	+	*Berosus signaticollis*	9	4	+

Since zooplankton, leeches, bugs, various insect larvae, snails and amphibians have been caught in large numbers, it can be assumed that many aquatic organisms frequently move between the water surface and the ground in still waters. Thus, the surfacing trap can also be used to catch animals other than water beetles.

Acknowledgements I am grateful to Dipl. Biol. Cornelius Bertram, Dipl. Biol. Frank Lehmann and Karin Bügel for the maximum catching rates of their water beetle studies with surfacing traps, some of these rates are shown in table 1. I am also indebted to Gregor Agnes for designing Figure 2, Maryann Onofrietto for assistance with the translation, and Dr G. Schmitz for the constructive review of the manuscript. The studies were supervised by Prof. Dr G. Kneitz.

References

BALKE, M. & HENDRICH, L. 1987. Trapped. *The Balfour-Browne Club Newsletter* **39** 9 - 10.

BEHR, H. 1988. Kleinräumige Verbreitungsmuster von Dytisciden-Populationen (Coleoptera; Dytiscidae) in zwei Oberharzer Hochmooren. *Faunistisch-Ökologische Mitteilungen* **6** 43-52.

GRÄF, H. 1980. Ökologische Untersuchungen der Käferfauna in den Gewässern Solingens. *Decheniana* **133** 115-143.

HILSENHOFF, W. L. 1987. Effectiveness of bottle traps for collecting Dytiscidae. *The Coleopterists Bulletin* **41** (4) 377-380.

SCHAEFLEIN, H. 1983. Dytiscidenfang mit selbstgebauter automatischer Falle. *Ent. Nachr. Ber.* **27** (4) 163-166.

VAN DEN BRINK, F. W. B. & VAN DER VELDE, G. 1989. Catching water beetles using a light trap. *The Balfour-Browne Club Newsletter* **44** 6.

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WORK IN MALTA

by Stephen Schembri

My research is based on a study of the biogeography of freshwater systems of the Maltese Islands. The work involves:

1. The investigation of selected insect groups that are taxonomically and phylogenetically well understood, and whose distribution range is well documented.

This part of the study involves an analysis of selected local species and subspecies, together with any important races, forms and varieties, so as to try and establish the affinities with related "forms" on the mainland (mainly Southern Italy plus Sicily in Europe and northern Tunisia in North Africa)

2. The provision of supportive date for current theories and hypotheses on Mediterranean biogeography related to the Maltese Islands.
3. The possible solution of existing conflicts in current biogeography theories.

The species analysis will proceed as follows

- overview of groups
- validity of names
- presence of local forms, races, varieties, etc.
- taxonomic status (i.e. relevance in current systematics)
- affinities to other species of the same and other groups
- distribution and its significance.

The following families, represented in the Maltese Islands, will subsequently receive treatment: Dryopidae, Dytiscidae, Haliplidae, Gyrinidae, Hydraenidae, Helophoridae, Hydrophilidae and Heteroceridae.

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FAUNA OF THE RAMBLAS

No, this is not a paper about night life in Barcelona. The ramblas, also known as "wadi complexes" by some authors, are a complex of ephemeral coastal streams in semiarid SE Spain. The Murcian fauna is described and analysed by DECORANA, providing the opportunity to compare Heteroptera and beetles as indicators. The fauna does include possible endemics, *Ochthebius montesi* Ferro, *O. delgadoi* Jäch and *Nebrioporus baeticus* (Schaum). The hydraenid fauna is rich but there are relatively few Hydradephaga, notably no Gyrinidae at all. The fauna includes *Agabus brunneus rufulus* sensu Millán (see ***Latissimus* 9**).

MORENO, J.L., MILLÁN, A., SUÁREZ, M.L., VIDAL-ABARCA, M.R. & VELASCO, J. 1997. Aquatic Coleoptera and Heteroptera assemblages in waterbodies from ephemeral coastal streams ("ramblas") of south-eastern Sapin. *Archiv für Hydrobiologie* **141** (1) 93-107.

DONACIA OBSCURA GYLLENHAL IN SPAIN

by Ignacio Ribera, Philippe Richoux & Eduard Petitpierre

The reed beetle *Donacia obscura* has a central and northern European distribution, reaching the Alps in northern Italy and central France in the south, and the British Isles in the west (Bordy 1983, Warchalowski 1985, Biondi *et al.* 1994, Menzies & Cox 1996). Its presence in the Pyrenees was thus unexpected, and it has taken some time before the specimens found in a glacial lake in Val d'Aran by the senior author in 1989 could finally be identified with certainty.

Five specimens were found on 1 July on reeds at the edge of a small lake at 1,850 m, l'Estany de la Llosa (Salardú), in company with one example of *D. aquatica* (L.). The lake was approximately 50 m in diameter, and was surrounded by an almost continuous belt of reed and macrophytes. Although part of Spain (province of Lleida), Val d'Aran is situated in the north side of the Pyrenees, and in consequence can hardly be considered as part of the Iberian Peninsula. The aquatic Coleoptera of the lake had a markedly European character, with *Hydroporus palustris* (L.) taken at the same occasion, and *Ilybius fuliginosus* (Fab.) as recorded by Fresneda & Hernando (1988) from a previous visit in 1984. Neither of these has been recently found in the Iberian Peninsula, and old records should be taken with caution (see comments on these species in Ribera *et al.* 1995).

With the addition of *D. obscura* the list of confirmed Spanish *Donacia* amounts to 16, one of them endemic (*D. galaica* Báguena), and another with an as yet uncertain taxonomic status (*D. andalusiaca* Kraatz, also recorded from Middle East by Sahlberg 1913: 241) (Petitpierre, in press).

References

BIONDI, M., DACCORDI, M., REGALIN, R. & ZAMPETTI, M. 1994. Coleoptera Polyphaga XV (Chrysomelidae, Bruchidae). In: A. Minelli, S. Ruffo & S. La Posta (eds) *Checklist delle specie della fauna Italiana* **60**. Calderini, Bologna.

BORDY, B. 1983. Donaciini (Col. Chrysomelidae) entre Saône et Doubs. *Bulletin de la Societé entomologique de Mulhouse* **1080** 17- 30.

FRESNEDA, J. & HERNANDO, C. 1988. Los Hydradephaga de la Alta Ribagorza y Valle de Arán (Coleoptera). *Eos* **64** 17-55.

MENZIES, I. S. & COX, M. L. 1996. Notes on the natural history, distribution and identification of British reed beetles. *British Journal of Entomology and Natural History* **9** 137-162.

RIBERA, I., AGUILERA, P., BILTON, D. T., FERY, H., FRESNEDA, J., HERNANDO, C. & FOSTER, G. 1995. Towards a critical checklist of Iberian water beetles - some old records reconsidered. ***Latissimus*** **6** 3-7.

PETITPIERRE, E. in press. *Coleoptera Chrysomelidae* I. Fauna Iberica, CSIC, Madrid.

SAHLBERG, J. 1913. Coleoptera mediterranea orientalia, quae in Aegypto, Palaestina, Syria, Caramania atque in Anatolia occidentali anno 1904 collegerunt John Sahlberg et Unio Saalas. *Öfversigt at Finska Vetenskaps-Societetens Förhandlingar* **55** (1912-1913) 1-282.

WARCHALOWSKI, A. 1985. Chrysomelidae Stonkowate (Insecta: Coleoptera). I. Warsaw.

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TRAPPING IN SUTHERLAND

Unbaited water traps and pitfall traps were compared in a study of "dubh lochans" in a bog in the north of Scotland. It was possible to see differences in the abundance of the commoner species, such as *Hydroporus erythrocephalus* (L.) and *Dytiscus lapponicus* Gyllenhal. Twenty three species of adult aquatic Coleoptera were found in all, demonstrating the value of passive trapping in pools that are difficult to sample satisfactorily with the pond net.

DOWNIE, I.S., FOSTER, G.N., COULSON, J.C. & WHITFIELD, D.P. 1998. The water beetles of Badanloch Bog, Sutherland. *Glasgow Naturalist,* **23** (3) 31-34.

LACCOBIUS ATROCEPHALUS AND *YTENENSIS*

L. atrocephalus atrocephalus is recorded from the Iberian Peninsula for the first time, and *L. atrocephalus ytenensis* is recorded for the first time from North Africa. These taxa coexist in several localities in south-east Spain.

MILLÁN, A., RIBERA, I., FOSTER, G.N. & SÁNCHEZ-MECA, J.J. 1997. Distribution of *Laccobius a. atrocephalus* Reitter, 1872 and *L. a. ytenensis* Sharp, 1910 in the Iberian Peninsula (Coleoptera, Hydrophilidae). *Miscel.lània Zoológica* **20** (2) 113-117.

DESERT STUDIES IN ARIZONA

Studies on the behaviour and mortality of the water beetles *Laccophilus maculosus, Stictotarsus roffoi* and *Tropisternus ellipticus* indicated that loss of water was the principal cue eliciting dispersal behaviour. The *Laccophilus* was the most tolerant, surviving well at 40°C. *Thermonectus marmoratus*, a large dytiscid living in intermittent streams, was shown to prefer dead prey, particularly those with thin cuticle and soft tissues, and specially immature mayflies, beetles, dragonflies and fish; this was in contrast to one of the large belostomatid bugs, which preferred small living prey or large dead prey, its most preferred item being snails,

VELASCO, J. & MILLÁN, A. 1998. Feeding habits of two large insects from a desert stream: *Abedus herberti* (Hemiptera: Belostomatidae) and *Thermonectus marmoratus* (Coleoptera; Dytiscidae). *Aquatic Insects* **20** (2) 85-96.

VELASCO, J. & MILLÁN, A. 1998. Insect dispersal in a drying desert stream: effects of temperature and water loss. *The Southwestern Naturalist* **43** (1) 80-87.

RECORDS OF HYDRAENIDAE IN SPAIN AND THE BALEARICS

Carmen Sáinz-Cantero records the following species from Almería, mainly in the Río de Aguas, Turre: *Limnebius maurus* Balfour-Browne, *L. oblongus* Rey, *Ochthebius anxifer* Balfour-Browne, *O. delgadoi* Jäch, *O. montesi* Ferro, *O. quadrifoveolatus* Wollaston, *O. subpictus* Wollaston, and *O. tacapasensis baeticus* Ferro. Her second paper, with Josefina Garrido and Valladares, provides a series of new records of *Hydraena*, including 14 new provincial records. The third paper by the same authors reviews records of Hydraenidae in Andalucía; 29 *Hydraena* species, 14 *Limnebius* and 37 *Ochthebius* s. lat. are recorded from the area. The paper by Delgado and Soler concerns the río Segura basin in Murcia and Albacete, where 27 species of *Ochthebius* are reported.

DELGADO, J.A. & SOLER, A.G. 1997. El género *Ochthebius* Leach, 1815 en la cuenca del río Segura (Coleoptera: Hydraenidae). *Boletín de la Asociación Española de Entomología* **21** 73-87.

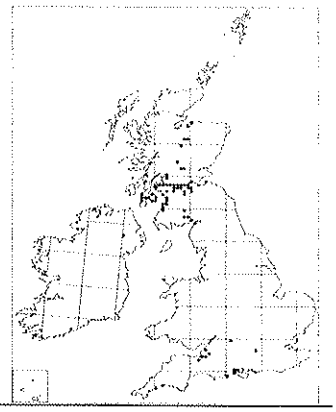
SÁINZ-CANTERO, C. 1997. Nuevas citas de Hydraenidae Mulsant, 1844 (Coleoptera) en Andalucía (Sur de España). *Boletín de la Asociación Española de Entomología* **21** 279-280.

SÁINZ-CANTERO, C., GARRIDO, J. & VALLADARES, L.F. 1997. Contribucion al conocimiento del género *Hydraena* Kugelann, 1794 (Coleoptera, Hydraenidae) en la Peninsula Ibérica e islas Baleares. *Zoologica baetica* **8** 213-219.

SÁINZ-CANTERO, C., GARRIDO, J. & VALLADARES, L.F. 1997. Los coleópteros Hydraenidae Mulsant, 1844 de Andalucía (Sur de España): nuevas aportaciones y análisis faunístico (Coleoptera, Hydraenidae). *Nouv. Revue Ent.* **14** (3) 193-210.

BEETLES AT THE HUNTERIAN MUSEUM, GLASGOW

Geoff Hancock is now the ZIP Collection Manager for the Hunterian Museum in the University of Glasgow. This is thanks to the British Heritage Lottery Fund, ZIP standing for the Zoology Museum Insect Project. As far as British water beetlers are concerned, the central feature of the collection is the material of Anderson Fergusson, who collected between 1894 and 1946. So far, I have extracted about 700 records for Fergusson plus, a 100 or so from material incorporated by Dr Roy Crowson. The map shows the distribution of AF's collecting. More information can be had from Geoff (see e-mail file).



SOME SCOTTISH RECORDS IN 1995 AND 1996

Geoff Hancock's annual round-up for 1996 produced some interesting records because this coincided with the Club's meeting in Scotland. We have, for example, the first solid record of *Anacaena limbata* s. str. in Scotland, by Bernhard van Vondel. Also *Helochares punctatus* Sharp and *Hydrochus brevis* (Herbst) in Kirkcudbrightshire. *Plateumaris rustica* (Kunze), still noted as *affinis* (Kunze), is recorded from the Wood of Cree, the only confirmed Scottish site. There are also several records resulting from Mick Eyre's survey of shingle sites. The other paper notes a few interesting records in 1995.

HANCOCK, E.G. 1997. Scottish insect records for 1995. *Glasgow Naturalist* **23** (2) 25-29.

HANCOCK, E.G. 1998. Scottish insect records for 1996. *Glasgow Naturalist* **23** (3) 27-30.

TOWARDS THE PALAEARCTIC CATALOGUE by Anders Nilsson

In 1997, a work group of coleopterists based in Prague started a project aiming at the publication of a new Palaearctic beetle catalogue in the year 2002 (after all PCs have crashed!). Lots of specialists will prepare their parts dealing with the different families. My responsibility is limited to the two families Dytiscidae and Noteridae. The format of the catalogue will largely follow the recently published catalogue of Palaearctic Heteroptera (ed. B. Aukema). Besides listing all the species with their synonyms, the catalogue will include faunistic data on a larger scale than we are used to. Records will normally be given nation-wise, although the really large chunks like China and Russia will be treated more in detail. The coding of the areas is provided below:

E Europe: AB Azerbaijan, AL Albania, AN Andorra, AR Armenia, AU Austria, BE Belgium, BH Bosnia Hercegovina, BU Bulgaria, BY Byelorussia, CR Croatia, CZ Czech Republic, DE Denmark, EN Estonia, FA Faeroe Isles, FI Finland, FR France, GB Great Britain, GE Germany, GG Georgia, GR Greece, HU Hungary, IC Iceland, IR Ireland, IT Italy, KZ Kazakhstan, LA Latvia, LS Liechtenstein, LT Lithuania, LU Luxembourg, MA Malta, MC Macedonia, MD Moldavia, MR Madeira, NL The Netherlands, NR Norway, PL Poland, PO Portugal, RO Romania, RU Russia (CT Central European Territory, NT North European Territory, ST South European Territory), SK Slovakia, SL Slovenia, SP Spain, SV Sweden, SZ Switzerland, TR Turkey, UK Ukraine, YU Yugoslavia.

N Africa North: AG Algeria, AZ Azores, CI Canary Isles, EG Egypt (except Sinai), LB Libya, MO Morocco, TU Tunisia.

A Asia: AE Arab Emirates, AF Afghanistan, AP Arunachal Pradesh, BA Bahrain, BT Bhutan, CH China [CE Central Territory (ANH Anhui, HUB Hubei, HUN Hunan, JIA Jiangsu, JIX Jiangxi, SHG Shanghai, ZHE Zhejiang), NE North-eastern Territory (HEI Heilongjiang, JIL Jilin, LIA Liaoning), NO Northern Territory (BEI Beijing, GAN Gansu, HEB Hebei, HEN Henan, NIN Ningxia, NMO Nei Mongol, SHA Shaanxi, SHN Shandong, SHX Shanxi, TIA Tianjin), NW North-western Territory (Gansu, NMO Nei Mongol, XIN Xinjiang), SE South-eastern Territory (FUJ Fujian, GUA Guangdong, GUX Guangxi, HAI Hainan, HKG Hong Kong, MAC Macao, TAI Taiwan), SW South-western Territory (GUI Guizhou, SCH Sichuan, YUN Yunnan), WP Western Plateau (QIN Qinghai, XIZ Xizang)], CY Cyprus, HP Himachal Pradesh, IN Iran, IQ Iraq, IS Israel, JA Japan, JO Jordan, KA Kashmir, KI Kyrgyzstan, KU Kuwait, KZ Kazakhstan, LE Lebanon, MG Mongolia, NP Nepal, NC North Korea, OM Oman, PA Pakistan, QA Quatar, RU Russia (ES East Siberia, FE Far East, WS West Siberia), SA Saudi Arabia, SC South Korea, SD Sikkim, Darjeeling, SI Sinai (Egyptian part), SY Syria, TD Tadzhikistan, TM Turkmenistan, TR Turkey, UP Uttar Pradesh, UZ Uzbekistan, YE Yemen.

AFR Afrotropical region, AUR Australian region, NAR Nearctic region, NTR Neotropical region, ORR Oriental region.

Glancing through these different countries, it becomes obvious that the faunistic knowledge of them differs a lot. Whereas up-to-date checklists exist for most of the West European countries, the situation is less well-documented in many other parts of the Palaearctic. Besides the scattered literature records available, I would like to share the collecting data that the ***Latissimus*** readers may have. Those who have collected in places like Albania, Moldavia, Romania, Libya, Bahrain, Kuwait, etc should not hesitate to contact me. It is also important for me to get to know about additions to the more recently published national lists, as well as records that have turned out to be wrong. I will need some advice in how well-corroborated records need to be in order to be included in the new catalogue. The error of omitting valid but poorly documented records is probably as bad as including a few doubtful and, in the end, erroneous ones, as discussed by Ribera *et al.* from an Iberian perspective in ***Latissimus* 6** 3-7. Some geographical skill will be needed in order to sort records into the European and Asian parts of Kazakhstan, as well as separating the Korean records into North and South Korea.

It is my ambition to make preliminary versions of the catalogue electronically available on my home page via the Internet. In this way, those who are interested will have the access to this information and also have the chance (responsibility?) to improve the final version of the catalogue by letting me know of errors and omissions. Preliminary versions for Noteridae, Copelatinae, Hydroporinae, Dytiscinae and Laccophilinae have been added to my home page, although the faunistic part is still at an early stage.

