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LATISSIMUS

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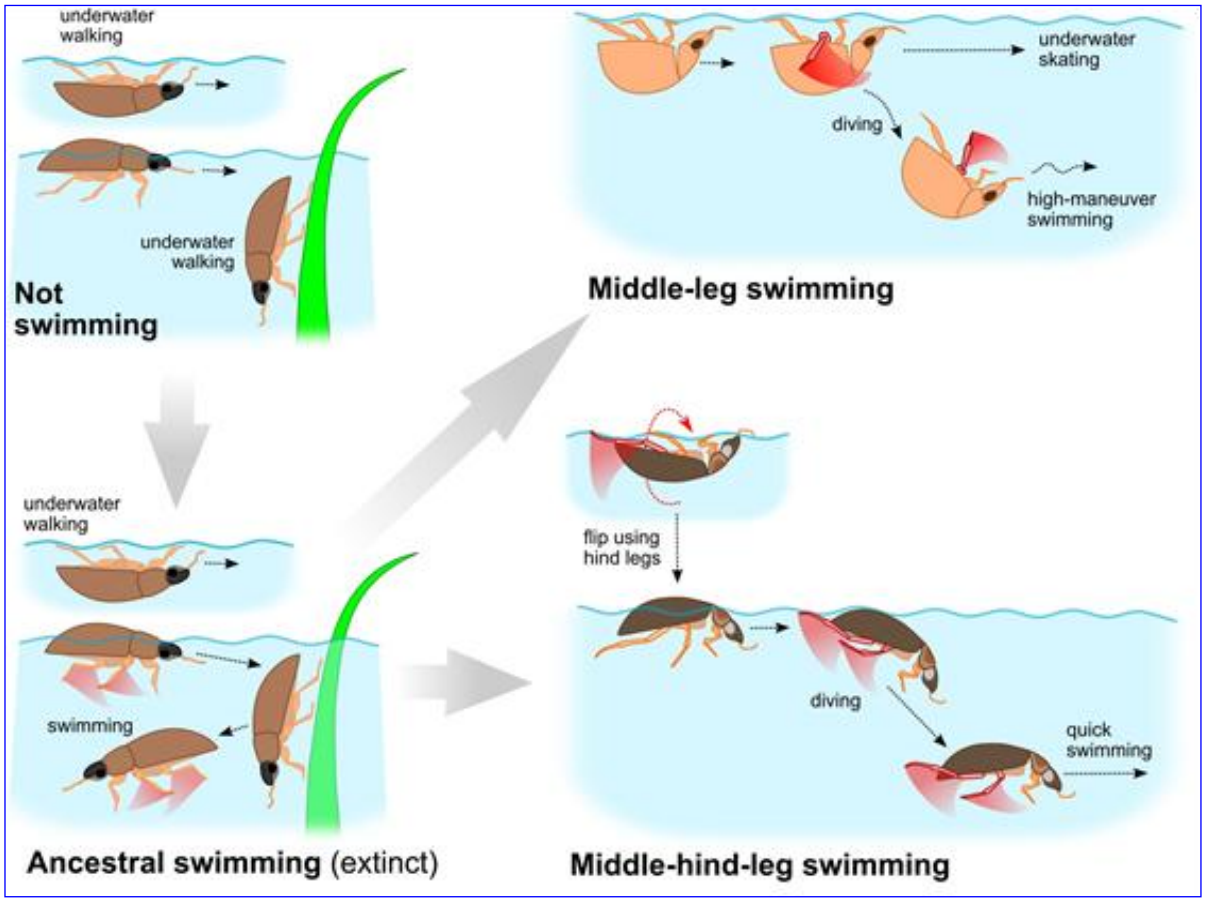
Cover photograph: *Dytiscus latissimus* L., a painting by Carim Nahaboo

ADDRESSES Contacts for articles and reviewed works are given at the end of this issue of ***Latissimus***. The address for other correspondence is: Garth Foster, 3 Eglinton Terrace, Ayr KA7 1JJ, Scotland, UK – latissimus@btinternet.com

TWO HYDROPHILID SWIMMING MODES

Two specialised swimming modes are recognised in two ancient lineages of Hydrophilidae: (i) upside-down swimming using middle legs in *Amphiops* and (ii) dorsal side up swimming using middle and hind legs in the more species-diverse lineage of all other actively swimming taxa, including *Berosus* as analysed in this paper. Both lineages share the mesofurca being modified to support the leg movements for swimming, indicating a single origin for swimming. The swimming of *Amphiops* is optimised for high manoeuvrability, whereas that of *Berosus* is set up for speed and acceleration. The ancestral swimming appears to be lost in modern beetles, the modifications of the meso- and metathoracic skeleton and leg musculature excluding the possibility that one mode is derived from the other. The multi-method approach here helps to reconstruct ancient behaviour and to identify the trades-off that dictated the evolution of lifestyles in Mesozoic aquatic beetles. Martin Fikáček is the corresponding author and is thanked for preparing a new version of the explanatory drawings used here, and Rolf Beutel is thanked for



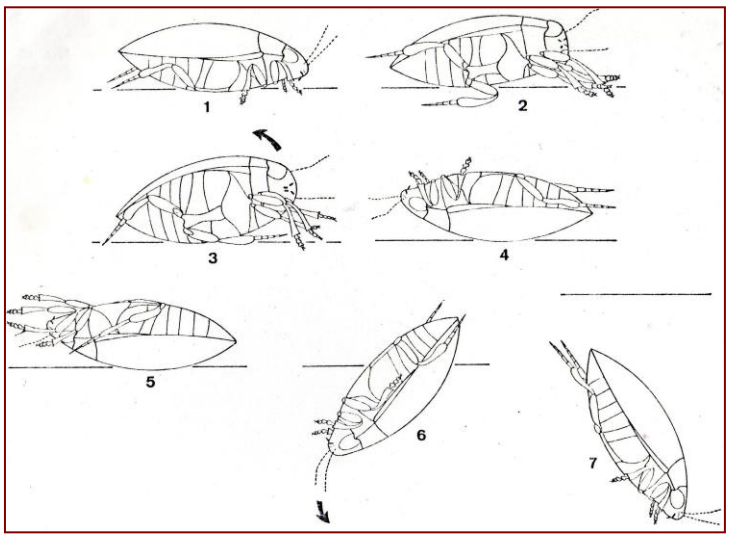
sending in a copy of the paper.

HU F-S, LUO X-Z, KUAN K-C, BEUTEL RG, CHI K-J, LIU H-C, & FIKÁČEK M. 2025 Ancient divergent evolution of specialized swimming modes in aquatic beetles. *Proceedings of the Royal Society B* **292** 20243093 pp 12.

FLIPPING OVER

Swimming in most hydrophilids requires a flipping action by the hind legs to turn the beetles from walking under the surface ventral side up to dorsal side up swimming. This called to mind Michel Brancucci's observations on how small dytiscids might get stuck on the water's surface when landing after flight, and would then need to pull

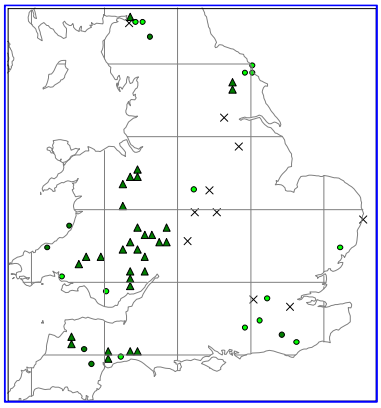
themselves under the water. However, revisiting the paper, it is clear that the process is rather different.....



1 The insect caught on the water surface cannot enter the water
2 The insect pulls its first and second pair of legs forward on the water and supports itself on the surface
3 It then kicks one of its hind legs forward, causing it to lose to lose its balance and fall on its back
4 The animal lies on its back
5 The third pair of legs is stretched forward as far as possible, shifting the centre of gravity
6 The animal is only touching the water by its head, the surface tension breaks, and the insect submerges
7 For a short distance swims in the supine position then turns into the normal position for swimming.

BRANCUCCI M 1977. Die Dytisciden und die Oberflächenspinnung des Wassers (Coleoptera). *Deutsche Entomologische Zeitschrift* **24** 423-424.

POMATINUS SUBSTRIATUS IN NORTH WALES



The two records from Denbighshire in 2024 substantiate a 2010 one that was lacking information on the collector. With the new map here you might also detect a new record for Scotland, by Bob Merritt right on the border in the River Sark in 2021.