Aloise Zimmermann published his world catalogue of Dytiscidae (including Noteridae) in 1920. His work provides a good starting point as it lists all the names described up to then, although the distributional data are not very detailed. Here should also be mentioned the *Limnofauna Europaea* edited by J. Illies (2nd ed. 1978), with the Hydradephaga part compiled by M.-A. Ienistea. The *Limnofauna* used a regionalisation of Europe based on 25 geographical regions, normally not

corresponding to the national borders. Although these regions have more natural delimitations than the political divisions, they are not very practical for compiling records that normally are nationally based. The new catalogue will be unique in its ambition to compile the national records of all Palaearctic species of Dytiscidae (and other families). In order to live up to this ambition with some accuracy, I encourage all ***Latissimus*** readers to provide some help:

* Send me all your records from odd areas!
* Visit my home page and copy the preliminary versions for critical reading!

http://www.big.umu.se/biginst/www/personal/HEMSIDOR/AN_BIG/AN_ny.htm

updated to June 1998

ENVIRONMENTAL ASSESSMENT USING INVERTEBRATES

Mick has a go at a few traditional targets in this review, which demands a reassessment of environmental assessment in general, and use of data for invertebrates other than butterflies and dragonflies.

EYRE, M.D. 1998. Invertebrates and the environment: a time for reassessment? *Antenna* **22**(2) 63-70.

J.F. STEPHENS

By 1840, Stephens' collection was reckoned to contain 92,000 insects. Stephens had strong views. He decided that anything that could not be seen with a hand lens was not worth seeing, and he refused to have any non-British material in his collection. He was also involved in disputes over copyrights, notably with John Curtis. This useful little review is marred by the comment that "many of his species are no longer considered valid and have been synonymised." The following list testifies to his diligence, in that at least two species have been reinstated quite recently.

Gyrinus aeratus Stephens
Gyrinus substriatus Stephens
Haliplus confinis Stephens
Haliplus mucronatus Stephens
Hygrotus novemlineatus (Stephens)
Hydroporus ferrugineus Stephens
Hydroporus scalesianus Stephens
Deronectes latus (Stephens)
Laccornis oblongus (Stephens)
Agabus montanus (Stephens)
Anacaena lutescens (Stephens)
Cercyon convexiusculus Stephens
Cercyon depressus Stephens
Hydraena minutissima Stephens
Ochthebius dilatatus Stephens
Ochthebius nanus Stephens
Ochthebius punctatus Stephens
Ochthebius pusillus Stephens
Cyphon ochraceus Stephens
Heterocerus flexuosus Stephens

SNOW, K.R. 1998. John Francis Stephens - a pioneer of British entomology. *Antenna* **22**(2) 71-73.

AUSTRALIAN AND MELANESIAN ANACAENINI

Fourteen new species (1 *Crenitis*, 1 *Paracymus*, 12 *Paranacaena*) are described in this revision, which includes a key to Melanesian *Paranacaena* and a discussion of the Anacaenini, with a key to genera.

GENTILI, E. 1996. Notes on the Anacaenini from Australia and Melanesia with descriptions of new species (Coleoptera, Hydrophilidae). *Giornale italiano di Entomologia* **8** 177-189.

HYDROPHILOIDEAN STUDIES

As Miquel Archangelsky points out, there is general consensus that the Hydrophiloidea belong within the series Staphyliniformia, but some disagreement as to which families actually belong to the Hydrophiloidea. A phylogenetic analysis is undertaken using characters from egg cases, larvae, pupae and adults. On this basis, the Hydraenidae reside within the Staphylinoidea and the Histeroidea is seen as the sister group to the Hydrophiloidea. Two clades are recognised at the family level, the Georissidae-Epimetopidae-Helophoridae and the Hydrophilidae-Spercheidae-Hydrochidae. Larval characters were important at the base of the tree, especially those associated with the spiracular atrium, whilst adult characters were more informative at the top of the tree.

The larger work is also of general value, but in a different way. It comprises illustrations of the immature stages of the 40 New World genera of Hydrophiloidea. Five genera are described for the first time including, perhaps surprisingly, *Cryptopleurum* based on *minutum* (Fab.). This volume contains a great deal of original information and useful observations on the biology of hydrophiloids, and should prove of interest throughout the world.

ARCHANGELSKY, M. 1997. Studies on the biology, ecology and systematics of the immature stages of New World Hydrophiloidea (Coleoptera: Staphyliniformia).*Bulletin of the Ohio Biological Survey, New Series* **12** (1) i-ix, 1-207.

ARCHANGELSKY, M. 1998. Phylogeny of Hydrophiloidea (Coleoptera: Staphyliniformia) using characters from adult and preimaginal stages. *Systematic Entomology* **23** 9-24.

PROTOSTERNINI

The Protosternini genera *Mucetum* and *Rhombosternum* belong to the terrestrial Sphaeridiinae. They are redescribed, together with descriptions of four new species of *Rhombosternum* from Birmania, Indonesia, the Philippines and Sarawak. Keys are provided to the known species of the group, including *Protosternum*. A cladistic analysis identifies the relatively isolated state of *Protosternum*.

BAMEUL, F. 1997. A revision of *Mucetum* d'Orchymont and *Rhombosternum* Balfour-Browne (Coleoptera: Hydrophilidae) with a phylogenetic analysis of Protosternini. *Ann. Soc. Entomol. Fr.* **33** (3) 375-403.

RENAUD PAULIAN - BIBLIOGRAPHY

Professor Paulian is best known for his work on the Scarabaeoidea. Now in his eighties, retired from his work at university, he lives in Bordeaux and continues to work in entomology. Although Paulian is not known as a water beetler, some members may be interested in obtaining a copy of this work.

LÓPEZ-COLÓN, J. 1997. Renaud Paulian, el entomólogo (biografía y obra científica). *Boletin de la Sociedad entomologica Aragonesa* **20**, Suplemento No. **2** 1-36.

***HYDATICUS ARUSPEX* A PINGO (NO, PALSA) SPECIES**

Easily the most remarkable discovery associated with our continuing exploration of "pingo fens" in Europe is the presence of the Holarctic *Hydaticus aruspex* Clark in Les Landes and the Gironde. Previously it was known to range from California, Canada and northern Europe to China, Japan and, in western Europe, to the Somme, where it was recorded in 1880. Franck Bameul takes the opportunity to review the status of other French *Hydaticus*. His review results in one name change, not a beetle, but substitution of the word palsa for the word pingo. The beetle has been found in four ancient lagoon systems, the one I recall being the pond known as lagune de Hourtéou (which I translate as "owl pond" for to-wit-to-woo). These systems, which provided such a memorable plethora of beetles in our Club meeting in 1992, are the remnants of periglacial ice lenses. The beetles caused some confusion to start with because the females lacked the pale elytral lines typical of the species in northern Europe, but a few striped females were later detected. The body shape is a little different to that of *H. seminiger* (De Geer) and the paper contains illustrations of colour patterns, genitalia and claws to help distinguish the six French species.

BAMEUL, F. 1997. Redécouverte en France d'*Hydaticus aruspex* Clark et notes sur l'identification des *Hydaticus* Leach de la fauna française (Coleoptera, Dytiscidae). *Bulletin de la Société entomologique de France* **102** (5) 419-437.

HYGROTUS LAGARI (FERY), A SPECIES NEW TO FRANCE by Gianluca Nardi

According to Hans Fery (1992) *Hygrotus lagari* (Fery 1992) has been found in Portugal, Spain, Morocco, Algeria, Tunisia, and Sicily.

In the De Maggi collection (Museo Civico di Zoologia, Roma) there are 2 ♂♂ and 4 ♀♀ (labelled "*Coelambus parallelogrammus*") of this species from Southern France: "Albaron (B.d.R.) [= Bouches-du-Rhône] 1939". This is the first French record for the species.

The closely related *Hygrotus parallelogrammus* (Ahrens) also lives in Southern France (Fery 1992, fig.13). Further records are needed to define the distribution of these species in the area more clearly.

Acknowledgements I should like to thank Mr. Saverio Rocchi (Museo Zoologico de "La Specola", Firenze) for help with the determination and Dr Vincenzo Vomero (Museo Civico di Zoologia, Roma) for the possibility to study the material under his care.

References

FERY, H., 1992. *Coelambus lagari* n. sp. und *C. sanfilippoi* n. sp. aus den westlichen Mittelmeergebiet (Coleoptera: Dytiscidae). *Entomol. Z.* **102** (7) 113-132.

Received April 1998

BOHEMIAN WATER BEETLES

A survey of Na Plachti, Hradci Králové, in western Bohemia provided records of 53 species, including *Gyrinus natator* L. new for Bohemia. The author notes that he did not have an opportunity to check proofs, as a result of which the last column in the table, the one describing the habitat preferences of each species, has been left misaligned.

ŠTASTNÝ, J. 1997. Aquicolní brouci (Coleoptera) lokality "Na Plachti" v Hradci Králové. *Acta musei Reginaeradecensis s. A.* **25** 155-162.

ASIAN SPECIES NEAR *HELOPHORUS GRISEUS*

Helophorus helenae is described from high altitudes in Asiatic Turkey. It differs from *H. griseus* Herbst in having a darker pronotum with more rounded sides, and more robust parameres. *H. montanus*, from the mountains of central Asia, resembles *griseus* but is larger with a consistently longer aedeagal tube.

ANGUS, R.B. 1998. A new Turkish *Helophorus*, with notes on *H. griseus* Herbst and *H. montanus* d'Orchymont (Col., Hydrophiloidea). *Entomologist's monthly Magazine* **134** 5-9.

LIMNEBIUS ALUTA BEDEL IN WALES

by John Bratton

Balfour-Browne (1958) considered *Limnebius aluta* to be a Welsh species on the strength of a record from Glamorgan which he had been unable to verify. G.N. Foster (pers. comm.) considers this *L. aluta* record is probably wrongly based on the occurrence of *Limnebius picinus* "in ditches near Penllergare, and in the canal at the Willows" reported by Dillwyn (1829). *Limnebius picinus* Marsham wrongly became the name by which *L. aluta* was known in Britain until 1938. Both Marsham and Stephens are in the list of coleopterists acknowledged by Dillwyn for identifying his specimens. Balfour-Browne relates how Stephens' collection contained a specimen which Stephens claimed was Marsham's type specimen of *L. picinus*, but which was later shown to be a specimen of *Limnebius nitidus* Marsham. There is thus a strong chance that Dillwyn's *L. picinus* are referable to *L. nitidus* rather than *L. aluta*. The alternative is that either Marsham or Stephens, with the type specimen of *L. picinus* available to them, mistook a specimen of *L. aluta* for the same species despite the great differences in size and puncturation.

J. R. le B. Tomlin, a coleopterist active in the late 19th and early 20th centuries, had specimens from Ely, Glamorgan, which were standing as *L. aluta* in the National Museum of Wales until redetermined as *L. nitidus* by G.N. Foster (Kirk-Spriggs & Foster 1992). It is possible that Balfour-Browne had heard of and accepted this Welsh record of *L. aluta*.

As there are doubts attached to previous Welsh records, the occurrence of *L. aluta* on Anglesey, 200 km from its nearest known locality, is noteworthy. I found a single female of this species in Cors y Farl SSSI, SH490779, on 27 July 1997. Cors y Farl is a calcareous fen in a Carboniferous Limestone basin. Though the fen is largely dominated by *Cladium mariscus*, *L. aluta* was in a horse-trampled pond with *Chara*, *Ranunculus lingua* and sedge tussocks the main vegetation. After sieving the soft fine peaty sediment of the pond edge, the *Limnebius* was noticed at the sediment surface. Further sieving for about 20 minutes produced no more specimens. No other uncommon water beetles were among the 24 species collected at the site on this occasion, though in July 1976 A.C. Warne found *Hydrochus ignicollis* there (Foster & Eyre 1992).

References

BALFOUR-BROWNE, F. 1958. *British water beetles. Volume III*. London, Ray Society.

DILLWYN, L.W. 1829. *Memoranda relating to coleopterous insects found in the neighbourhood of Swansea*. Privately printed.

FOSTER, G.N., & EYRE, M.D. 1992. *Classification and ranking of water beetle communities in Britain*. Peterborough, JNCC. (UK Nature Conservation, No. 1.)

KIRK-SPRIGGS, A.H., & FOSTER, G.N. 1992. *A catalogue of British Hydraenidae (Coleoptera) in the National Museum of Wales*. Cardiff, National Museum of Wales. (Entomology Series, no. 2.)

Received March 1998

Postscript: A further specimen of *L. aluta* was found on Anglesey on 5 July 1998 in Cors Bodeilio National Nature Reserve, SH499775. The habitat was a small muddy hollow, wet but with no standing water, on a ditch bank just above the ditch water level. Water splashed into the hollow flushed *L. aluta*, *L. nitidus* and *L. truncatellus* from the fine inorganic silt.

Received July 1998

AUSTROLIMNIUS

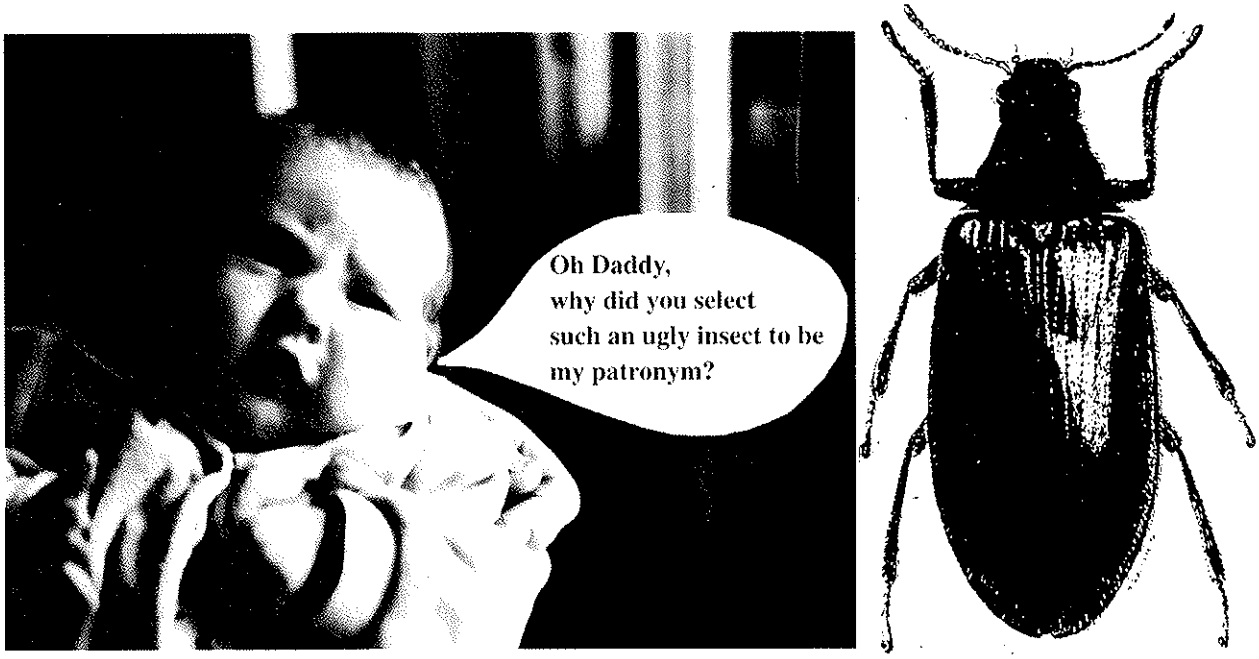
Austrolimnius is an elmid genus ranging from Southern America to Tasmania, with 68 species. The present survey, based on over 3,000 specimens, has revealed at 31 species from New Guinea and the Moluccas, 21 of them new to science.

BOUKAL, D.S. 1997. A revision of the genus *Austrolimnius* Carter & Zeck, 1929 (Insecta: Coleoptera: Elmidae) from New Guinea and the Moluccas. *Ann. Naturhist. Mus. Wien* **99 B** 155-215.

LARA THEME

Lara avara LeConte (illustrated left) is one of two species known of this western USA genus of Larainae, a subfamily of Elmidae. The other *Lara* illustrated is also a Jäch, born 2 December 1997.

JÄCH, M.A. 1998. Personal communication



THE TWO SPECIES OF *MICRAGASMA*

Micragasma is an ochthebiine genus with two species, *M. paradoxum* Sahlberg, from Corfu and southern Italy, and *M. substrigosum* (Reitter), from Azerbaijan, newly transferred from the genus *Ochthebius*.

JÄCH, M.A. 1997. Synopsis of the genus *Micragasma* Sahlberg, 1900 (Insecta: Coleoptera: Hydraenidae). *Ann. Naturhist. Mus. Wien* **99** B 313-318.

PROTOSTERNUM

Michael Hansen created the tribe Protosternini as terrestrial Hydrophilidae within the Sphaeridiinae. *Protosternum* Sharp is revised and redefined. The two original species, *P. atomarium* Sharp and *P. abnormale* (d'Orchymont), are redescribed and six new species are described, ranging from Mauritius to Sulawesi. They are associated with rotting timber. Cladistic analysis is performed using both the usual parsimony software and a prototype piece of software based on artificial intelligence.

BAMEUL, F. 1997. A revision of *Protosternum* Sharp (Coleoptera, Hydrophilidae). *Nouv. Revue Ent.* **14** (1) 17-41.

PROTOCHTHEBIUS

Protochthebius was described by Perkins in the same year. Two new species are described from India and Laos. *P. jagthanae* (Champion) is redescribed. *Ochthebius kosiensis* Champion, from Uttar Pradesh, is also redescribed.

JÄCH, M.A. 1997. Notes on Asian Ochthebiinae (Insecta: Coleoptera: Hydraenidae). *Ann. Naturhist. Mus. Wien* **99** B 303-312.

PRIMITIVE HYDROPHILID GENUS IN IRIAN JAYA

The subfamily Horelophopsinae is established for *Horelophopsis avita*. The presence of this primitive form in New Guinea suggests an origin for the Hydrophilidae as a whole in Godwanaland in the Jurassic.

HANSEN, M. 1997. A new subfamily for a remarkable new genus and species of Hydrophilidae) from New Guinea (Coleoptera: Hydrophilidae). *Annales Zoologici (Warsaw)* **47** 107-110.

CROSS DRAIN AND "THE LONG AND WINDING ROAD"

This is an article by Jack Thorpe in the Peterborough and Oundle Herald 27 November 1997.

'Beetlemania has forced the constructors of the Market Deeping Bypass to go out of their way to help some creepy crawly critters.