PICKWELL A & ELLIS M 2025. *Pomatinus substriatus* (Müller, P.W.J.) (Dryopidae) in north Wales. *The Coleopterist* **34** 23.

MACRONYCHUS IN NORTH WALES

Another species in the Welsh River Dee in 2024 was *Macronychus quadrituberculatus*, found by kick and sweep sampling rather than on wood. This extends the known modern distribution in Britain north.

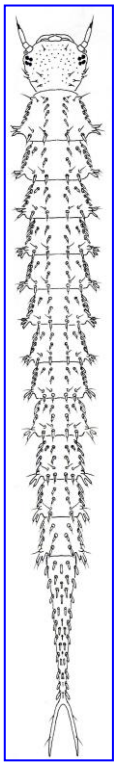
ELLIS M & PICKWELL M 2025. A first record of *Macronychus quadrituberculatus* Müller, P.W.J. (Elmidae) in north Wales. *The Coleopterist* **34** 29-31.

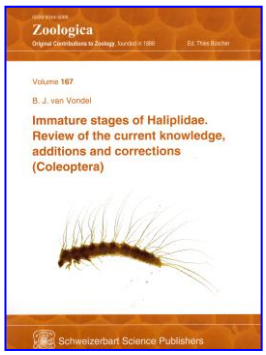
CYBISTER GENETICS

The mitochondrial DNA of fifty individuals of *Cybister rugosus* (MacLeay) from Japan and Cambodia was processed, identifying 19 haplotypes, with eight from Cambodia, none of them found in the Japanese samples. Much better resolution was achieved using nuclear rather than mitochondrial DNA, particularly in the Ryukyu Archipelago. The correspondent is Juno Kusumi.

AZHARI F A, MORITSUKA E, ODAGIRI K-i, KUSUMI J, & ARAYA K 2025. Genetic diversity and population structure of *Cybister rugosus* based on the mitochondrial COI gene and microsatellite markers. *Genes & Genetics Systems* **100** 24-00131.

HALIPLIDAE REVIEW





📖 van VONDEL B J 2025. Immature stages of Haliplidae. Review of the current knowledge, additions and corrections (Coleoptera). *Zoologica* **167** pp. 102. Order via mail@schweizerbart.com from Schweizerbart Science Publishers, Nägele u. Obermiller, Johannestraße 3A, 70176 Stuttgart, Germany. €99 inc. postage.

This is a resumé of all that is known about haliplid larvae. About a quarter of the 233 species known worldwide have at least one larval instar depicted The biggest gaps are in the Oriental, Neotropical and Afrotropical Regions, this work providing a firm basis for further work. Along with 80 plates there are figures and descriptions of the following: *Brychius elevatus* (Panzer), 2nd instar; *Haliplus confinis* Stephens, all three instars; *H. flavicollis* Sturm, 2nd and 3rd instars; *H. fluviatilis* Aubé, 2nd and 3rd instars; *H. fulvicollis* Erichson, 3rd instar; *H. furcatus Seidlitz,* 3rd instar; *H. heydeni* Wehncke, all instars; *H. immaculatus* Gerhardt, all instars; *H. lineolatus* Mannerheim, all instars; *H. obliquus* (Fab.), 2nd instar; *H. parvulus* (Roberts), 3rd instar; *H. ruficollis* (De Geer), all instars; *H. sibiricus* Motschulsky, all instars; *H. varius* Nicolai, 2nd instar, shown here courtesy of the author and Xenia Wörle on behalf of the published. Many thanks to Bernhard for the Club copy.

THE RIPARIAN ANCESTOR

Genetic analysis establishes that Histeroidea + Hydrophiloidea is a monophylum with about 9,000 known species. The split of Histeroidea from Hydrophiloidea is confirmed as in the early Triassic. The superfamily Hydrophiloidea has two main clades, the helophorid lineage and the hydrophilid one. It seems that there was a Riparian Ancestor, living in moist habitats at the edge of water but not in it, and from it arose the two clades resulting from two separate colonisations of the water. The correspondent is Martin Fikáček.

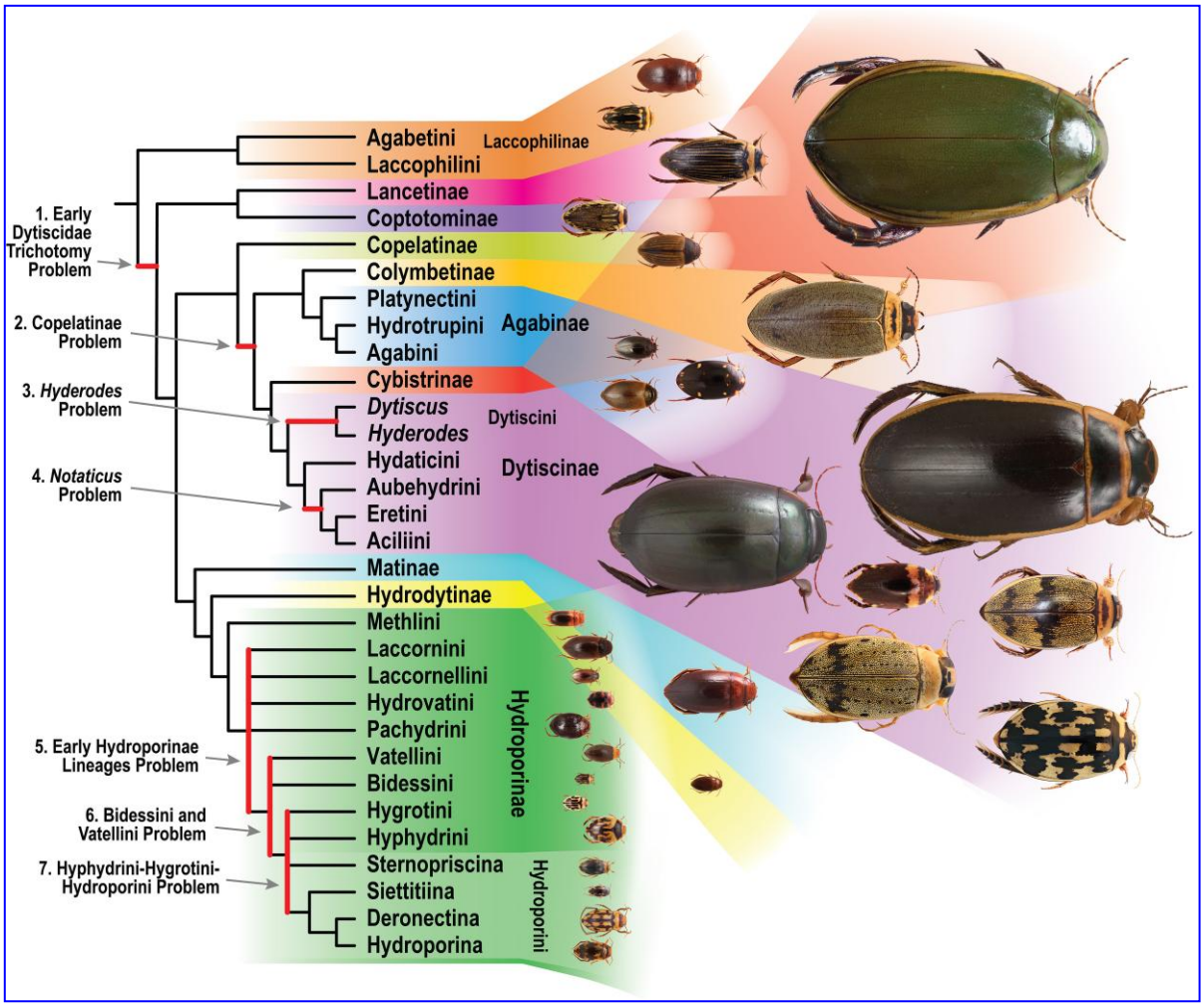
KUSY D, MOTYKA M, SIMON-PRAŽÁK J, LACKNER T, PROKIN A & FIKÁČEK M 2025. Phylogenomics resolves the relationships among Hydrophiloidea-Histeroidea families (Coleoptera) and challenges the single colonization of aquatic habitats. S*ystematic Entomology* **50** pp. 23. doi.org/10.1111/syen.12679

SÃO TOMÉ & PRINCIPE

The following are recorded, mainly from São Tomé: *Copelatus atrosulcatus* Régimbart, *C. bifasciatus* Régimbart, *C. nigrostriatus* Régimbart and *C.* cf. *pulchellus* (Klug), *Cybister marginicollis* Boheman, *C. tripunctatus africanus* Laporte, *Hydaticus matruelis* Clark, *H. servillianus* Aubé, *Rhantaticus congestus* (Klug), *Hydroglyphus acuminatus* Motschulsky, *H. dakarensis* (Régimbart), *Hyphydrus caryerus* Guignot, *Noterus koppi gabonicus* Bilardo & Pederzani, and *Canthydrus ugandae* J. Balfour-Browne. Gorgeous habitus photographs!