The bypass runs through Cross Drain, a 2½ mile long drain classified as a sight (*sic*!) of special scientific interest, and the construction of a road would disturb the site, so an extra bridge was needed.

The drain is home to two species of rare water beetles, Hydrochus ignicollis and Agabus undulatus. The beetles make up 20 per cent of the British water beetle population.

The purity of the water is such that Cross Drain is one of the few places in the country where the beetles can survive.

Brian Thompson, Lincolnshire County Council's assistant chief engineer, says the beetles have a lot of influence.

He said; "Under normal circumstances we would not have built a bridge over the drain, but our usual method would have disturbed the flow of the stream and caused mud to get into the water. The only way was to build a bridge, which was a lot more expensive and took a lot more time".

John Shackles, English Nature's conservation officer for Lincolnshire says the beetles and the drain are unique. He said: "These beetles are only found in parts of the old fens, they are relics that have managed to hold on in this dyke. The water in Cross Drain is very clear and you can see right to the bottom, of all the thousands of miles of dykes in the fens, this drain is unique."

The bypass, which is to be 8½ kilometres long, cost £8.5 million. It was jointly funded by the county council and the Department of Transport, which have joint responsibility for the A15 Sleaford to Peterborough class one county road and the A16, Stamford to Spalding trunk road. The dual carriageway is due to open in mid 1998. The main contractors, Mowlems of Market Deeping, started work in March of this year.'

This is not a bad representation of the truth though the accompanying picture of a giant longhorn beetle might prove confusing! The Cross Drain and its side drains is undoubtedly special - and resilient. Of the 87 or so species recorded from the Drain, rarities include *Hydrochus carinatus* Germar, *Bagous limosus* (Gyllenhal) and *Macroplea appendiculata* (Panzer), none of which was found when the site was originally investigated. One point not made is that it is not on grazing fen. When David Bilton discovered it in July 1986, it ran between fields of cereals. It was drawn to the attention of the then Nature Conservancy Council, who scheduled it on the basis of its aquatic plants rather than its beetles. But "Potamogetomania" doesn't roll so easily off the tongue.

Anyone travelling a little further north, on the new M74 from England to Scotland, might also ponder on the fact that this too was shifted to make way for beetles, in particular *Hydroporus elongatulus* Sturm.

I am grateful to John Bratton for drawing my attention to the article, and for recording the three additional rarities mentioned above. Ed.

MUSEUM COLLECTION CATALOGUE - ASCHAFFENBURG

The Hydradephagan water beetles of Aschaffenburg Museum are catalogued. There are 1,789 specimens of 208 species, mainly drawn from the collection of Frohlich, Singer, Stadler and Elbert.

HOFMANN, G. 1997. Die Schwimmkäfer (Coleoptera, Hydradephaga) der Sammlung des Naturwissenschaftlichen Museums der Stadt Aschaffenburg. *Nach. naturwiss. Mus. Aschaffenburg* **104** 71-107

CENTRAL EUROPEAN SALTWATER FAUNA

A survey of the ground beetle fauna of 16 inland saline areas of northern Thuringia includes reference to the water beetles. Species typically associated with brackish water include *Ochthebius auriculatus* Rey, *Paracymus aeneus* (Germar), *Enochrus bicolor* (Fab.) and *Berosus spinosus* (von Steven).

SPARMBERG, H., APFEL, W., BELLSTEDT, R. & HARTMANN, M. 1997. Die Käferfauna ausgewählter naturnaher und anthropogener Binnensalzstellen Nord- und Mittelthüringens (Insecta: Coleoptera). *Veröffentlichungen Naturkundemuseum Erfurt* **16** 78-137.

EXCHANGE OF JOURNALS - *MISCEL.LÀNIA ZOOLÒGICA*

This journal of the Museu de Zoologia, Barcelona, is now being exchanged with ***Latissimus***. For those unfamiliar with Catalan, Miscel.lània is a single word!

RECORDS OF SOME AUSTRALIAN COLEOPTERA (HALIPLIDAE, DYTISCIDAE & GYRINIDAE)

by Jonty Denton

Introduction The object of this paper is to provide information on the distribution and habits of the species collected in five Australian States between February and May 1996.

The study sites The distribution of the sites is shown in Figure 1.

TASMANIA

BI - Bruny Island, SE Tasmania Four species in heathland pools and boggy streams on 4 May.

SOUTH AUSTRALIA

BG - Brachina Gorge, Flinders Range Four species in an unvegetated river bed pond with a rock and sand substratum on 1 May.

TG - Tolderol game reserve near Lake Alexandria Five species of Dytiscidae in weed-choked marsh dykes on 17 May.

NEW SOUTH WALES

RN - Royal National Park, Sydney Stony streams in closed forest sampled on 1 March.

WP - Whale Park, Sydney A small springfed stream on sandstone, with *Copelatus elongatulus* Macleay on 28 February.

QUEENSLAND

AB - Airlie beach Streams and small pools with rounded stony substrata in closed coastal forest sampled on 19 March.

EN - Broken Hill, Eungella National Park Large open, weedy pond, and shallow springfed pools on sandstone sampled on 16 March.

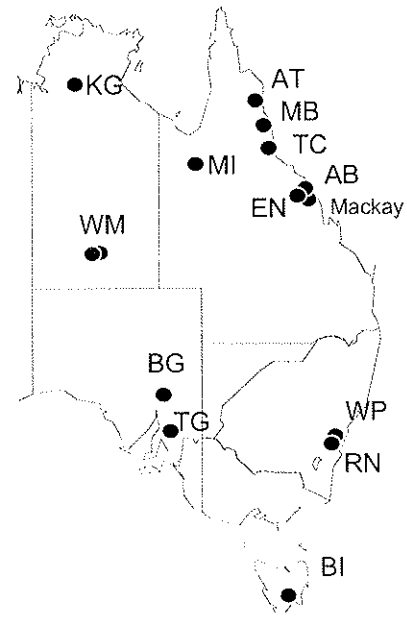


Figure 1. Distribution of sampling sites in Australia.

MB - Mission Beach Three species of Dytiscidae taken at light in coastal forest on 26 March.

TC - Townsville Town Common Extensive marsh pools with abundant vegetation. Water beetles, including eight Dytiscidae, abundant on 6 April.

AT - Atherton Tableland, sampled 2 April. All 12 species listed were found in Big Mitchell Lake, 20 km N of Mareeba, except for *Hydaticus bihamatus* Aubé, which was in rainforest puddles near to the Cathedral Fig Tree, Mareeba.

MI - Clem Walton Park, Mount Isa A large deep pond with a rocky substratum, fringed with emergent vegetation, sampled on 9 April.

NORTHERN TERRITORIES

KG - Katherine Gorge Six dytiscid species found in small exposed, springfed pools on sandstone on 14 April.

WM - West MacDonnell Range Ormiston Gorge and Simpson's Gap were sampled on 23 April. Both sites were relict billabongs without emergent vegetation on sandy substrata in dry river courses.

The beetles Most names in the species list follow Watts (1978, 1985) but with *Hydroglyphus* Motschulsky replacing *Guignotus* Houlbert (Biström & Silfverberg 1981). The specimens currently reside in my own collection.

Not mentioned in the table are over 200 adult *Cybister tripunctatus* found around the lights of Mackay bus depot, Queensland on 16 March. *Hyphydrus elegans*, found in several centres in Queensland thus confirming the findings of Larson (1993), was also found in the 'red centre' near Alice Springs in the Northern Territories. The single male of *Megaporus gardneri*, found in the edge of a large heathland pool near Cape Bruny, appears to provide the first record for Tasmania. *Necterosoma penicillatus* and *N. regulare* were found in huge numbers in a relict pool in Ormiston Gorge: *N. penicillatus* was the only species I found in Queensland that had not been recorded there by Larson (1993). The record for *Tiporus undecimaculatus* in Katherine Gorge, Northern Territories, appears to be the first away from the coastal forests of Queensland.

TABLE 1: Numbers of aquatic Coleoptera collected in Australia, February-May 1996. The abbreviations for site names are explained in the text.

	BI	BG	TG	RN	WP	AB	EN	MB	TC	AT	MI	KG	WM
HALIPLIDAE													
Haliplus testudo (Clark)										1			
H. wattsi van Vondel										5			
NOTERIDAE													
Canthydrus bovillae Blackburn			2									2	
Hydrocanthus australasiae Wehncke												1	
DYTISCIDAE													
Laccophilus clarki Sharp						1			1	1			
L. sharpi Régimbart									10	2			
L. cingulatus Sharp										4			
L. religatus Sharp							4						
Hydrovatus nigrita Sharp						1	1						
H. opacus Sharp						3	3						
Hyphydrus elegans (Montrouzier)							1		2	3			1
H. contiguus Wehncke										1			
H. lyratus Swartz							6			4			
Clypeodytes migrator (Sharp)								1					
Hydroglyphus masteri (Sharp)													2
H. daemeli (Sharp)									2				
H. grammopterus (Zimmermann)							1						
H. godeffroyi (Sharp)										2		3	
H. trifasciatus Watts												2	
H. leai Guignot									2				
Limbodessus compactus (Clark)			1										
Allodessus bistrigatus (Clark)		3	9								6		3
Liodessus amabilis (Clark)			4										
L. shuckardi (Clark)			3								2		
Antiporus femoralis (Boheman)	2												
Tiporus undecimaculatus (Clark)												7	
Sternopriscus multimaculatus (Clark)			1							12			
S. tasmanicus Sharp	3												
Necterosoma penicillatus (Clark)			1				2						4
N. dispar (Germar)		8											
N. wollastoni (Clark)		2								2			
N. regulare Sharp													6
Megaporus hamatus (Clark)			5										
M. gardneri (Clark)	1												
M. ruficeps (Clark)										7			
Platynectes decempunctatus (Fab.)		4				2							
P. monostigma (Hope)												2	
Rhantus suturalis (Macleay)	2		3						5				
Copelatus nigrolineatus Sharp										2			
C. divisus J. Balfour-Browne								4					
C. clarki (Sharp)										3			
C. bakewelli J. Balfour-Browne												1	
C. glyptus Guignot								3					
C. rasilis Lea							4						
C. elongatulus Macleay					2								
Eretes australis (Erichson)													6
Hydaticus bihamatus Aubé						2	1			2			
H. daemali (Sharp)									1				
Rhantaticus congestus Klug							2		4				
Cybister tripunctatus Olivier									2				
Sandracottus bakewelli Clark													2

TABLE 1 (continued)

	BI	BG	TG	RN	WP	AB	EN	MB	TC	AT	MI	KG	WM
GYRINIDAE													
Aulonogyrus strigosus (Fab.)		1											
Dineutus australis (Fab.)						6	6		8				
Gyrinus convexiusculus Macleay										4			
Macrogyrus oblongus (Boisduval)													2
M. striolatus (Guérin)				3									
M. venator Boisduval												2	

Acknowledgements Thanks go to Dr J Fowler (CSIRO), Dr S Hine (Natural History Museum, London), Professor D J Larson, Dr P Mazzoldi, Dr R Roughley, Mr B van Vondel, and Dr C H S Watts.

References

BISTRÖM, O. & SILFVERBERG, H. 1981. *Hydroglyphus* Motschulsky, a senior synonym of *Guignotus* Houlbert (Coleoptera, Dytiscidae). *Annales entomologici Fennici* **47** 4.

LARSON, D.J. 1993. Ecology of Tropical Australian Hydradephaga (Insecta: Coleoptera). Part I. Natural history and distribution of northern Queensland species. *Proceedings of the Royal Society of Queensland* **103**: 47-63.

OCHS, G. 1949. A revision of the Australian Gyrinidae. *Records of the Australian Museum* **22** 171-199.

OCHS, G. 1956. Additional remarks on Australian Gyrinidae. *Records of the Australian Museum* **24** 31-35.

VONDEL, B.J. van. 1995. Revision of the Haliplidae (Coleoptera) of the Australian Region and the Moluccas. *Records of the South Australian Museum* **28** (1) 61-101.

WATTS, C.H.S. 1978. A revision of the Australian Dytiscidae (Coleoptera). *Australian Journal of Zoology, Suppl. Series No.* **57** 1-166.

WATTS, C.H.S. 1985. A faunal assessment of Australian Hydradephaga. *Proceedings of the Academy of Natural Sciences of Philadelphia* **137** 22-28.

Received January 1998

BAGOUS PETRO IN GERMANY

This paper describes the habitat in a nature reserve near Berlin. Although usually found in association with bladderworts (*Utricularia* spp.) the authors note records associated with hornweed (*Ceratophyllum submersum* L.) and Canadian pondweed (*Elodea canadensis* Rich.). *B. petro* ranges from southern parts of Sweden and Denmark to northern Italy, Hungary, and Bulgaria. There were previously only seven records for Germany.

HENDRICH, L. & UNMÜSSIG, B. 1997. Erneuter Nachweis des aquatischen Rüsselkäfers *Bagous petro* (Herbst, 1795) in Ostdeutschland (Col., Curculionidae). *Entomologische Nachrichten und Berichte* **41** (3) 197-198.

SAMPLING METHODS

JACKSON, M.J. 1997. *Sampling methods for studying macroinvertebrates in the littoral vegetation of shallow lakes.*. Broads Authority, Norwich. Available from Deborah Dunsford, Conservation Officer, Broads Authority, 18 Colegate, Norwich, Norfolk NR3 1BQ, UK "for a small fee to cover printing and postage".

This 173 page report reviews:- 1. the reasons why macroinvertebrates are important; 2. a critical review of the factors thought to determine distributions and diversity; 3. a general review of methods; 4. a review of the problems associated with macroinvertebrate study. There is also a comprehensive bibliography but, unfortunately, no index. One serious omission is mention of bottle traps. Their deployment in the Broadland area has proved effective in the recent past in proving the survival of *Graphoderus cinereus* (L.). One also has to take issue with one of the conclusions "*that until more is known about the effectiveness of different sampling techniques a monitoring programme of the Norfolk Broads would be premature.*" It is nearly a hundred years since Balfour-Browne undertook one of the first ever ecological surveys of macroinvertebrates - beetles in the Broads - and his rationale was simple - to deploy a handnet until he could find no further species. This is probably as reproducible as it gets.

***DERONECTES* - THE DEFINING WORK**

Part 1 of the *Deronectes* revision by Hans Fery and Michel Brancucci has been well worth waiting for. The new checklist recognises ten species groups, of which nine are reviewed in Part 1. *Deronectes* is strictly Palaearctic, ranging from northern Africa to the extreme west of China. There are two centres of distribution, the Iberian Peninsula including the Pyrenees and Balearics with 15 species, 10 of them endemic, and the region from Asia Minor to the Middle East, with 17 species. More species are expected to be detected in the latter region. Five taxa are described as new in Part 1 of the review:- *D. witzgalli* from Turkey, *D. angelinii* from Italy, *D. platynotus mazzoldii* from Greece, and *D. aubei sanfilippoi* from southern France and northern Spain. *D. brannanii*, from Mallorca, and *D. semirufus*, from Italy and the Alpes Maritimes, are recognised as distinct species. Perhaps the most difficult group to understand is that around *D. aubei*. We have *D. aubei sanfilippoi* apparently competing in the Pyrenees on a stream by stream basis with *D. delarouzei*, the two forms having not yet been found in coexistence. *D. aubei aubei*, which occurs in France east of the Rhone, in northern Italy, Switzerland, Austria and the Black Forest. A similar situation may apply where is meets up with *D. semirufus*, though this is not commented on by the authors. *D. moestus moestus* is recognised as the form endemic to Corsica and Sardinia whilst the larger *moestus inconspectus* ranges as far north as Rheims and east to Croatia, Dalmatia and Greece, possibly west to Portugal.

I *Deronectes latus*-group
Deronectes latus (Stephens)
Deronectes angelinii Fery
Deronectes angusi Fery & Brancucci

II *Deronectes aubei*-group
Deronectes aubei aubei (Mulsant)
Deronectes aubei sanfilippoi Fery
Deronectes semirufus (Germar)
Deronectes delarouzei (Jacquelin du Val)

III *Deronectes platynotus*-group
Deronectes platynotus platynotus (Germar)
Deronectes platynotus mazzoldii Fery
Deronectes costipennis costipennis Brancucci
Deronectes costipennis gignouxi Fery & Brancucci
Deronectes hakkariensis Wewalka

IV *Deronectes bicostatus*-group
Deronectes bicostatus (Schaum)
Deronectes depressicollis (Rosenhauer)
Deronectes ferrugineus Fery & Brancucci
Deronectes wewalkai Fery & Fresneda

V *Deronectes moestus-group*
Deronectes moestus moestus (Fairmaire)
Deronectes moestus inconspectus (Leprieur)
Deronectes brannanii (Schaufuss)
Deronectes perrinae Fery

VI *Deronectes fairmairei*-group
Deronectes fairmairei (Leprieur)
Deronectes peyerimhoffi (Régimbart)

VII *Deronectes theryi*-group
Deronectes theryi (Peyerimhoff)
Deronectes algibensis Fery & Fresneda

VIII *Deronectes opatrinus*-group
Deronectes opatrinus (Germar)
Deronectes hispanicus (Rosenhauer)
Deronectes lareynii (Fairmaire)
Deronectes fosteri Aguilera & Ribera

IX *Deronectes doriae*-group
Deronectes doriae Sharp
Deronectes wittmeri Fery & Fresneda
Deronectes sahlbergi Zimmermann
Deronectes witzgalli Fery

X *Deronectes parvicollis*-group
(to be reviewed in Part II)
Deronectes abnormicollis Semenow
Deronectes afghanicus Wewalka
Deronectes angulipennis Peyron
Deronectes jaechi Wewalka
Deronectes longipes Sharp
Deronectes nilssoni Fery & Wewalka
Deronectes parvicollis Schaum
Deronectes persicus Peschet
Deronectes schuberti Wewalka
Deronectes syriacus Wewalka
Deronectes vestitus Gebler

Apart from Part 2 covering the tenth remaining species group, we may also expect publication of a phylogenetic analysis, and of a review of the known larvae, the latter by Professor Konrad Dettner, who would presumably welcome larval material.

In noting that *Deronectes bertrandi* Legros has been transferred to the genus *Stictotarsus*, the authors record it for the first time from Portugal, in the Serra de Estrêla.

Try to get a reprint, as the no doubt excellent drawings of prosternal processes and puncturation have not reproduced too well, and could prove useless in photocopy. My reprint has already fallen apart through its use in overhauling my collection.