COACHE A & SCHIZZEROTTO A 2025. A short note on Dytiscidae and Noteridae from the Archipelago of Sao Tome and Principe (Coleoptera, Dytiscidae, Noteridae). *Faunitaxys* **13** 1-15.

SHOTGUN DICHOTOMIES



The figure kindly provided by Johannes Bergsten says it all, based on 149 taxa of Dytiscidae and 5,364 orthologous genes, i.e. those genes sharing an ancestor and function but found in different species. All eleven subfamilies are monophyletic as found in earlier studies, with the Hydroporini paraphyletic. Platynectini is described as a new tribe and Hydrotrupini is redefined with the Agabinae. It is admitted that the backbone phylogeny of the Dytiscidae is only incompletely resolved, and the study is intended to stimulate more work, with the seven main problems indicated in red on the figure.

BERGSTEN J, NYLANDER J A A, OSPINA O E, LEMMON A R & MILLER K B 2025.Whole genome shotgun phylogenomics resolved the diving beetle tree of life. *Systematic Entomology* doi: 10.1111/syen.12685

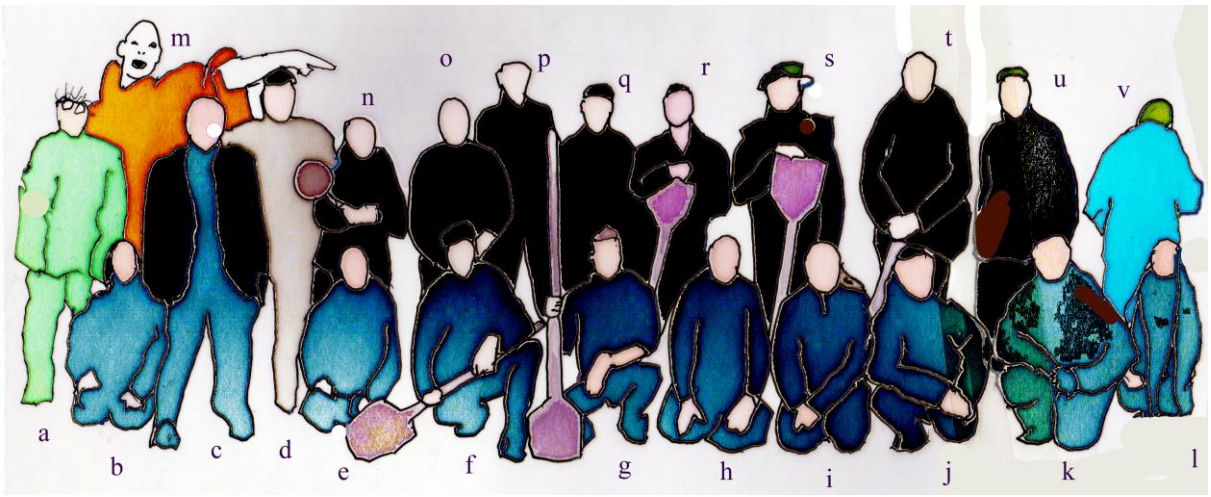
BRAZILIAN CAVES

Although representatives of ten beetle families were found in 46 caves only one truly troglobitic species was found. This was an as yet unnamed hydroscaphid without eyes, with thin unsclerotised cuticle and covered in setae.

ZEPON T, da SILVA R M F & BICHUETTE M E 2025. Diversity and distribution of aquatic beetles (Insecta: Coleoptera) in Brazilian caves based on the Zoological Collection of the Laboratório de Estudos Subterrâneos (LES) of the Universidade Federal de São Carlos (UFSCar). *Papéis Avulsos de Zoologia, Museu de Zoologia da Universidade de São Paulo* **65** 19 pp.

CLUB OCCITAINE MAI 2025

On 8 May our meeting, the idea of Pierre Queney[h], was on traditional lines with ca 20 in attendance from ca 7 countries. It was auspicious in that the new Pope was elected that day and VE Day was being observed here and there. France was represented by Cédric Alonso[u], Franck Bameul[o], Christophe Hanot[q], Frédéric Labat[p], Michaël Manuel[j], Pierre[h], Clément Le Penven[k], who provided the group photograph below, and coming a day later, Philippe Ponel[r]. In numbers the British came next with Robert Angus[c], Ron Carr[v], Garth Foster[a], Sue Foster[b], Annie Ross[l] (but part French) and Matt Smith[d]. The Dutch contingent comprised André van Nieuwenhuijzen[t], Barend van Maanen[f] and Oscar Vorst[s], with Belgium represented by Kevin Scheers[g] and Silvy Thant[l] and Italy by Vincenzo Volpe[i]. The extra countries could be made up of Austria, Belarus, China, and Finland depending on how Wenfei Liao[d] and Lena Shaverdo[n] claim allegiance. A good mixture then as such activities slowly recover from the shock of Covid and with some welcome new blood from l'Hexagone.



Aniane is a small town to the west of Montpellier, well positioned for rivers such as La Buèges and for the vast scrubland of the garrigues. We were based at the Hostellerie Saint-Benoit, an offbeat place associated with the Way of Arles and the Camino de Compostela. Given that our meeting in 2015 was also on the Camino some of us pilgrims by now must have achieved double figures of steps. The Hostellerie was sufficiently rural for us to be nightly serenaded by nightingales, tree frogs and crickets. The dining room emphasised the Hostellerie's themes with a life-sized Harry Potter, Voldemort[m] and someone representing the Crimes of Grimwald.

Voldemort (photo: Matt Smith)

Say "Fromage" at the Buèges river

Source of La Buèges with Lena

Friday 9 May was devoted to sites on the Buèges, at Pégairolle, Causse de Selle, also at Pont de Vareilles, with an intermediate stop at the Source of the Buèges for a picnic lunch provided by Cédric. The first beetle to greet most of us was *Agabus brunneus* (Fab.), certainly not a great rarity in southern Europe but a poignant reminder of its losses in southern England. Similarly, Oscar took *Bidessus minutissimus* (Germar) at the Pont de Vareilles. This species is also critically endangered in England but recently rediscovered by Bob Merritt in Scotland. Amongst the common beetles was at least one species of *Deronectes,* both adults and the yellow-and-black larvae. The latter were reassuring as there had been concern that the meeting was too early for such species – but it did seem that we were too early for many running water species. Hydraenids proved in short supply. on the first day but Cédric later produced a photographic guide to many of the hydraenids and elmids found at further sites.

Agabus brunneus (photo: Wenfei Liao)

A Monet-like moment on the Buèges (photo: Wenfei Liao)

Deronectes moestus (photo: Wenfei Liao)

Saturday 10 May began with the Lac du Selagou area, remarkable for the rust red rocks. The lake is only about 50 years old, and with limited conservation interest despite being a Natura 2000 site: the first species encountered was a crayfish, either the Fourth or the Fifth Horseman of the Apocalypse (see ***Latissimus* 25** 16, based

on Pederzani & Fabbri, 2007), and Zebra Mussel, *Dreissena polymorpha* (Pallas), another damaging alien. For water beetles the area is best known for *Hemisphaera guignoti* Schaefer, originally found just north of the lake.

Later the Hostellerie provided the Balfour-Browne Club Dinner with some style. Pierre welcomed us with a speech and a surprise endorsement.

"I know you would prefer I say just a few words in English rather than a long, boring speech in French. So I will not speak to you in the language of Molière. Of course, I hope you have already found some interesting insects since your arrival. For my part I have found you and that is enough for my pleasure. We are fewer than on the banks of the Loire 11 years ago, but I don't know if it because of me or the region? I choose to say that the absentees are always wrong, because what a joy it is to see again old friends, sometimes lost from sight! I would like to thank Garth for daring to entrust the organisation of this meeting to a very old man. Fortunately, Cédric immediately offered to help me; he is very young and knows this region like the back of his hand - comme sa poche. Among you, especially thank our four female friends. who were not afraid to face a world of macho men! On this subject I must tell you that President Donald Trump sent me a message asking me to congratulate the Balfour-Browne Club's management for its revolutionary attitude which is becoming rare. You see that I don't need much time to start saying stupid things. So now, it is time to go and test this menu 2 and I hope that it will not spoil the appetite of those who were dreaming of menu 1!"