FERY, H. & BRANCUCCI, M. 1997. A taxonomic revision of *Deronectes* Sharp, 1882 (Insecta: Coleoptera: Dytiscidae) (part 1). *Annalen des Naturhistorischen Museums in Wien* **99 B** 217-302.

STUDIES ON *ENOCHRUS*

E. falcarius was originally described from Sicily by Franz Hebauer. It has been detected in the small saline streams (the *ramblas*) of the south-east of the Iberian Peninsula in Córdoba, Murcia, Mazarrón and Valencia. It is closest to *E. bicolor* (Fab.), as it happens also described from Sicily, and can be distinguished most easily by the longer claws of both sexes and the uniform colour of the femora (banded in *bicolor*). The aedeagophore is illustrated as it would seem that the original material was damaged.

HEBAUER, F. 1991. *Enochrus (Lumetus) falcarius* n. sp., aus Sizilien (Coleoptera, Hydrophilidae). *Acta Coleopterologica* **7** 83- 86.

HERNANDO, C., RIBERA, I., AGUILERA, P. & FRESNEDA, J. 1997. *Enochrus* (*Lumetus*) *falcarius* Hebauer, 1991, new for continental Europe (Coleoptera, Hydrophilidae). *Nouv. rev. Ent.* **14** (2) 133-134

Enochrus ater and *E. salomonis* are recorded for the first time in Europe. *E. ater* ranges around the Mediterranean basin, reaching central Asia in the east and as far north as Austria in central Europe. In the past it has probably been confused with *E. ochropterus* (Marsham), *E. fuscipennis* (Thomson) and *E. testaceus* (Fab.). Its aedeagus is distinctive, being very large, with long struts and with short apical portions to the parameres. Colour is very variable but the male clypeus lacks a central dark mark. Even more extraordinary, given distinctive double puncturation to the pronotum, is previous failure to recognise that *E. salomonis* occurs in Europe. It has a disjunct west-east distribution in the Iberian Peninsula and in Israel, Turkey, Iran and Afghanistan. It is recognised as distinct from *E. politus* (Küster).

RIBERA, I., SCHÖDL, S. & HERNANDO, C. 1997. *Enochrus ater* (Kuwert) and *E. salomonis* (Sahlberg) (Coleoptera: Hydrophilidae), two widespread but overlooked species new to the European fauna. *Hydrobiologia* **354** 183-188.

Enochrus hamifer (Ganglbauer) is re-established as a distinct species in the *quadripunctatus* group, originally described from the Neusiedlersee and known from the Czech Republic, Austria, Hungary, Yugoslavia, Kazakhstan, Turkmenistan and Kirgistan. The beetle has a "hamus", a hook-like projection, on the prosternal process. The type material of *Philydrus caspius* Kuwert is a disaster, being a mixture of *E. fuscipennis* (Thomson), *E. ater* (Kuwert) and *E. ochropterus* (Marsham); its synonymy with *E. fuscipennis* is proposed, so that references to *E. caspius* in the literature should be *E. caspius* sensu auct., in most cases referring to *hamifer*.

The big change, so far as most European Coleopterists are concerned, is that *E. isotae* Hebauer is synonymised with *E. nigritus* (Sharp). It has been known for some time that the two taxa differ largely in colour and that both occur in Spain, with *isotae* being the pale lowland form. Perhaps we could have had a transitional phase during which we adjusted to "*E. nigritus isotae*" [name not presented here as a new combination for taxonomic purposes. Ed.], but we must accept the complete change in name.

In passing, Stefan Schödl notes the occurrence in Spain of *E. natalensis* (Gemminger & Harold).

SCHÖDL, S. 1997. Taxonomic studies in the genus *Enochrus* Thomson, 1859 (Coleoptera: Hydrophilidae). *Entomological Problems* **28** 61-66.

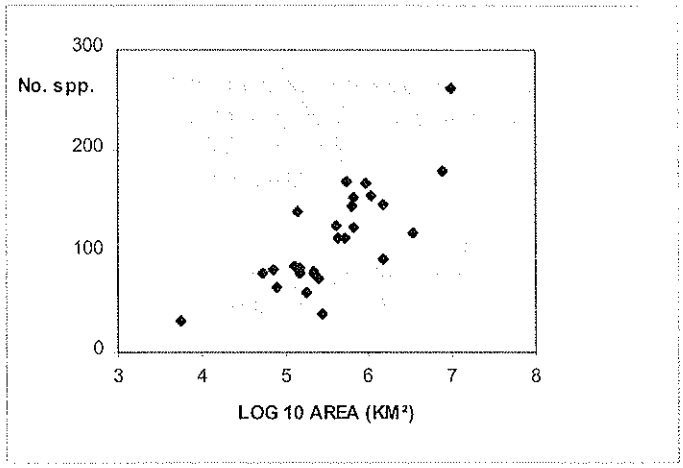
THE NORTH AFRICAN-EUROPEAN TRANSITION IN THE EBRO DELTA

The value of the Ebro delta marshes, and other coastal systems on the Spanish Mediterranean coast, is well know to most water beetlers. This paper identifies the reason for this interest, namely that its assemblages are drawn from species with strikingly different distribution patterns. Apart from circum-Mediterranean species, there are species more typical of central Europe, such as *Graphoderus cinereus* (L.), and North Africa, including three Ethiopian species. Of the latter, *Methles cribratellus* (Fairmaire) has been found in three systems, but *Canthydrus diophthalmus* (Reiche & Saulcy) and *Cybister vulneratus* Klug may well be extinct in Europe. Easily the most interesting discovery is *Chasmogenus livornicus* (Kuwert), which looks like a small *Helochares*; this was previously regarded as an Eastern Mediterranean species.

RIBERA, I. BILTON, D.T., AGUILERA, P. & FOSTER, G.N. 1996. A North African-European transition fauna: water beetles (Coleoptera) from the Ebro delta and other Mediterranean coastal wetlands in the Iberian peninsula. *Aquatic Conservation: Marine and Freshwater Ecosystems* **6** 121-140.

YUKON STUDIES, PLUS THE SPECIES AREA RELATIONSHIP

One hundred and thirteen dytiscid species are recorded from the Yukon. Most species (73%) are Holarctic or transcontinental Nearctic boreal in lentic habitats. There are also 20 Arctic species and 12 Cordilleran species. Sixteen species are associated with the area formerly covered with ice during the Wisconsin maximum. Most species are associated with the vernal pools that form after the snow melts from the prolonged winter.



Neoscutopterus horni (Crotch), a common peatland species, is illustrated, a big black *Agabus bipustulatus* if ever there was.

Dave Larson takes this opportunity to explore the species - area relationship. The data are reproduced here, with a reworked figure. Can we have some more European data please? The present prediction is that the number of species is 46.8 (log20km²) - 142. Test it on your own area and send in more data for a re-run.

	km²	no. spp.		km²	no. spp.
Alaska	1,518,800	92	Canada	9,976,139	262
Yukon	536,324	113	California	411,013	125
Northwest Territories	3,379,683	119	Florida	151,670	84
British Columbia	948,596	168	Minnesota	217,735	79
Alberta	661,185	153	Nevada	286,297	39
Saskatchewan	651,900	124	North Dakota	183,022	60
Manitoba	650,087	145	Oregon/Washington	427,796	114
Ontario	1,068,582	155	Utah	219,931	81
Quebec	1,540,680	147	Wisconsin	145,438	140
New Brunswick	73,437	82	England	130,359	86
Nova Scotia	55,491	78	Scotland	78,772	65
Prince Edward island	5,657	32	France	543,998	169
Labrador	250,000	74	Australia	7,686,849	180
Newfoundland	150,000	78			

LARSON, D.J. 1997. Dytiscid water beetles (Coleoptera: Dytiscidae) of the Yukon. 491-522 in: H.V. Danks and J.A. Downes (eds) *Insects of the Yukon. Biological Survey of Canada (Terrestrial Arthopods)*. Ottawa.

STUDIES ON BEETLE ASSEMBLAGES IN TROPICAL QUEENSLAND

There is a lot of citable material in this intense study. It is pointed out that we lack objective analyses of tropical assemblages. Principal Component Analysis (PCA) of data collected from the Atherton tableland of tropical Queensland in 1990/1 demonstrated a split into three habitat types, lotic, lentic and closed-forest lotic. Close-forest sites were tightly grouped whereas the others were more diffuse, and the first axis could be related to habitat stability, whereas the second was based on a combination of water flow, substratum and vegetation. Quantitative studies of shorelines of reservoirs demonstrated the sharp drop in density and change in structure away from the edge, as well as rapid changes in water beetle densities, with greatest numbers in advance of establishment of fish and dragonfly nymphs. Patterns in size and habits of species of permanent habitats, and colonisation patterns of species in temporary habitats, indicate the importance of avoiding other aquatic predators.

LARSON, D.J. 1997. Habitat and community patterns of Tropical Australian Hydradephagan water beetles (Coleoptera: Dytiscidae, Gyrinidae, Noteridae). *Australian Journal of Entomology* **36** 269-285.

THE DYTISCIDAE TAXA DESCRIBED BY THE LATE V.B. GUÉORGUIEV

by Anders N. Nilsson

The Bulgarian water-beetle specialist Dr Vassil Borissov Guéorguiev died on 24th May 1996 at the age of 61. An obituary including a bibliography of scientific works was published by his son B.V. Guéorguiev and V.P. Sakalian in 1997 (in: Guéorguiev V.B., Sakalian, V.P. & Guéorguiev, B.V. *Biogeography of the endemic Balkan ground-beetles (Coleoptera: Carabidae).* Pensoft, Sofia, 73 pp.). I have earlier published a list of Dr Guéorguiev's works on water beetles (***Latissimus* 1** (1992) 16-17), and will here add a list of the taxa of Dytiscidae described by him. Such a list was also given in the obituary cited above, but my list has some additions (marked by "add!") and corrections, and gives also the current status of the listed taxa.

In the list, the publications in which the original descriptions appeared are referred to by their numbers in my earlier list, and the additional publications are listed at the end. The current statuses of the listed taxa are given as confirmed, junior synonym, revised, or not revised. The taxa are listed in chronological order within each category.

Genus

Andonectes 1971: 174 [26], not revised.

Subgenera

Agabus (*Mesogabus*) 1969: 61 [23] (add!) = *Agabus* (*Gaurodytes*) Thomson, 1859, *vide* Nilsson *et al.* 1989: *Ent. scand.* **20**: 301.

Platynectes (*Australonectes*) 1972: 55 [28] = *Platynectes* (s. str.) Régimbart, 1879, *vide* Lawrence *et al.* 1987: *Zool. Cat. Aust.* **4**: 348.

Platynectes (*Neoplatynectes*) 1972: 34 [28] (add!) = *Platynectes* (s. str.) Régimbart, 1879, *vide* Lawrence *et al.* 1987: *Zool. Cat. Aust.* **4**: 348. Preoccupied by *Neoplatynectes* Vazirani, 1970.

Platynectes (*Hypoplatynectes*) 1972: 37 [28] (add!) = *Platynectes* (s. str.) Régimbart, 1879, *vide* Nilsson *et al.* 1989: *Ent. scand.* **20**: 298.

Platynectes (*Notoplatynectes*) 1978: 270 [33] (add!) = *Platynectes* (s. str.) Régimbart, 1879, *vide* Lawrence *et al.* 1987: *Zool. Cat. Aust.* **4**: 348. New name for *Neoplatynectes* Guéorguiev, 1972, nec Vazirani, 1970.

Platynectes (*Metaplatynectes*) 1978: 271 [33] (add!) = *Platynectes* (*Gueorguievtes*) Vazirani, 1976, *vide* Nilsson *et al.* 1989: *Ent. scand.* **20**: 301.

Species

Potamonectes macedonicus 1959: 193 [2], now in *Stictotarsus* Zimmermann *vide* Nilsson & Angus 1992: *Ent. scand.* **23**: 287, species not revised.

Platambus lindbergi 1963: 218 [8], revised by Brancucci 1988: *Ent. basil.* **12**: 202.

Agabus (*Gaurodytes*) *iranicus* 1965: 257 [11] (add!) = *A. faldermanni* Zaitzev, 1927, *vide* Nilsson 1992: *Koleopt. Rundschau* **62**: 43.

Graptodytes pseudophrygius 1965: 494 [15] = *G. sedilloti phrygius* (Guignot, 1942) *vide* Fery 1994: *Ent. Z.* **104**: 395.

Hydroporus thracicus 1966: 71 [17], confirmed by Hendrich 1990: *Ent. Z.* **100**: 248.

Agabus (*Gaurodytes*) *mongolicus* 1968: 27 [19] (*nec Gaurodites*) = *A. pallens* Poppius, 1905, *vide* Nilsson 1990: *Ent. Tidskr.* **111**: 150.

Lacconectus freyi 1968: 39 [22] (*nec Lacconectes*), revised by Brancucci 1986: *Ent. basil.* **11**: 153.

Stictogabus nepalensis 1968: 42 [22], now in *Platambus* Thomson revised by Brancucci 1988: *Ent. basil.* **12**: 197.

Agabus (*Mesogabus*) *insignis* 1969: 62 [23] = *A. arcticus* (Paykull, 1798) *vide* Nilsson 1990: *Ent. Tidskr.* **111**: 150.

Coelambus kaszabi 1970: 253 [24] = *C. parallelogrammus* (Ahrens, 1812) *vide* Fery 1992: *Ent. Z.* **102**: 120.

Copelatus nakamurai 1970: 258 [24] (*nec Coelambus*), confirmed by Satô 1990: *Elytra*, Tokyo **18**: 81.

Leuronectes darlingtoni 1971: 172 [26], not revised.

Platynectes (*Platynectes*) *darlingtoni* 1972: 43 [28], confirmed by Watts 1985: *Proc. Acad. nat. Sci. Philad.* **137**: 25.

Platynectes (*Platynectes*) *australicus* 1972: 52 [28], ?= *P. tasmaniae* (Clark, 1846) *vide* Watts 1985: *Proc. Acad. nat. Sci. Philad.* **137**: 25.

Platynectes (*Australonectes*) *brownei* 1972: 56 [28], confirmed by Watts 1985: *Proc. Acad. nat. Sci. Philad.* **137**: 25.
Agabus (*Gaurodytes*) *kaszabi* 1972: 37 [29], not revised.
Agabus (*Dichonectes*) *freudei* 1975: 97 [31], not revised.
Hyphydrus (*Apriophorus*) *bertrandi* 1975: 16 [32] = *H. lasiosternus* Guignot, 1942, *vide* Biström 1982: *Acta zool. fenn.* **165**: 88.
Hyphydrus (*Apriophorus*) *legrosi* 1975: 18 [32] = *H. caryerus* Guignot, 1942, *vide* Biström 1982: *Acta zool. fenn.* **165**:74.
Hyphydrus (*Apriophorus*) *omercooperae* 1975: 20 [32], revised by Biström 1982: *Acta zool. fenn.* **165**: 74.
Hyphydrus (*Apriophorus*) *guignoti* 1975: 21 [32] = *H. caryerus* Guignot, 1942, *vide* Biström 1982: *Acta zool. fenn.* **165**: 74.
Copelatus subterraneus 1978: 267 [33] (*nec subteraneus*), not revised.
Platynectes (*Metaplatynectes*) *beroni* 1978: 271 [33], not revised.
Platynectes (*Metaplatynectes*) *chapmani* 1978: 272 [33] (*nec champani*), not revised.
Platynectes (*Gueorguievtes*) *neoguineensis* Guéorguiev & Rocchi 1993: 148 [43], not revised.
Rhantus (*Rhantus*) *neoguineensis* Guéorguiev & Rocchi 1993: 149 [43] = ? *R. suturalis* (MacLeay, 1825), *vide* Balke in press.

Subspecies
Ilybius fuliginosus pirinicus 1957: 25 [1] (*nec fuliginosum*), not revised.
Agabus (*Gaurodytes*) *japonicus continentalis* 1970: 259 [24] (add!), new name for *Gaurodytes falkenstromi* Zaitzev, 1953, *nec* J.Balfour-Browne, 1944; not revised.

Additions to the publication list
38 GUÉORGUIEV, V.B. 1958. Verzeichnis der Wasserkäfer Bulgariens. *Entomologische Blätter* **54** 44-51.
39 GUÉORGUIEV, V.B. 1967. Coleoptera: Haliplidae. *South African Animal Life* **13** 9-14.
40 GUÉORGUIEV, V.B. 1987. A contribution to the study of Hydrophilinae (Coleoptera, Hydrophilidae) in southwestern Bulgaria. *Acta Zoologica Bulgarica* **34** 83-85. [In Bulgarian.]
41 GUÉORGUIEV, V.B. 1991. A contribution to the study of the families Dryopidae and Elmidae (Coleoptera) in Bulgaria. *Acta Zoologica Bulgarica* **41** 84-88. [In Bulgarian.]
42 GUÉORGUIEV, V.B. 1991. Contribution to the study of the family Hydrophilidae(Coleoptera) in Bulgaria. *Acta Zoologica Bulgarica* **42** 66-69. [In Bulgarian.]
43 GUÉORGUIEV, V.B. & Rocchi, S. 1993. Contributo alla conoscenza dei Dytiscidae della Nuova Guinea (Coleoptera). *Frustula Entomologica* (N.S.) **15** (1992) 147-166.

Received August 1998

SPANISH SPHAERIDIINAE

The phenology of dung-living Sphaeridiinae was studied at Cádiz. Fourteen species of *Sphaeridium*, *Cercyon* and *Cryptopleurum* were identified. Only two of these, *Cercyon arenarius* Rey and *C. nigriceps* Mulsant, would be unfamiliar in other parts of Europe. The most abundant species was *S. bipustulatum* Fab. Phenologies of this species, *S. marginatum* Fab., *S. scarabaeoides* L., *C. quisquilius* L. and *C. haemorrhoidalis* Fab. show markedly different periods of activity during the year.

ROMERO-ALCARAZ, E., SÁNCHEZ-PIÑERO, F. & ÁVILA, J.M. 1997. Los Sphaeridiinae (Coleoptera: Hydrophilidae) en una zona del suroeste ibérico. I: Composición faunística y fenología. *Boletín de la Asociación Española de Entomología* **21** 221-235.

THE *HELOPHORUS FLAVIPES* GROUP

It is now recognised that the *Helophorus flavipes* group comprises five species: *H. obscurus* Mulsant, *H. algiricus* Motschulsky, *H. subarcuatus* Rey, *H. seidlitzii* Kuwert and *H. flavipes* Fab. The egg cocoon and larva of *H. algiricus* are described. The larvae are known for four of the species, and they can be distinguished from each other. It is noted that, unlike *obscurus*, the Sardinian *subarcuatus* flies readily.

ANGUS, R.B. 1997. A re-evaluation of the *Helophorus flavipes* group of species (Coleoptera, Hydrophiloidea), based on chromosomal analysis, larvae and biology. *Nouv. Rev. Ent.* **13** 111-122.

LATVIAN CHECKLIST

This checklist is published in English in Frankfurt. The organisers of Internationaler Entomologischer Verein are to be admired for their support of Dmitry Telnov and his colleagues. The following aquatic groups are listed: Haliplidae, 15 species; Noteridae, 2 spp.; Dytiscidae, 103 spp.; Gyrinidae, 10 spp.; Microsporidae, 1 sp.; Helophoridae, 10 spp.; Georissidae, 1 sp.; Hydrochidae, 3 spp.; Spercheidae, 1 sp.; Hydrophilidae, 44 spp.; Hydraenidae, 8 spp.; Scirtidae, 16 spp.; Elmidae, 10 spp.; Dryopidae, 4 spp.; Limnichidae, 2 spp.; Heteroceridae, 6 spp.; Donaciinae, 25 spp.; Bagoinae, 9 spp.

The following Latvian species are confined to a single locality in the Baltic States: *Haliplus interjectus* Lindberg; *H. sibiricus* Motschulsky; *Bidessus grossepunctatus* Vorbringer; *Hydroporus incognitus* Sharp; *Agabus clypealis* (Thomson); *A. confinis* (Gyllenhal); *A. wasastjernae* (Sahlberg); *Graphoderus austriacus* (Sturm); *Cybister lateralimarginalis* (De Geer); *Gyrinus opacus* Sahlberg; *Microsporus acaroides* (Waltl); *Anacaena limbata* (Fab.); *Laccobius biguttatus* Gerhardt; *Enochrus fuscipennis* Thomson; *Limnebius papposus* Mulsant; *Scirtes orbicularis* (Panzer); *Esolus angustatus* (Müller); *Limnichus pygmaeus* (Sturm); *Heterocerus intermedius* Kiesenwetter.

The following Latvian species are apparently confined to a single locality in the Baltic States and Fennoscandia: *Hydroporus tessellatus* Drapiez; *Cyphon ruficeps* Tournier; *Elmis maugetii* Latreille; *Elmis obscura* (Müller); *Limnius opacus* (Müller); *Bagous lutulosus* (Gyllenhal).

The claim that *Suphrodytes dorsalis* (Fab.) is confined to Latvia in Fennoscandia and the Baltic States is incorrect and perhaps arises from use of the generic name *Hydroporus*.

The catalogue is completed with a Red List; the only water beetle is *Dytiscus latissimus*.

TELNOV, D., BERSEVSKIS, A., SAVICH, F., KOVALEVSKY, F., BERDNIKOV, S., DORONIN, M., CIBULSKIS, R. & RATNIECE, D. 1997. Check-list of Latvian beetles (Insecta: Coleoptera). *Mitteilungen des Internationalen Entomologischen Vereins*, Supplement **5**, 140 pp.

A NEW *HYDRAENA* DESCRIBED FROM AN INTERGLACIAL FOSSIL

This review of fossil beetles covers ground familiar to some, in particular emphasising the evolutionary stability of beetles, coupled with major changes in their distributions, as was originally demonstrated by Russell Coope. It is therefore fitting that a *Hydraena* fossil from the Hoxnian Interglacial Beds in Suffolk should be named *H. coopei*. The description draws on three aedeagophores, which place it in the *Hydraena riparia* group, perhaps most like the Japanese *H. watanabei* Jäch. Although the deposit is over 300,000 years old, the expectation is that this species will eventually turn up alive somewhere.

ANGUS, R. 1997. Challenges and rewards in the identification of Pleistocene fossil beetles, with the description of a new species of *Hydraena* Kugelann (Coleoptera: Hydraenidae) from the Hoxnian Interglacial. *Quaternary Proceedings* **5** 5-14.

MORE ON TEMPLET THEORY

Multivariate analyses of life-cycle traits in 131 species of aquatic insects were used to test the habitat templet concept, i.e. i.e. that traits are related to habitat heterogeneity. The major trends detected were that larger females produced larger eggs, which were often laid in cocoons as a means of avoiding greater sensitivity to drought. Larger females laid larger numbers of smaller clutches than smaller females. Traits in reproduction and habitat use were strongly related. However, much of the detail observed in this study did not fit with predictions on templet theory, presumably because there are many trades-off between traits. Multivariate analysis of reproductive traits clearly segregated the Odonota from Diptera, Trichoptera, Ephemeroptera, Megaloptera and Plecoptera, with Coleoptera and Planipennia intermediate.

This is a difficult paper to follow but it sets out some interesting challenges. It should be possible to predict the functional diversity of a community if the heterogeneity of the habitat is properly described. This is desirable in furthering predictive ecology and the understanding of freshwater ecosystems. Functional diversity might then be managed by manipulating habitat heterogeneity, but is this not a statement of the obvious? More worryingly, the authors conclude that "freshwater ecologists have to (i) work with groups of organisms that are as similar as possible in the relationships among species traits; and (ii) solve the scale dilemma." One cannot dispute point (ii) but freshwater ecologists should work on as many groups as possible - they cannot expect to understand ecosystems by reference solely to groups with a narrow range of characteristics, no matter what the analysis tells them.

STATZNER, B., HOPPENHAUS, K., ARENS, M.-F. & RICHOUX, P. 1997. Reproductive traits, habitat use and templet theory: a synthesis of world-wide data on aquatic insects. *Freshwater Biology* **38** 109-135.

CHROMOSOMES IN *CHAETARTHRIA* AND *LACCOBIUS*

The diploid number of chromosomes for *Chaetarthria seminulum* (Herbst) and *Laccobius* is 16 + XY (male) and 16 + XX (female). Unfortunately some of the chromosomal figures have not reproduced too well, and these will be printed again in 1998.

ANGUS, R.B. & SHAARAWI, F.A.I. 1997. Chromosomal analysis of *Chaetarthria seminulum* (Herbst) and six European species of *Laccobius* Erichson (Coleoptera: Hydrophilidae). *Koleopterologische Rundschau* **19** 181-186.

FAUNA OF SOUTHERN SPANISH HEADWATERS

The fauna of the headwaters of the Guadalete and Guadaira rivers is described. Distributions are explained in terms of salinity, flow velocity and altitude. The extent of permanence appeared to be the most important factor for some species. Thus *Gyrinus dejeani* Brullé, *Hydraena gaditana* Lagar & Fresneda, *Elmis maugetii* Latreille and *Riolus subviolaceus* (Müller) are confined to permanent waters. *Deronectes fairmairei* (Leprieur) and *Berosus hispanicus* (Küster) are confined to areas where pools are formed during the drought period. Although a high level of endemism is claimed for the area, only a few such species are identified, e.g. *H. gaditana* and *H. andalusa* Lagar & Fresneda.

GALLARDO, A., FRESNEDA, J. & TOJA, J. 1997. Distribución de los Coleópteros acuáticos (Insecta, Coleoptera) en dos cuencas del sur de la P. Ibérica. Relaciones con algunos factores del medio. *Limnética* (1995) **11** (1) 19-28.

ARABIAN HYDROPHILOIDEA

The checklist for Hydrophilidae and Helophoridae in the Arabian Peninsula is put at 56. Fifteen species are recorded for the first time from the area. *Arabhydrus gallagheri*, a new genus and species, is a remarkably carabiform hydrophilid related to *Pelthydrus*. This paper includes a checklist for Saudi Arabia, Oman, Yemen, Egypt, Ethiopia, Somalia, Palestine, Syria, Jordan, Afghanistan, Iran, and Iraq.

HEBAUER, F. 1997. Annotated checklist of the Hydrophilidae and Helophoridae (Insecta: Coleoptera) of the Arabian Peninsula with a description of a new genus and species. *Fauna of Saudi Arabia* **16** 255-276.

PRESIDENTS OF THE BALFOUR-BROWNE CLUB Jack Balfour-Browne's failing sight has obliged him to move into a nursing home near to his former house in Kirriemuir, Scotland. Although he recognised that the duties of Club's President are light he nevertheless felt that this was a good time to step down. The Committee's regret is tempered by the our delight in being able to announce that Professor Russell Coope has assumed the panoply in B-B's place. In his acceptance letter he notes the importance of Jack as .."such a help in the early days when putting the Quaternary beetle story on a respectable footing. It was Jack who first provided a hint that we might be onto some exciting science when he identified one of my puzzle species from Chelford as *Agabus wasastjernae* (Sahlb.) which of course, in those dim and distant far off days, was not then known from Britain." Russell has also retired to Scotland, though retirement is an absurd concept in this case.

LOIRE ASSEMBLAGES

This faunal survey is based on 38 sites along 800 km of the Loire from its source to within 200 km of its estuary. Species richness was higher in the upper reaches than lower down despite greater disturbance associated with variable discharge. Polluted areas did not modify assemblages. Transition zones along the river, related mainly to major changes in stream gradient. The fauna includes 18 beetle taxa, but only 12 species of elmid feature feature in analysis of the main river body.

IVOL, J.-M., GUINARD, B., RICHOUX, P. & TACHET, H. 1997. Longitudinal changes in Trichoptera and Coleoptera assemblages and environmental conditions in the Loire River (France). *Archiv für Hydrobiologie* **138** 525-557.

WETLAND LADYBIRD DISTRIBUTIONS IN BRITAIN

Many ladybirds are confined to wetlands. The Cambridge Ladybird Survey, launched in 1984, has eclipsed all other beetle recording schemes in Britain, and achieved major advances in our understanding of the family. It is therefore worth drawing attention to the availability of modern maps for those species associated with wetland:- *Anisosticta* 19-*punctata* (L,) (mainly on reeds and reedmace in marshes), *Coccinella* 5-*punctata* L. (river shingles), *Coccidula rufa* (Herbst) (all kinds of vegetated wetlands), and *C. scutellata* (Herbst) (same as *C. rufa* but more restricted in its distribution).

MAJERUS, M.E.N., MAJERUS, T.M.O., BERTRAND, D. & WALKER, L.E. 1997. The geographic distributions of ladybirds (Coleoptera: Coccinellidae) in Britain (1984-1994). *Entomologist's monthly Magazine* **133** 181-203.

BEETLES IN A NEW POND IN COUNTY DURHAM, AND THE CONTINUING SPREAD OF *HYGROTUS NIGROLINEATUS* IN ENGLAND

by M D Eyre & G N Foster

Beetles were sampled from eight sites in a pond near Chilton Moor, County Durham (NZ 3248), England, in 1997. The pond was constructed in the late winter and early spring of 1997 (approx. 90m long and 60m wide) as a means of controlling water emanating from an industrial estate being constructed next to Joe's Pond. The latter, a local nature reserve, is a flooded clay-pit and one of few relatively large permanent ponds in Co. Durham. The new pond level is approximately 0.5m lower than Joe's Pond and a sluice is to be used to control the level of the existing pond by letting the water into the new pond and then into a culvert.

The new pond had a substratum of the sort of clay that tends to retain boots as progress is attempted. Vegetation was restricted to a few *Juncus* tussocks and a little weed. The first of the eight sites was sampled in April, June and September (A, J and S in Table 1) but the other seven sites were only sampled in September. Sites 1, 2, 3, 6 and 7 were mainly bare clay, sites 4 and 8 had some *Juncus* whilst site 5 was where a drain from the industrial estate comes into the pond and flows into a 6 x 1m ditch. This ditch had some weed because it was sheltered from wind and wave action.

The beetle species and numbers caught are shown in the table. By far the most beetles were recorded from site 5, the sheltered ditch, with four species of *Hygrotus* including *H. nigrolineatus*. Site 8 also had a lot of beetles, nearly all *H. confluens*, and this site had some cover and was also sheltered from the prevailing winds and waves. The other less sheltered and more disturbed sites had fewer beetles, indicating that even in new, open substrate ponds where the beetles could be expected to like disturbed conditions, most are likely to be found in the least disturbed areas.

The previous most northerly records in the UK for *H. nigrolineatus* are for large, shallow ponds on boulder clay in a mining reclamation area on the north Derbyshire/south Yorkshire border (Merritt 1996). The sites in the English Midlands and Co. Durham are very similar in structure.

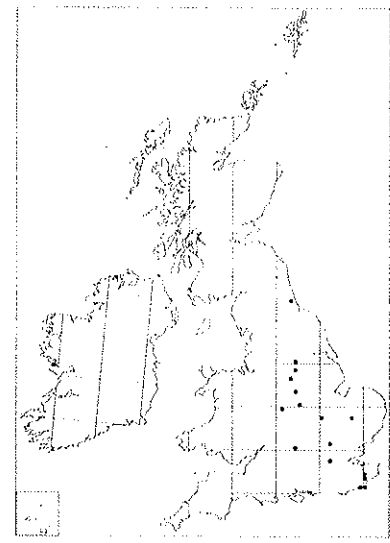


Figure 1. Distribution of *Hygrotus nigrolineatus* in England

TABLE 1

Sites	1	1	1	2	3	4	5	6	7	8
Month	A	J	S	S	S	S	S	S	S	S
Haliplus confinis Stephens		1								
Haliplus immaculatus Gerhardt	3	13				1				
Hyphydrus ovatus (L.)									1	
Hygrotus confluens (Fab.)	1		3		2	5	62	8	1	48
Hygrotus impressopunctatus (Schaller)							3		1	
Hygrotus inaequalis (Fab.)							1			
Hygrotus nigrolineatus (von Steven)							2			
Nebrioporus assimilis (Paykull)										1
Hydroporus planus (Fab.)		3		1						
Agabus nebulosus (Forster)		4					5	1		
Helophorus minutus Fab.						1	1			
Limnius volckmari (Panzer)						1				

References

CARR, R. 1984. A *Coelambus* species new to Britain (Coleoptera: Dytiscidae). *Entomologist's Gazette* **35** 181-184.

MERRITT, R. 1996. The water beetles of the Rother Valley in north-east Derbyshire and south Yorkshire. *Sorby Record* **32** 3-7.

Received December 1997

ANOTHER CASE OF WATER BEETLES LANDING ON A RED CAR ROOF

by Bernhard van Vondel

While reading two reports of water beetles landing on car roofs (Jäch 1997; Nilsson 1997) I recalled such an event during a holiday in France. In 1987 we spent some days in Cosne sur Loire (Département Chèr) on a campsite on an island in the River Loire. On one side of the island flowed the strong river and on the other there was stagnant water. Obviously the latter part flowed only when the river level was higher. On 21 and 25 July between about 16.00 and 20.00 a large variety of beetles, including aquatic ones, landed on my car, a red Renault 4 GTL. I cannot remember exactly what kind of weather it was at the time but for most of our stay it was rather cloudy.

Apart from the species of water beetle in Table 1 I collected representatives of the families Anobiidae, Anthicidae, Cryptophagidae, Cucujidae, Endomychidae, Lathriidae, Mycetophagidae, Orthopteridae, Pselaphidae, and Staphylinidae.

TABLE 1. Swarming water beetles collected on a car in July 1987

	Numbers	
Species	21 July	25 July
HALIPLIDAE		
Haliplus lineatocollis (Marsham)		1
DYTISCIDAE		
Hydroglyphus pusillus (Fab.)	4	4
Hydroporus planus (Fab.)	1	
HYDRAENIDAE		
Ochthebius minimus (Fab.)	4	
Limnebius papposus Mulsant	1	
HYDROPHILIDAE		
Helophorus flavipes Fab.	7	2
H. granularis (L.)	13	12
H. minutus Fab.	21	8
Anacaena lutescens (Stephens)	30	9
Enochrus quadripunctatus (Herbst)	2	
Hydrobius fuscipes (L.)	3	
ELMIDAE		
Oulimnius tuberculatus (Müller)		1

References

JÄCH, M.A. 1997. Daytime swarming of rheophilic water beetles in Austria (Coleoptera: Elmidae, Hydraenidae, Haliplidae). ***Latissimus* 9** 10-11.

NILSSON, A.N. 1997. On flying *Hydroporus* and the attraction of *H. incognitus* to red car roofs. ***Latissimus* 9** 12-16..

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LARVA OF *HALIPLUS VARIUS*

The second and third instar larvae of this rare species are described from the Netherlands. They hold a surprise in that their possession of protibial lobes might indicate that they do not really belong to the subgenus *Haliplidius*. Perhaps this is a case where the adult features are of greater importance?

VONDEL, B.J. van. 1996. Description of the second and third instar larvae of *Haliplus varius* with notes on the subgeneric status (Coleoptera: Haliplidae). *Entomologische Berichten, Amsterdam* **56** 9-11

WEEVIL NAME CHANGES

A series of changes include some for *Bagous*. The replacement name for *Bagous cylindrus* (Paykull) is *B. tubulus* Caldara & O'Brien 1994). *Bagous rudis* Sharp was named from a unique female specimens collected by David Sharp on the Hammersmith Marshes in October 1863. This type has been identified as *B. robustus* Brisout 1863. It is regarded as a good species, though previously placed as a subspecies of *B. lutulentus* (Gyllenhal). This sole British specimen puts *B. robustus* onto the list of species presumed extinct in Britain.

MORRIS, M.G. & BOOTH, R.G. 1997. Notes on the nomenclature of some British weevils (Curculionoidea). *The Coleopterist* **6**(3) 91-99.

EVOLUTION OF ADEPHAGA - INTO AND OUT OF THE WATER, AND BACK AGAIN

BEUTEL, R. 1997 *Über Phylogenese und Evolution der Coleoptera (Insecta), insbesondere der Adephaga*. Abhandlungen des Naturwissenschaftlichen Vereins in Hamburg, NF **31**. Goecke & Evers, Keltern-Weiler. ISBN 3-931374-31-9. Available from Apollo Books, Kirkeby Sand 19, DK-5661 Stenstrup, Denmark at DKK290, on which no VAT is charged although one must pay DKK 48 for a booklet which explains how to avoid VAT. The total cost from Apollo would about £30.