Pierre's address

Cédric presented with the Ierse Kevers Trophy by Robert

The Trophy itself

The confit du canard was duly dispatched followed by Robert explaining the story of the Ierse Kevers Trophy again, Vincenzo had added to it a wooden whistle in the shape of a fox (Volpe, get it?), and the whole lot was thrust upon Cédric by way of recognising his role in facilitating the meeting.

The weather changed on Sunday 11 May and the frogs were sounding ecstatic by the time we got to the pond of Estagnol, about 12 km SSE of Aniane. Without shelter each part of every member of the party became very wet, including the inside of my camera. The foie gras and smoked salmon for Cédric's picnic were moved to his 16th Century house in Le Pouget, not only allowing us to dry out but also to view his collection, including the biospeleology and the teratology. The rainfall event is suitably recorded, albeit temporarily on Cédric's refrigerator - see page 31. The worst of the rain was avoided by a splinter group, Robert and Wenfei ticking off flamingos and finding an abundance of *Helophorus brevipalpis* Bedel in the Camargue. The beetles later proved all to be female and triploid, a first for France, the phenomenon having been first identified in northern Spain (Angus, 1992). After the rain ponds near to Aniane filled out the meeting's list with *Hydaticus leander* (Rossi) and both European species of *Hydrochara*. Silvy booked us all into a restaurant in Saint-

Guilhem-le-Desert that evening when the rain came back with a vengeance. There was a single lightning strike which probably took out the restaurant's online connection, requiring renegotiation of the bill and visits to the cashpoint (how come that was still working?). The weather returned to modest heat the following day and we dispersed, two of us finding a restaurant in Aniane where those frogs were on sale.

Chez Cédric avec Michael, Christophe, Silvy, Pierre, Lena et Sue

Estagnol in the rain

Wenfei with *brevipalpis* near Étang de Vaccarès

Thanks go to Pierre for setting this meeting up and to Cédric for local support including some splendid food. We might also add Vincenzo, who worked hard in his new role as Meetings Convenor. Where's the next one, VV? See page 31.

ANGUS R B 1992. A chromosomal investigation of *Helophorus brevipalpis* Bedel (Coleoptera: Hydrophilidae), with triploid Spanish females a possible source of American parthenogenetic material. *The Entomologist* **111** 56-60.
PEDERZANI F & FABBRI R 2007. Il quarto cavalier dell'Apocalisse *Procambarus clarkii* (Girard, 1852). *Quaderno di Studi e Notizie di Storia Naturale dell Romagna* **23** 199-212.
SCHAEFER L 1975. Une espèce nouvelle d'Hydrophilidae (Col.). *Annales de la Société d'Horticulture et d'Histoire Naturelle de l'Hérault* **115** 129-130.

On a personal note, thanks also go to Les Pompiers, who proved to be the natural choice when confronted with a puncture, in this case two, over a holiday weekend. The need to get another rental vehicle resulted in the only coleopteran thing seen on the last day being in timber riddled with Death Watch Beetle (*Xestobium rufovillosum* (De Geer), as demonstrated by a pest control adviser in Leclerc. Fortunately, I had been to La Buèges before. GNF

***BREVIPALPIS* TRIPLOIDY IN FRANCE**

This is the detailed story of the finding mentioned above. The first possibility that *H. brevipalpis* might be parthenogenetic came about because of discovery of an all-female population in Utah (Angus, 1971). Parthenogenetic triploids were later found in Provincia de León and in the Po Valley, these French triploids in the Camargue indicating a third European population. Robert takes the opportunity to discuss more variation in the chromosomes of diploid animals. Check with him for some reinterpretation of the chromosome numbering after the item was published. Here is the puddle again, sans Weifei.

ANGUS R B 2025.Triploid *Helophorus brevipalpis* Bedel 1881 in Provence, France, with additional data on C-banding in both triploid and diploid material, and discussion of chromosomal variation in *H. brevipalpis*. *Comparative Cytogenetics* **19** 125-131.