Rolf Beutel's thesis is based on a study of adults and larvae of the four extant subgroups of the Coleoptera. An account of the evolution of Coleoptera is reattempted, based on cladistics of characters for the Adephaga and Elateriformia, but starting with the Permian and Mesozoic fossils mainly described by Ponomarenko. The extraordinary diversity (350,000 species?) of beetles owes to the ability of adults to penetrate into crevices in their substratum, and to the unusual versatility of their larvae. The systematic position of the Endopterygota is still not clear. The monophyletic origin of the Coleoptera and the Strepsiptera is unlikely and the relationship between the Coleoptera and Neuropteroidea is not firmly established. The Pan-Coleoptera appeared in the Lower Permian and they appear to be monophyletic, based on the development of elytra and the strongly interlocked body sclerites. These features allowed these insects to occupy habitats not available to other endopterygote insects. The following extinct taxa appear successfully in the lineage: Protocoleoptera, Permocudidae, Rhombocoleidae and Triadocupedinae. Gradual improvements in the co-articulation of the elytra and the abdomen occurred in early evolution of Coleoptera. A well-defined sub-elytral space prevented dehydration but also permitted aquatic life, adaptation to which has taken place several times. The first creation of extant groups occurred at the end of the Permian, Coleoptera then probably being associated with wood. Mesozoic Ademosynidae, Catiniidae, Schizophoridae, Gyrinidae, Triaplidae and Eodremeinae were associated with riparian or aquatic habitats; the first three groups, dating from the Middle Triassic, may belong to the lineage of Myxophaga + Polyphaga. The change favouring Adephaga was to the predacious habit, particularly in the larvae. There were three independent invasions of water by the Gyrinidae, Haliplidae the Dytiscoidea (Noteridae, Amphizoidae, Hygrobiidae, Dytiscidae). The Rhysodidae, it would appear, returned to wood-feeding. The monophyletic origin of the Cicindelinae, Elaphrini, Loricerini, Migadopini, Scaritini and Harpalinae is strongly supported by the specialised development of the pro- and meso-thorax, and this lineage arose in association with the angiosperms in the Mid-Cretaceous. The Myxophaga is clearly monophyletic on larval and adult characters, as is the Polyphaga. The Hydrophiloidea is strongly suggested by complex characters of the adults, specially the highly specialised antennae acting as accessory breathing organs. Units regarded as monophyletic within the Hydrophiloidea conform to the present concept of families with the Hydraenidae as a base-group. Adult Hydrophiloidea are basically aquatic ("part of their ground plan") with some groups secondarily terrestrial. On the other hand, their larvae have invaded the water independently on several occasions as *Ochthebius*, Spercheidae, Hydrochidae and Hydrophilidae. Hydrophiloid head structures have become modified in the same way as in the Adephaga. Within the Elateriformia, aquatic life is probably part of the ground plan of larval Heteroceridae, Limnichidae and Dryopidae.

JAPANESE AND CHINESE *ELODES*

Five species of *Elodes* are recognised from Japan, plus six of *Sacodes* LeConte, a generic name that takes priority over *Flavohelodes* Klausnitzer. This revision entailed description of two species new to science. There is also some useful general coverage of the biology of Scirtidae. For example, larvae of *E. inornata* Lewis occupy the usual habitat of the undersides of fallen leaves in running water, but pupation is reported to occur in wet rotting trees, the pupation period being only 6-7 days at room temperature.

Two species of *Elodes*, *major* Pic and *testaceoapicalis* Pic, were previously known from China. A new species was described as *bicolor* in 1996, but, as this name has already been used by LeConte for a North American species, the name *miaoershanensis* is applied instead.

YOSHITOMO, H. 1997. A revision of the Japanese species of the genera *Elodes* and *Sacodes* (Coleoptera, Scirtidae). *Elytra* **25** 349-417.

YOSHITOMO, H. & SATÔ, M. 1996. A new species of the genus *Elodes* (Coleoptera, Scirtidae) from Guangxi Province, south China. *Japanese Journal of Systematic Entomology* **2** 245-249.

YOSHITOMO, H. & SATÔ, M. 1997. New name for *Elodes bicolor* Yoshitomi et M. Satô (Coleoptera, Scirtidae). *Japanese Journal of Systematic Entomology* **3** 75.

CERCYON ALPINUS VOGT (HYDROPHILIDAE) IN ENGLAND by J H Bratton

Cercyon alpinus is a recent addition to the British list, an apparently alpine species first recorded here in 1990 in deer dung in the Forest of Mar, South Aberdeenshire (Owen & Mendel 1990).

On 3 June 1996 beetles were collected from horse dung in a shaded woodland ride in Oakhall Coppice, Lower Woods SSSI, West Gloucestershire (ST747878). *Cercyon melanocephalus*, *Aphodius equestris*, *A. fimetarius*, *A. prodromus* and *Onthophagus coenobita* were readily identified but a second *Cercyon* could not be named using the key by Hansen (1987). A slight indentation on the base of the pronotum suggested *C. impressus*, but size and overall shape ruled out this species; while the presence of a longitudinal ridge on the mesosternal lamella indicated *C. laminatus* as a possibility but this species has a very narrow lamella unlike the Lower Woods specimen. After dissection the aedeagus was compared with the figures in Vogt (1968). Only two figures had the slender acute point to the aedeagus which matched the specimen: *C. atricapillus* was easily ruled out on grounds of size, leaving *Cercyon alpinus* (not included in Hansen's key) as a seemingly unlikely identity for a beetle from lowland woodland in south-west England. This diagnosis was, however, supported by Owen (1994), who mentioned that an impression on the pronotum was characteristic of *C. alpinus* and that a third of the Scottish specimens had a ridge on the raised portion of the mesosternum. The specimen was submitted to Garth Foster for a second opinion and he agreed it was *C. alpinus*.

A further male *C. alpinus* was found in Spoil Coppice, Lower Woods SSSI (ST750884) on 5 May 1997. The dung was on very wet soil, again in a shaded woodland ride, and had the texture of horse dung though the only hoof prints in the vicinity were of cattle. Other beetles present were *C. melanocephalus*, *Aphodius equestris*, *A. pusillus*, *A. borealis* and *A. prodromus*.

On 1 August 1997 horse dung on a path through beech woodland on the steep north-facing slope of Stinchcombe Hill, West Gloucestershire, (ST745991) was investigated. This produced a third male *C. alpinus* (confirmed by Howard Mendel and Prof. John Owen), *C. melanocephalus*, *C. haemorrhoidalis* and *Cryptopleurum minutum*.

Whilst one Gloucestershire *Cercyon alpinus* could be dismissed as a stray, the finding of three specimens at two sites suggests this species is well-established in the area. I have collected dung beetles at only nine Gloucestershire sites, all in 1996 and 1997, of which three were woodlands. The finding of *C. alpinus* at two out of three woodlands but not in any of six pastures, including pasture adjacent to Lower Woods, may indicate a habitat preference but the sample size is rather small. Whilst Lower Woods are part of a regularly grazed common and dung is in constant supply in the woodland, the Stinchcombe Hill woodland is not grazed and the occasional dung deposited on the bridleway would not form a reliable food supply for dung beetles. There is, however, permanent horse pasture adjacent to the woodland at the foot of Stinchcombe Hill.

Whilst it is possible that *C. alpinus* has been long overlooked in England, the beetles of Gloucestershire and neighbouring Somerset are well studied (Atty 1983, 1988; Duff 1993). It is therefore more likely that *C. alpinus* is a recent arrival and I predict it will soon be found over a wider area of England.

As I was inclined not to trust my own determinations, I am grateful to the three coleopterists who confirmed the identities of my specimens.

References

ATTY, D.B. 1983. *The Coleoptera of Gloucestershire*. Cheltenham.

ATTY, D.B. 1988. Additions to the Gloucestershire list. *The Coleopterist's Newsletter* No. **34** 5-8.

DUFF, A. 1993. *Beetles of Somerset: their status and distribution*. Taunton, Somerset Archaeological and Natural History Society.

HANSEN, M. 1987. *The Hydrophiloidea (Coleoptera) of Fennoscandia and Denmark*. Fauna Entomologica Scandinavica **18**. Brill.

OWEN, J.A. 1994. On identification of *Cercyon alpinus* Vogt (Col: Hydrophilidae) and on its occurrence in Scotland. *Entomologist's Record* **106** 181-183.

OWEN, J.A., & MENDEL, H. 1990. *Cercyon alpinus* Vogt at Braemar. *Coleopterist's Newsletter* No. **41** 1-2.

VOGT, H. 1968. *Cercyon*-Studien mit Beschreibung zweier neuer deutscher Arten. *Entomologische Blätter* **64** 172-191.

Received October 1997

BEETLES IN DERBYSHIRE

The Sawley oxbow lies beneath the M1 Motorway and was probably still part of the River Trent in the 18th Century. Fifty five species are recorded from it and the neighbouring river. The most interesting species are *Scarodytes halensis* (Fab.), *Dytiscus circumcinctus* Ahrens and *Gyrinus distinctus* Aubé, the latter found in a stagnant part of the river. *Helophorus longitarsis* Wollaston is a rare pioneer species in Britain; it is new for Derbyshire, being found in a cattle pond. *Plateumaris rustica* (Kunze), *P. sericea* (L.), *Donacia crassipes* Fab., *D. marginata* Hoppe, *D. simplex* Fab. and *D. vulgaris* Zschach are reported from a pond in the grounds of the National Trust Calke Park.

MERRITT, R. 1997. Water beetles at Sawley oxbow and the adjacent River Trent in south Derbyshire. *Journal of the Derbyshire Entomological Society* **129** 15-18.

MERRITT, R. 1997. *Helophorus longitarsis* Wollaston (Col.: Hydrophilidae) - a water beetle new to Derbyshire. *Journal of the Derbyshire Entomological Society* **129** 19-20.

MERRITT, R. 1997. Some scarce reed beetles (Chrysomelidae: Donaciinae) at Calke Park, south Derbyshire. *Journal of the Derbyshire Entomological Society* **129** 20-21.

GALLOWAY BEETLES

Donacia impressa Paykull, *D. thalassina* Germar and *Thryogenes nereis* (Paykull) are recorded from lochs in Kirkcudbrightshire.

SINCLAIR, M. 1997. A few recent Scottish records. *The Coleopterist* **6**(3) 160-161.

ORCADIAN BEETLES

This paper seeks to improve the beetle checklist for the Orkneys. Some old dubious records for water beetles are reviewed and a few are added.

SINCLAIR, M. 1997. Some additions and corrections to the list of Orkney beetles. *The Coleopterist* **6**(3) 104-105.

IRISH CHECKLIST

ANDERSON, R., NASH, R. & O'CONNOR, J.P. 1997. *Irish Coleoptera. A revised and annotated list.* Irish Naturalists' Journal, Special Entomological Supplement. ISSN 0021-1311. Available for £IR8.00 (£7.50 sterling, $15) inc.postage and packing from Ms Catherine Tyrie, Honorary Treasurer, Irish Naturalists' Journal, Ulster Museum, Botanic Gardens, Belfast BT9 5AB, Northern Ireland.

Fittingly, the front cover shows a water beetle, but it is *Carabus clatratus* L.! This is the first major revision of Johnson and Halbert's classic work of 1902 since O'Mahony attempted one in 1929. The new list has gone decidedly international accepting most of the changes proposed by Lawrence and Newton (1995), Lohse and Lucht (1989, 1992), Hansen (1996), and Nilsson and Holmen (1995). The water beetle list currently stands at 9 Gyrinidae, 13 Haliplidae, *Hygrobia hermanni* (Fab.), 2 Noteridae, 71 Dytiscidae, 22 Hydraenidae, 13 Helophoridae, *Georissus crenulatus* (Rossi), 3 Hydrochidae, 50 Hydrophilidae, 14 Scirtidae, a miserable 4 Elmidae, only 3 Dryops, 5 *Heterocerus*, 19 Donaciinae and the usual selection of renamed weevils. Although this checklist has an extensive bibliography and an exemplary list of 246 annotations, it is a pity that it lacks an index, given the need for substantial rearrangements and renamings since the time of Johnson and Halbert. An index to families and genera is, however, available as a separate offprint from Roy Anderson.

This is a well-informed revision which will serve those at work on Irish Coleoptera well for a long time. It also lays down a challenge, as there must still be additions to be made, given that there is plenty of Ireland yet to be explored by aquatic coleopterists.

ANDERSON, R., NASH, R. & O'CONNOR, J.P. 1997. *Irish Coleoptera. A revised and annotated list.* Irish Naturalists' Journal, Special Entomological Supplement.

BROWSING SECTION - PROFESSOR BALFOUR-BROWNE'S JOURNALS

These journals are lodged in the Royal Scottish Museum, Chambers Street, Edinburgh, along with his collection. There are eight journals bound in black. A photocopy has been prepared and bound in two volumes as part of the Club Library. I intend to annotate it as a working copy for use with the national recording scheme. Apart from recipes for Leprieur's and Chaster's Gums, the first entry is a quotation from E.B. Poulton's Essays on Evolution, published in 1908. As the first beetle record is for *Helochares lividus* near Wallingford, Oxford in March 1900, the quotation is more like a dedication:

The spirit of investigation is as the wind that bloweth where it listeth... The ultimate justification of all scientific work is 'I do it because it interests me: I want to find out.' Any further motive - the well-being of humanity, the pursuit of gain, the gratification of ambition - only tends to bias and mar the inquiry.

In my present position, I prefer to make no further comment! Ed.

FUNCTIONAL ANALYSIS OF SWIMMING BEHAVIOUR

The Hobson Sperm Tracker® was originally developed as a system for analysing the swimming movements of sperm as recorded on video and in order to assess infertility. It was later applied to vehicle traffic movements and finds its latest role in assessing functional types of water beetles. Velocity, the sinuosity of a particular trajectory, and a combination of the two were used to segregate the swimming behaviours of ten species of beetle. Species predicted to be slowest were slowest. The manoeuvrability of globular species was established. A trade-off was detected between the needs for high speed and for manoeuvrability, particularly in relation to the larger species. The speed record was set, without coaxing, by *Meladema coriacea* at 16 centimetres per second, though there are earlier records of *Dytiscus marginalis* at 40 cm/s.

RIBERA, I., FOSTER, G.N. & HOLT, W.V. 1997. Functional types of diving beetle (Coleoptera: Hygrobiidae and Dytiscidae), as identified by comparative swimming behaviour. *Biological Journal of the Linnean Society of London* **61** 537-558.

SÜßWASSERFAUNA - HALIPLIDAE, HYGROBIIDAE & NOTERIDAE

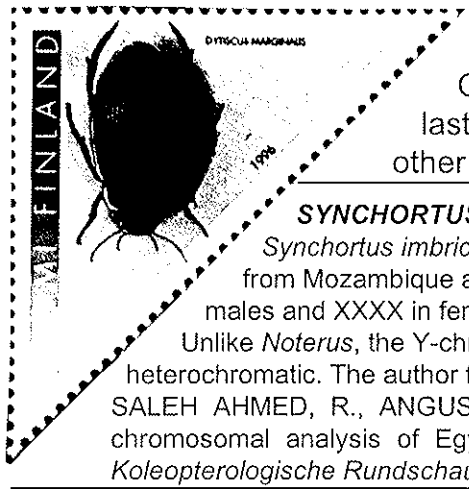
VONDEL, B. J. van 1997 Insecta: Coleoptera: Haliplidae. *Süßwasserfauna von Mitteleuropa* **20** Part **2**. 95 pp. DETTNER, K. 1997 Insecta: Coleoptera: Noteridae. *Süßwasserfauna von Mitteleuropa* **20** Part **3**. 99-126, general index **20** 145-147. DETTNER, K. 1997 Insecta: Coleoptera: Hygrobiidae. *Süßwasserfauna von Mitteleuropa* **20** Part **4**. 127-147. Gustav Fischer, Stuttgart. ISBN 3-437-25238-0. Available direct from publisher's distributor, SFG - Servicecenter Fachverlage, Holzwiesenstraße 2, 72127 Kusterdingen, Germany, for DM128 including 7% VAT, plus postage (e.g. with postage to Britain, total DM 132.87, equivalent to £46.78) or from Apollo Books, Kirkeby Sand 19, DK-5661 Stenstrup, Denmark at DKK580, on which no VAT is charged although one must pay DKK 48 for a booklet which explains how to avoid VAT! The total cost from Apollo would be equivalent to about £57.

This is the second volume of *Süßwasserfauna* to deal with water beetles (the first being by Robert Angus on *Helophorus*, still available to those who do not subscribe to the whole series at DM 158). Both authors are to be congratulated for dealing with the whole European fauna, and thanked, by some of us at least, in delivering the text in English. Thirty one species of Haliplidae are dealt with, one, *Haliplus ruficeps* Chevrolat, being dubiously European. The larvae are known for 22 species, and immature stages are keyed and described as far as possible. Professor Dettner covers the three species of *Noterus*, *Canthydrus diophthalmus* (Reiche & Saulcy) and *Hygrobia hermanni* (Fab.). The immature stages of *Noterus laevis* Sturm are unknown, but larvae of the other species are well described. Bernhard van Vondel follows Robert Angus in not providing maps, which some may find a pity, but Konrad Dettner maps his four species. The tripartite nature of the book creates a minor problem in that the species index for the Haliplidae appears in the middle of the book, whereas the index at the rear covers Parts 3 and 4. This work will serve all European Coleopterists well.

CUMBRIAN BEETLES

KEY, R. 1996. Beetles and beetle recording in Cumbria. In: D J Clarke & S M Hewitt (eds) Cumbrian wildlife in the Twentieth Century. *Transactions of the Carlisle Natural History Society* **12** 39-50. The whole book (ISBN 0-9525252-0-8) can be published for £6.50 from the Carlisle Natural History Museum, Tullie House Museum, Castle Street, Carlisle CA3 8TP, England, UK.

Cumbria is more or less a combination of two recording vice-counties, Cumberland (vc 70) and Westmorland (vc 69), the latter of which grabs a bit of Lancashire. This account is for general public consumption so it does not include an inventory. It is an interesting account of beetles in Cumbria though it falls short of describing the full extent of beetle recording. The Club has 6,974 records of 203 species stored on RECORDER. A couple of potential taxonomic problems should be noted - *Ochthebius lejolisii* is recognised as a species distinct from *O. subinteger*, and the name Elminthidae has been firmly dropped in favour of Elmidae. Fortunately the situation for *Stenelmis canaliculata* is not as black as painted in this paper in that it is no longer known to be confined to Windermere and East Anglia, but has been recorded from south-west England. Unfortunately the same cannot be said of *Gyrinus natator*: One might get the impression that this species is still present in Cumbria but it is rated as extinct in Britain. Regrettably, *Hydroporus rufifrons* no longer occurs at Thurstonfield, though it is found elsewhere in the area. *Hygrotus quinquelineatus*, a species of lowland lakes in northern Britain, is surprisingly referred to as "truly montane". *Agabus unguicularis* is characteristic of mesotrophic and base-rich marshes rather than "highly acidic conditions".



FINNISH STAMP - *DYTISCUS MARGINALIS*

Gert van Ee has drawn attention to a stamp produced last year. When will stamp artists use some water beetle other than a *Dytiscus*?

SYNCHORTUS XXXX

Synchortus imbricatus is newly recorded from Egypt, being recognised as ranging from Mozambique and the Sudan. The chromosomes of this noterid at 12 + XXY in males and XXXX in females, as has previously been found in *Noterus* by David Bilton. Unlike *Noterus*, the Y-chromosome is the largest in the nucleus and is almost completely heterochromatic. The author for correspondence is Robert Angus.

SALEH AHMED, R., ANGUS, R.B., ZALAT, S. & KASCHIF, A.H. 1997. Taxonomy and chromosomal analysis of Egyptian *Synchortus imbricatus* (Klug) (Coleoptera: Noteridae). *Koleopterologische Rundschau* **19** 107-116.

NOTES ON PALAEARCTIC HALIPLIDAE — by Bernhard van Vondel

***Haliplus angusi* van Vondel**. This species was so far only known from the male holotype. In the material of the Hungarian Natural History Museum in Budapest I found two females of this species labelled "USSR, Altai, Zmeinogorsk, 20.VI.1984, leg. Shilenkov". This locality is about 400 km south of the type-locality.

***Haliplus maculatus* Motschulsky**. In my revision of the Palaearctic *Liaphlus* species (van Vondel 1991) I suggested that this species might be extinct in Europe. Recently however, Manfred Jäch took it in Greece (Samothrake, SE Pirgos Fonia, 16 June 1993). This is the first record from Greece.

***Peltodytes rotundatus* (Aubé)**. This species has been taken by Stefan Schödl in Tunisia (6 km east of Nefza, 2 August 1991). This is the first record from Tunisia. When I reviewed the Palaearctic and Oriental *Peltodytes* species (van Vondel 1992) I could not find the type material of *P. rotundatus*. Afterwards I found two specimens, both males, on one pin in the Aubé collection in the Muséum Nationale d'Histoire Naturelle, Paris. I hereby designate the left one as the lectotype. The pin - and not the particular specimen - bears my lectotype label.

References

VONDEL, B.J. van 1991. Revision of the Palaearctic species of *Haliplus* subgenus *Liaphlus* Guignot (Coleoptera: Haliplidae). *Tijdschrift voor Entomologie* **134** 75-144.

VONDEL, B.J. van 1992. Revision of the Palaearctic and Oriental species of *Peltodytes* Régimbart (Coleoptera: Haliplidae). *Tijdschrift voor Entomologie* **135** 275-297.

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NEPTOSTERNUS IN SE ASIA

Neptosternus are laccophilines with about 20 species known from Africa, 16 from the Oriental region and ten from SE Asia. Lectotypes are designated for six of the latter and 40 new species are described from Borneo, Sulawesi, Vietnam and Thailand.

HENDRICH, L. & BALKE, M. 1997. Taxonomische Revision der südostasiatischen Arten der Gattung *Neptosternus* Sharp, 1882 (Coleoptera: Dytiscidae: Laccophilinae). *Koleopterologische Rundschau* **67** 53-97.

GRAPHODERUS ZONATUS VERRUCIFER - SEXUAL SELECTION AND THE ARMS RACE

The numbers and sizes of male fore and mid tarsal suckers and female variation in elytral and pronotal sculpture were quantified for eight populations of *G. verrucifer* in northern Sweden. Females in this subspecies are dimorphic in elytral sculpture with granulate and smooth females in varying proportions. The pronotal sculpture was divided into four classes. Females with granulate elytra had strong pronotal sculpture. The number of minor suckers on the male protarsus - between 36 and 86 - increased with the proportion of granulate females in the populations, as did the size of the three large suckers, whereas the size of the smaller suckers decreased. The correlation is explained in terms of sexual selection and an "arms race". Töyrä can be contacted via Anders Nilsson.

TÖYRÄ, A. 1997. *Samvariation mellan honliga och hanliga sekundära könskaraktärer hos* Graphoderus zonatus verrucifer *(Coleoptera: Dytiscidae) along an altitudinal gradient across north Sweden.* Degree Thesis in Biology, University of Umeå.

NEW DATA ON THE HYDRADEPHAGA OF BELARUS by Helen V Shaverdo

The first checklist of the Hydradephaga of Belarus (Zaharenko & Moroz 1988) included 121 species. The Catalogue of the Coleoptera of Belarus by Alexandrovich *et al.* (1996) includes 127 species of Hydradephaga from the territory of the republic and 8 from the Polish part of Belovezhskaya Puscha. This work is incomplete in that three species from the Polish part of Belovezhskaya Puscha were reported for Belarus (Ryndevich 1995; Shaverdo 1995; Moroz & Shaverdo 1997). In addition to these checklists, there have been reports of eight species new for Belarus from three families (Besyadka & Moroz, 1994; Shaverdo 1995, 1997). In this paper five new species and one new genus are reported for the fauna of Belarus the first time. The checklist of the Hydradephaga of Belarus part of Belovezhskaya Puscha is given.

Deronectes latus (Stephens): 2 km SE Vitebsk, stream, 1 September 1994, 3 spm. (leg. I. A. Solodovnikov); Minsk Prov., Volozhen Dist., v. Pervomaisky, Isloch river, 04.06.1996, 5 spm. This species is distributed in North and Middle Europe and inhabits cold clean waters, especially mountains streams. In Belarus it was collected in flowing water with a sandy bottom. The genus *Deronectes* is reported for the first time for Belarus. This Palearctic genus includes about 20 species. Most species are confined to the West Mediterranean region and West Europe. Six species are known from the territory of the former USSR (Zaitzev 1953).

Hydroporus gyllenhalii Schiødte: Minsk Prov., Minsk Dist., v. Primor'e, *Sphagnum* bog, 1 March 1998, 1 specimen. This species is distributed in northern and central Europe and is rarer in southern Europe. (Zaitzev 1953; Galewski & Tranda 1978)

Agabus pseudoclypealis Scholz: Bitebsk Prov., Bitebsk Dist., v. Shupy, wetland of Shevinka River, 12 July 1998, 1 spm. Zaitzev (1953) noted that this species is restricted to the European part of what is now the former USSR.

Haliplus obliquus (Fab.): Minsk Prov., Volozhen Dist., v. Krazheno, canal, 17 June 1993, 1 specimen. This species is confined to the central, eastern and part of southern Europe, Transcaucasus, Middle Asia, Iran, Turkey, Morocco and Siberia (Zaitzev 1953; Holmen 1987).

Haliplus lineatocollis (Marsham): Brest Prov., Kamenets Dist., v. Bol'shoye Selische, forest pond, 25 August 1997, 1 specimen. This species is distributed in Europe, Caucasus, North Africa, and Asia Minor (Zaitzev 1953; Holmen 1987).

At present the checklist of Hydradephaga of Belarus includes 143 species: Haliplidae - 18 spp., Noteridae - 2 spp., Dytiscidae - 113 spp., Gyrinidae - 10 spp.

I collected water beetles in the south of the Belarus part of Belovezhskaya Puscha during spring and summer 1995 and from 1997 to1998. Ninety species from four families were collected: Haliplidae - 10 spp., Noteridae - 2 spp., Dytiscidae - 73 spp., Gyrinidae - 5 spp. *Hydroporus glabriusculus* Aubé, *H. notatus* Sturm, *Haliplus heydeni* Wehncke and *H. furcatus* Seidlitz, reported from Berezinsky Reserve for first time for Belarus (Shaverdo 1996), were recently found in the Belarus part of Belovezhska Puscha. These species were also reported for the Polish part of Belovezhskaya Puscha (Galewski & Tranda 1978). *Haliplus furcatus* was dominant in flood-land of the Pravaya Lesnaya River (v. Bol'shoye Selische). In addition to this species *Haliplus fuvicollis* Erichson and *H. ruficollis* De Geer were found. The sampling ratio of the specimens of these species was 10:4:1 respectively. *Hydroporus glabriusculus* and *H. notatus* are typical of flooded alder and hornbeam groves. In Berezinsky Reserve these species were found in flooded forest beside a peat bog. *Rhantus incognitus* Scholz was first recorded in Belarus for Grodno Prov., D'jatlov Dist. (Zaharenko & Moroz, 1988). I found it in another place in Belarus: v. Bol'shoye Selische, forest canal, 28 July 1995, 1 specimen. It is known also from Poland (including Belovezhskaya Puscha), Ukraine (Galewski & Tranda 1978) and Germany (Zaitzev 1953).

Nomenclature of the species follows Holmen (1987) for Haliplidae, Noteridae and Gyrinidae, and Nilsson (1996) for Dytiscidae. In my opinion the checklist of the Hydradephaga of Belarus part of Belovezhskaya Puscha is not yet complete and will be supplemented by new data.

At present the checklist of Hydradephaga of Belarus includes 146 species (Haliplidae - 18 spp., Noteridae - 2 spp., Dytiscidae - 114 spp., Gyrinidae - 12 spp.).

TABLE 1. Checklist of Hydradephaga in the Belarus part of Belovezhskaya Puscha

Gyrinidae		
Gyrinus minutus Fab.	*G. marinus* Gyllenhal	*G. natator* (L.)
G. substriatus Stephens	*G. aeratus* Stephens	
Haliplidae		
Peltodytes caesus (Duftschmid)	*Haliplus lineatocollis* (Marsham)	*H. ruficollis* (De Geer)
H. heydeni Wehncke	*H. furcatus* Seidlitz	*H. fulvicollis* Erichson
H. fluviatilis Aubé	*H. immaculatus* Gerhardt	*H. flavicollis* Sturm
H. fulvus (Fab.)		
Noteridae		
Noterus crassicornis (Müller)	*N. clavicornis* (De Geer)	
Dytiscidae		
Copelatus haemorrhoidalis (Fab.)	*Hyphydrus ovatus* (L.)	*Guignotus pusillus* (Fab.)
Bidessus unistriatus (Schrank)	*Hygrotus decoratus* (Gyllenhal)	*H. impressopunctatus* (Schaller)
H. inaequalis (Fab.)	*H. versicolor* (Schaller)	*Suphrodytes dorsalis* (Fab.)
Hydroporus angustatus Sturm	*H. glabriusculus* Aubé	*H. tristis* (Paykll
H. umbrosus (Gyllenhal	*H. palustris* (L.)	*H. incognitus* Sharp
H. striola (Gyllenhal)	*H. erythrocephalus* (L.)	*H. elongatulus* Sturm
H. obscurus Sturm	*H. planus* (Fab.)	*H. fuscipennis* Schaum
H. rufifrons (Müller)	*H. notatus* Sturm	*H. neglectus* Schaum
Graptodytes pictus (Fab.)	*G. granularis* (L.)	*Porhydrus lineatus* (Fab.)
Scarodytes halensis (Fab.)	*Agabus undulatus* (Schrank)	*A. bipustulatus* (L.)
A. erichsoni Gemminger & Harold	*A. subtilis* Erichson	*A. neglectus* Erichson
A. biguttulus (Thomson)	*A. uliginosus* (L.)	*A. sturmii* (Gyllenhal
A. congener (Thunberg)	*A. fuscipennis* (Paykull)	*Ilybius fenestratus* (Fab.)
I. ater (De Geer)	*I. subaeneus* Erichson	*I. similis* Thomson
I. quadriguttatus (Lacordaire)	*I. guttiger* (Gyllenhal)	*I. aenescens* Thomson
I. fuliginosus (Fab.)	*Rhantus frontalis* (Marsham)	*R. notaticollis* (Aubé)
R. suturalis (MacLeay)	*R. bistriatus* (Bergsträsser)	*R. suturellus* (Harris)
R. exsoletus (Forster	*R. incognitus* Scholz	*R. grapii* (Gyllenhal)
Colymbetes paykulli Erichson	*C. striatus* L.	*C. fuscus* (L.)
Laccophilus minutus (L.)	*L. hyalinus* (De Geer)	*Hydaticus continentalis* Balfour-Browne
H. seminiger (De Geer)	*H. transversalis* (Pontoppidan)	*Graphoderus cinereus* (L.)
G. zonatus (Hoppe)	*G. austriacus* (Sturm)	*Acilius sulcatus* (L.)
A. canaliculatus (Nicolai)	*Dytiscus dimidiatus* Bergsträsser	*D. marginalis* L.
D. circumcinctus (Ahrens)	*Cybister lateralimarginalis* (De Geer)	

References

ALEXANDROVICH, O. R. *et al.* 1996. Katalog zhestcokrylyh (Coleoptera, Insecta) Belarusi. *Minsk: FFI PB* 13-15. (in Russian)

BESIADKA, E. & MOROZ, M. D. 1994. Vodnye zhestcokrylye (Coleoptera, Adephaga) Polesskogo Radiatsionno-ecologicheskogo zapovednika. *Tezisy dokladov VII zoologicheskoi konferencyi. Minsk* 61-63. (in Russian)

GALEWSKI, K. & TRANDA, E. 1978. *Chrzaszcze (Coleoptera). Rodziny Plywakowate (Dytiscidae), Fliakowate (Haliplidae), Mokzelicowate (Hygrobiidae), Kretakowate (Gyrinidae).* Fauna Slodkowodna Polski 10. Polska Akademia Nauk Instytut Ekologii Zaklad Biologii Rolnej, Warsaw.

HOLMEN, M. 1987. *The aquatic Adephaga (Coleoptera) of Fennoscandia and Denmark* I. *Gyrinidae, Haliplidae, Hygrobiidae and Noteridae.* Fauna Entomologica Scandinavica **20**, E.J. Brill/Scandinavian Science Press Ltd, Leiden & Copenhagen, 168 pp.

KLAUSNITZER, B. 1991. *Die Larven der Kafer Mitteleuropas. I. Adephaga.* Goecke & Evers Verlag. Krefeld. 160-269.

MOROZ, M. D., SHAVERDO, E. V. 1997. Haliplidae, Noteridae, Dytiscidae, Gyrinidae. Invertebrates of national park "Pripyatskyi". 81-87, Minsk. (in Russian).

NILSSON, A.N. (ed.) 1996. *Aquatic Insects of North Europe.* Volume 1: Ephemeroptera, Plecoptera, Heteroptera, Megaloptera, Neuroptera, Coleoptera, Trichoptera and Lepidoptera. Apollo Books.

SHAVERDO, E. V. 1995. Hyschnye vodnye zhuki (Coleoptera, Hydradephaga) Berezinskogo biosphernogo zapovednica. *Vestnik BGU.* **2** 35-38. (in Russian).

SHAVERDO, E. V. 1997. K poznaniyu fauny Hydradephaga (Coleoptera) Belarusi. *Vestnik BGU.* **2** 25-26. (in Russian)
ZAHARENKO, V. B. & MOROZ, M. D. 1988. Materialy po faune vodnyh zhukov (Coleoptera: Haliplidae, Dytiscidae, Gyrinidae) Belorussyi. *Entomologicheskoe Obozrenie* **67** 282-290. (in Russian)
ZAITZEV, A. 1953. Nasekomye zhestcokrylye. Plavuntsovye i vertyachki. *Fauna SSSR, New ser.* **58** 1-376. (in Russian)

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A NEW EUROPEAN *CERCYON*

Cercyon renneri is newly described on the basis of a single female caught in an autocatcher (a net fixed to a car) at Bielefeld in north-west Germany. It is related to *C. granarius* Erichson, differing in several characters including a narrower mesosternal process and a wider metasternal plate.

HEBAUER, F. 1997. *Cercyon* (s. str.) *renneri* sp. n. - eine deutsche Art? (Coleoptera, Hydrophilidae). *Acta Coleopterologica* **13**(2) 73-74.

AUSTRALIAN *CYBISTER*

Large dytiscines new to science are a great rarity these days. Those present at the meeting in Gotha will surely recall Lars's slides of a gorgeous black and yellow *Cybister* and the equally alluring pool in which the beetle, now called *C. weckwerthi*, was found. Both pictures are beautifully reproduced in the paper. Get a reprint, not a photocopy!

HENDRICH, L. 1997. A new species of *Cybister* Curtis from the Kakadu National Park in Northern Australia (Coleoptera: Dytiscidae). *Entomological Problems* **28** (2) 105-108.

REVISION OF *OREODYTES* BASED ON LARVAE

A study of the larval morphology of 16 Nearctic and two Palaearctic *Oreodytes* taxa provided a classification only partly reconcilable to one of adults alone. Four, as opposed to the former three, species-groups are recognised: those associated with *O. picturatus* (Horn), *O. obesus* (LeConte), *O. scitulus* (LeConte), and *O. quadrimaculatus* (Horn). *O. sanmarkii* (Sahlberg) belongs to the *obesus* group. The genus name *Neonectes* is called into doubt because the larvae of *N. natrix* (Sharp) and *N. babai* (Satô) are similar to members of the *scitulus* group.

It is noted that the larvae of the Nearctic *O. laevis* (Kirby), in the *scitulus* group, and the Palaearctic *O. alpinus* (Paykull) are "fairly similar", with leg measurements and chaetotaxy indicating that they might be identical. It is about time that someone got to grips with what is almost certainly a single Circumpolar species. Similarly, *O. septentrionalis* not only belongs to the *scitulus* group, and probably ***is*** *scitulus*! Perhaps these elegant studies of larvae should be accompanied by a reappraisal of adults?

ALARIE, Y. 1997. Taxonomic revision and phylogenetic analysis of the genus *Oreodytes* Seidlitz (Coleoptera: Dytiscidae: Hydroporinae) based on larval morphology. *Canadian Entomologist* **129** 399-503.

FLIGHT RECORDS IN ZARAGOZA

The following species were caught in light traps:- *Bidessus minutissimus* (Germar), *Hydroglyphus pusillus* (Fab.), *H. signatellus* (Klug), *Hygrotus confluens* (Fab.), *Laccophilus hyalinus* (De Geer), Eretes sticticus (L.), *Helophorus brevipalpis* Bedel, *H. griseus* Herbst, *Anacaena bipustulata* (Marsham), *Laccobius gracilis* Motschulsky, *L. moraguesi* Régimbart, *Helochares lividus* (Forster), *Enochrus bicolor* (Fab.), *E. testaceus* gr., *Hydrochara flavipes* (Steven), *Berosus affinis* Brullé, and *B. hispanicus* Küster.

RIBERA, I., AGUILERA, P. & BLASCO ZUMETA, J. 1996. Coleópteros acuáticos capturados en trampas de luz en la Retuerta de Pina (Monegros, Zaragoza), con comentarios sobre la implicaciones ecológicas y biogeográficas de su capacidad de dispersión mediante el vuelo. *Zapateri Revta. aragon. ent.* **6** 51-57.

EVOLUTION OF THE STAPHYLINIFORMIA

The biology of the staphyliniform beetles is reviewed. On the basis of fossil evidence, the Staphyliniformia, including the Scarabaeoidea, is assumed to have arisen about 200 million years ago in the Triassic. The ancestor of the group was most likely a moderate-sized, ground-living saprophage. Numerous shifts to other kinds of habitat have taken place subsequently. Other specialisms include those relating to defence and parental care.

HANSEN, M. 1997. Evolutionary trends in "staphyliniform" beetles (Coleoptera). *Steenstrupia* **23** 43-86.

WATER BEETLES IN NORTHERN IRELAND

This inventory documents records for 154 species of water beetle in Northern Ireland. This comprises 13 Haliplidae, 2 Noteridae, 73 Dytiscidae, 10 Gyrinidae, 2 Hydrochidae, 11 Helophoridae, 21 Hydrophilidae, 18 Hydraenidae, and 4 Elmidae. Thus the fauna is about 20 species short of Ireland as a whole, and a hundred short of Great Britain. Nevertheless it includes some important species, in particular *Haliplus variegatus* Sturm, *Hydroporus glabriusculus* Aubé, *H. scalesianus* Stephens (known now from eight sites), *Ilybius subaeneus* Erichson (the only site in Ireland is in County Down), *Dytiscus lapponicus* Gyllenhal, and *Gyrinus natator* (L.) (a characteristic species of cutover bogs). If Brian runs out of copies, you might try a request to the Environment & Heritage Service, Natural Heritage, Commonwealth House, 35 Castle Street, Belfast BT1 1GU.

NELSON, B. 1997. Species inventory for Northern Ireland: Aquatic Coleoptera. *Environment & Heritage Service Research & Development Series* No. 97/4. Belfast.

GEORISSUS CRENULATUS IN GERMANY

Records for Berlin and Brandenburg are reviewed. Based on 91 individuals caught at ten localities, the peak of adult activity appears to occur in May.

HENDRICH, L. 1997. Über das Vorkommen von *Georissus crenulatus* (Rossi, 1794) in Berlin und Brandenburg (Col., Georissidae). *Entomologische Nachrichten und Berichte* **41** 68-69.

DUTCH CHRYSOMELIDAE

Among new records for leaf beetles, the flea beetle *Chaetocnema aerosa* (Letzner) is recorded from the Netherlands for the first time; it feeds on *Eleocharis* and *Carex*.

BEENEN, R. & WINKELMAN, J. 1997. Aantekeningen over Chrysomelidae in Nederland **4** (Coleoptera). *Entomologische Berichten, Amsterdam* **57** 154-156.

NEW SPANISH *HYDRAENA*

The latest addition is from the Sierra de la Peña de Francia, Salamanca. It is not closely related to any other species, but the ribbon-like extension to the aedeagus resembles those of *H. corinna* d'Orchymont and *H. corrugis* d'Orchymont.

AGUILERA, P., HERNANDO, C. & RIBERA, I. 1997. *Hydraena* (*Hydraena*) *marcosae* sp. n. from the Iberian Peninsula (Coleoptera: Hydraenidae). *Koleopterologische Rundschau* **67** 169-172.

RIVPACS III

John Wright's team have assembled data for 614 running water sites in Great Britain. The frequency of occurrence of 637 macroinvertebrate taxa is reviewed and discussed in relation to conservation evaluation. These include 11 Haliplidae, *Noterus clavicornis* (De Geer), 35 Dytiscidae, 6 Gyrinidae, 11 Hydraenidae, 8 Helophoridae, *Hydrochus angustatus* Germar, 13 Hydrophilidae, 2 scirtids (to species), *Pomatinus substriatus* (Müller), and 11 Elmidae. Most species occurred at levels consistent with their present rare or threatened statuses.

WRIGHT, J.F., BLACKBURN, J.H., GUNN, R.J.M., FURSE, M.T., ARMITAGE, P.D., WINDER, J.M. & SYMES, K.L. 1996. Macroinvertebrate frequency data for the RIVPACS III sites in Great Britain and their use in conservation evaluation. *Aquatic Conservation: marine and freshwater ecosystems,* **6** 141-167.

NEW HYDROPHILID GENUS - *HYDROPHILOMIMA*

The new genus is closely related to *Pelthydrus* in the Laccobiini. Three species are newly described, *H. jaechi*, *H. vietnamica* and *H. yunnanensis*.

HANSEN, M. & SCHÖDL, S. 1997. Description of *Hydrophilomima* gen. n. from Southeast Asia (Coleoptera: Hydrophilidae). *Koleopterologische Rundschau* **67** 1187-194.

FAR EAST *BEROSUS*

Berosus schillhammeri is newly described (and illustrated in colour) from Laos, and *B. vietnamensis* is newly described from South Vietnam. *B. nigropictus* is newly recorded from Laos and Vietnam.

SCHÖDL, S. 1997. Description of two new *Berosus* Leach from Southeast Asia, with faunistic notes on *Berosus nigropictus* Régimbart (Coleoptera: Hydrophilidae). *Koleopterologische Rundschau* **67** 195-200.

Papers in brief

ALARIE, Y., WANG, L.-J., NILSSON, A.N. & SPANGLER, P.J. 1997. Larval morphology of four genera of the tribe Hyphydrini Sharp (Coleoptera: Dytiscidae: Hydroporinae) with an analysis of their phylogenetic relationships. *Ann. Ent. Soc. Amer.* **90** (6) 709-735.

BALKE, M. & HENDRICH, L. 1997. A new species of *Laccophilus* Leach, 1815 from Vietnam (Coleoptera: Dytiscidae). *Koleopterologische Rundschau* **67** 99-100.

BISTRÖM, O., HENDRICH, L. & KIRK-SPRIGGS, A.H. 1997. A new *Hyphydrus* species from Indonesia, with a list of and a key to the Oriental and Australasian species (Coleoptera: Dytiscidae). *The Raffles Bulletin of Zoology* **45** (2) 305-313.

CUPPEN, J.G.M. & HEBAUER, F. 1997. *Hydraena testacea* Curtis, new to Bayern (Coleoptera: Hydraenidae). *Acta Coleopterologica* **13** (2) 3-6.

HANSEN, M. 1997. Synopsis of the endemic New Zealand genera of the beetle subfamily Sphaeridiinae (Coleoptera: Hydrophilidae). *New Zealand Journal of Entomology* **24** 351-370.

HERNANDO, C. 1997. *Coelostoma (Coelostoma) escalerai* n. sp. from Equatorial Guinea (Coleoptera, Hydrophilidae). *Miscel.lània Zoológica* **20** (1) 97-99.

JÄCH, M.A. & KODADA, J. 1997. *Prionosolus* and *Podonychus*, two new genera of Macronychini (Coleoptera: Elmidae). *Entomological Problems* **28** (2) 9-23.

JÄCH, M.A. & BOUKAL, D.S. 1997. The genus *Hedyselmis* Hinton (Coleoptera: Elmidae). *Entomological Problems* **28** (2) 111-116.

MAZZOLDI, P. & van VONDEL, B.J. 1997. *Haliplus samosirensis* Vondel recorded from Kalimantan (Coleoptera: Haliplidae). *Koleopterologische Rundschau* **67** 119-120.

SCHÖDL, S. 1997. *Berosus uhligi* sp. n. from Namibia (Insecta: Coleoptera: Hydrophilidae). *Ann. Naturhist. Mus. Wien* **99** B 333-336.

SHAVERDO, E. V. 1994. Taksonomicheskoe sootnoshenie elementov fauny vodnyh zhestkokrylyh (Coleoptera, Dytiscidae) Minskoi oblasti. *Problemy izucheniya, sohranenya I ispolzovanya biologicheskogo raznoobrazya zhivotnogo mira: Tezisy dokladov VII zoologicheskoi konferencyi. Minsk: Nauka I tehnika*. 161-162. (in Russian)

SHAVERDO, E. V.1995. Hyschnye vodnye zhuki (Coleoptera, Hydradephaga) Berezinskogo biosphernogo zapovednica. *Vestnik BGU* **2**(3) 35-38. (in Russian)

SHAVERDO, E. V. 1995. Ekologichesryi obzor Hydradephaga Berezinskogo biosphernogo zapovednica. *Sbornik nauchnyh statei studentov 52-i studencheskoi konferentsyi BGU. Minsk: BGU* 45-47. (in Russian)

SHAVERDO, E. V. 1996. Prostranstvenno-biotopicheskoe raspredelenie hyschnyh vodnyh zhukov (Coleoptera, Hydradephaga) Berezinskogo zapovednica. *Problemy biologicheskogo raznoobrazya Belorusskogo Poozerya: Tezisy dokladov regionalnoi nauchno-prakticheskoi konferencyi. Vitebsk: VGU* 162-163. (in Russian)

SHAVERDO, E. V.1997. K poznaniyu fauny Hydradephaga (Coleoptera) Belarusi. *Vestnik BGU* **2**(1) 25-26. (in Russian)

SPANGLER, P.J. 1997. Two new species of the aquatic beetle genus *Macrelmis* Motschulsky from Venezuela (Coleoptera: Elmidae: Elminae). *Insecta Mundi* **11** (1) 1- 8.

WOOD, P. & SADLER, J.1997. *Hydroporus ferrugineus* (Dytiscidae): a subterranean water beetle recorded from Peak Cavern, Derbyshire, UK. *Cave and Karstic Science* **24** 45-46.

LATISSIMUS 9 - ERRATA, FIGURES AND NOTES

- The annual compilation of papers for 1992 and 1993, by Michel Brancucci and Konrad Dettner (see page 1) was issued as a reprint with ***Latissimus* 9**. Extra copies may still be available from the editor..
- On page 10, one of the totals in Table 1 should be 249, not 159.
- On page 17, a reference to "*besucheti*" should read "*bucheti*".
- On page 21, the figure bottom right is not Paolo Mazzoldi but Wolfram Sondermann.
- The e-mail given for David Boukal in the insert concerning the Club Meeting was that of Milan Boukal.

Apologies for any confusion the errors may have caused.

Changes of address

Dr Hauke Behr, Herrengrabenweg 57, 19061 Schwerin, Germany

R. Merritt, 2 Ravensnest Cottages, Ashover, Chesterfield, Derbyshire S45 OJP, England, UK

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The e-mail file: emboldened text indicate changes from ***Latissimus* 9**

The e-mail file (continued)

ADDRESSES OF AUTHORS

- Dr Y Alarie, Department of Biology, Laurentian University, Sudbury (Ontario), Canada P3E 2C6
- Pedro Aguilera` Del Pou 21 23 Atc. 2, Barcelona 08016, Spain
- Roy Anderson, Department of Agricultural & Environmental Science, Queen's University of Belfast, Newforge Lane, Belfast BY9 5PX, Northern Ireland, UK
- Dr R B Angus, Royal Holloway, University of London, Department of Biology, Egham Hill, Englefield Green, Surrey TW20 OEX,England, UK
- Dr Miguel Archangelsky, Urquiza 1132, Vicente Lopez - 1638, Buenos Aires, Argentina
- Dr Michael Balke, AG Evolutionsbiologie, Institut für Zoologie der FU Berlin, Königin-Luise-Str. 1-3, D-14195 Berlin, Germany
- Ron Beenen, Marsburg 13, 3437 GN Nieuwegein, The Netherlands
- Dr F Bameul, Résidence Mahela B 132, 2 ter, rue de Bethmann, F-33000 Bordeaux, France
- Dr Rolf G Beutel, Institut für Spezielle Zoologie und Evolutionsbiologie mit Phyletischem Museum, Erberstraße 1, D-07743 Jena, Germany
- Dr D T Bilton, University of Plymouth, Dept. of Biological Sciences, Drake Circus, Plymouth PL4 8AA, England, UK
- Professor O Biström, PO Box 17, FIN-00014 University of Helsinki, Finland
- David Boukal, Skroupova 1, Ceske Budejovice 370 06, Czech Republic
- John Bratton, 18 New Street, Menai Bridge, Gwynedd LL59 5HN, Wales, UK
- Dr Ulrich Bößneck, Stadtverwaltung Erfurt, Umwelt- u. Naturschutz, Stauffenbergallee 18, D-99084 Erfurt, Germany
- Dr Jan G M Cuppen, Dept. of Water Quality Management, & Aquatic Ecology, Agricultural University, Ritzema Bosweg 32A, 6703 AZ Wageningen, The Netherlands
- Dr Juan A Delgado, Departamento de Biologia Animal (Zoología), Universidad de Murcia, 30100 Murcia, Spain
- Dr J S Denton, 26 Bow Street, Alton, Hants GU34 1NY, England, UK
- Prof. Dr K Dettner, Lehrstuhl fur Tierokölogie II, Universitat Bayreuth, Gebäude NW 1, D-95440 Bayreuth, Germany
- Dr I S Downie, SAC Environmental Division, Auchincruive, Ayr KA6 5HW, Scotland, UK
- Dr M D Eyre, EMS, 13 Manor Grove, Benton, Newcastle upon Tyne, NE7 7XQ, England, UK
- Dr Hans Fery, Räuschstraße 73, D 13509 Berlin, Germany
- Dr A Gallardo, Departamento de Biología Ecología, Facultad de Biología, Universidad de Sevilla, 41080 Sevilla, Spain
- Dr Elio Gentili, via S. Gottardo 37, Varese-Rasa, 21030 Italy
- E G Hancock, Craigmuir, Sandford, Strathaven, Lanarkshire ML10 6PT, Scotland, UK
- Dr Michael Hansen, Dalforet 16 3th, DK 2300 København S, Denmark
- Dr Franz Hebauer, Ulrichsberg 7, D-94539 Grafling, Germany
- Lars Hendrich, Berlin-Forschung, FU Berlin, Malteserstr. 74-100, D-12249 Berlin, Germany
- Carles Hernando, Museu de Zoologia de Barcelona, Ap. Correos 593, 08003 Barcelona, Spain
- Günter Hofmann, Forststr. 6e, 8751 Stockstadt, Germany
- Jeanne-Marie Ivol, CEMAGREF, Laboratoire d'hydroécologie quantitative; 3 quai Chauveau, F-009 Lyon, France
- Dr M A Jäch, Natural History Museum, Burgring 7, 1014 Wien, Austria
- Dr Wolfgang Joost, Am Wiegwasser 73, 99867 Gotha, Germany
- Dr R S Key, English Nature, Northminster House, Peterborough PE1 1UA, England, UK
- Prof. Dr Bernhard Klausnitzer, Lannerstraße 5, 01219 Dresden, Germany
- Frank Köhler, Strmbergerstraße 22a, 53332 Bornheim, Germany
- Dr Sharon Knight Jasper, Department of Biology, Texas A & M University, College Station, TX-77843-3258, USA
- Prof. David Larson, Department of Biology, Memorial University of Newfoundland, St John's, Canada A18 3X9
- José Ignacio López-Colón, Plaza de Madrid 2, E-28529 Rivas-Vaciamadrid, Spain
- Dr M E N Majerus, Department of Genetics, University of Cambridge, Downing Street, Cambridge CB2 3EH, England, UK
- Paolo Mazzoldi, Via G. Galilei 87, I-25128 Brescia, Italy
- R Merritt, 2 Ravensnest Cottages, Ashover, Chesterfield, Derbyshire S45 OJP, England, UK
- Dr Andres Millan Departamento de Biologia Animal y Ecologia, Universidad de Murcia, 30100 Murcia, Spain
- Jochen Mölle, Institut für Evolutionsbiologie und Ökologie, An der Immenburg 1, D-53121 Bonn, Germany
- Dr J L Moreno, Departamento de Ecología y Hydrología, Facultad de Biología, Universidad de Murcia, Campus de Espinardo, 30100 Murcia, Spain
- Dr M G Morris, Orchard House, 7 Clarence Road, Dorchester, Dorset DT1 2HF, England, UK
- Gianluca Nardi, Via G. Galilei n.14, I-04012 Cisterna (LT), Italy
- B Nelson, Ulster Museum, Botanic Gardens, Belfast, N. Ireland BT9 5AB, UK
- Dr Anders N Nilsson, University of Umeå, Section of Ecological Zoology, S-901 87 Umeå, Sweden
- Dr Ignacio Ribera, Natural History Museum, Cromwell Road, London SW7 5BD, London, UK
- Dr Eduardo Romero-Alcaraz, Departamento de Biologia Animal y Ecología, Facultad de Ciencias, Universidad de Granada, E-18071 Granada, Spain
- Dra Carmen E Sáinz Cantero, Departamento de Biologia Animal y Ecologia, Universidad de Granada, Campus Universitario Fuentenueva, E-18071 Granada, Spain
- Stephen Schembri, Department of Geography, University of Malta, Junior College, Msida MSD 06, Malta
- Dr Stefan Schödl, Naturhistorisches Museum, Burgring 7, A-1014 Vienna, Austriaa
- Magnus Sinclair, Girnigoe, Main Street, Denholm, Roxburghshire TD9 8NU, Scotland, UK
- Dr K R Snow, Dept of Environmental Sciences & Mathematics, University of East London, London E15 4LZ, England, UK
- Wolfram Sondermann, Zwischenhausen 23, D-35037 Marburg, Germany
- Heiko Sparmberg, Lindersteig 2, D-99100 Erfurt-Salomonsborn, Germany
- Dietmar Spitzenberg, Zur Ziegelei 12, 39444 Hecklingen, Germany
- Jaroslav Stastny, Kosmonautu 359, CZ-460 05 Liberec, Czech Republic
- Dr Bernhard Statzner, CNRS, Écologie des Eaux Douces et des Grands Fleuves, Université Lyon 1, F-69622 Villeurbanne Cedex, France
- Dmitry Telnov, Entomological Society of Latvia, Faculty of Biology, 4 Kronvalda Boulevard, LV-1048 Riga, Latvia
- Anne Töyrä, University of Umeå, Section of Ecological Zoology, S-901 87 Umeå, Sweden
- Josefa Velasco, Departamento de Ecología e Hidrología, Facultad de Biología, Universidad de Murcia, 30100 Murcia, Spain
- B J van Vondel, Roestuin 78, NL-3343 CV H.I. Ambacht, The Netherlands
- Dr Alex Weir, Department of Plant Biology, Louisiana State University, Baton Rouge, LA70803, USA
- Dr J F Wright, Institute of Freshwater Ecology, River Laboratory, East Stoke, Wareham, Dorset BH20 6BB, England, UK
- Hiroyuki Yoshitomi, Zoological Laboratory, Faculty of Agriculture, Meijo University, Tempaku-ku, Nagoya, 468 Japan

CONTENTS