LACCORNIS OBLONGUS (STEPHENS) (DYTISCIDAE) IN A RECENTLY-CREATED POND

Martin Hammond

In June 2025, I surveyed a number of sites where new wetland habitats had been created under the auspices of the New Life in the Old West (NLOW) project in Cambridgeshire (England). The project, managed by Cambridgeshire ACRE, aims to create 'stepping stone' habitats in the vicinity of the Old West river (https://www.newlifeoldwest.org.uk/).

Photograph: Jonathan Graham. Traffic Cone: Cambridgeshire County Council.

Sweltering heat and a long spring/early summer drought meant that conditions were hardly auspicious for recording water beetles, and many of the scrapes and ponds on our list were completely dry. A few clay-bedded ponds, excavated within the past three years, held some water and yielded typical pioneer species such as *Agabus nebulosus* (Forster), *Hydroglyphus geminus* (Fab.), *Hygrotus confluens* (Fab.) and *Berosus affinis* Brullé with *Haliplus flavicollis* Sturm and *H. obliquus* (Fab.) where beds of stonewort (*Chara* spp.) were present; one site produced *Haliplus mucronatus* Stephens.

A small pond at Wicken Recreation Ground, excavated in 2023, wasn't obviously promising, secreted in an area of recently-established amenity woodland and isolated from other wetland habitats. It is, however, a kilometre north of Wicken Fen, one of Britain's most famous water beetle sites, so warranted a look.

A modest haul of 16 species included a few more associated with richly-vegetated shallow water such as *Ilybius chalconatus* (Panzer), *Hydroporus memnonius* Nicolai and *H. striola* (Gyllenhal) along with the uncommon hydrophilid *Enochrus*

quadripunctatus (Herbst). The declining hydraenid *Limnebius papposus* Mulsant added interest (this species remains plentiful in ditches on the Fen).

Entirely unexpected, however, was a single specimen of the small dytiscid *Laccornis oblongus*. This species has hitherto been considered restricted to ancient fens of natural origin in Britain, although Foster *et al.* (2016) note that "the distribution of this species indicates that specimens capable of flight must occur". While *L. oblongus* is perhaps most frequent in the extensive palsa-scar fens of Breckland (East Norfolk), it is known in Britain from a number of isolated sites such as Hart Bog, a kettle-hole in County Durham, and Throxenby Mere, a small valley fen in North-east Yorkshire.

I have myself found *L. oblongus* previously in a very isolated location in a mossy, seepage-fed pond in a valley bottom among the chalk hills of the Yorkshire Wolds, where numerous specimens were caught in February to October 2000; it has not been re-found at this location despite repeated searches. This site, however, yielded several other scarce water beetles and was potentially associated with a nearby prehistoric doline. The Wicken Recreation Ground pond, by contrast, is of very recent origin and has no association with wetland habitat other than its proximity to Wicken Fen: there is no plausible explanation for the presence of *L. oblongus* other than its arrival by flying. *Laccornis* has long been known from Wicken Fen, the most recent record known being by Stuart Warrington in May 2017.

During a previous survey for the NLOW project in 2021, another putative relic-fen water beetle, *Limnebius aluta* Bedel, was collected from a modern education pond at Kingfishers Bridge Nature Reserve, 2 km north-west of Wicken Fen. In addition, *Enochrus nigritus* (Sharp) has been found at three sites in the NLOW project area: one a medieval moat, the other two being ponds of recent origin. *Laccornis oblongus*, *Limnebius aluta* and *Enochrus nigritus* are all categorised as Near Threatened in Great Britain (Foster, 2010). The latter species is, however, known to be an active flier (Hammond, 2019), so dispersal is more predictable.

Collectively these records suggest that creation of shallow ponds with favourable water and habitat quality, close to ancient wetlands, may provide opportunities for range expansion by some water beetle species assumed to be relatively sedentary.

References

FOSTER GN 2010. *A review of the scarce and threatened Coleoptera of Great Britain. Part 3: Water beetles of Great Britain*. Peterborough: Joint Nature Conservation Committee.

FOSTER GN, BILTON DT & NELSON BH 2016. *Atlas of the predaceous water beetles (Hydradephaga) of Britain and Ireland*. Wallingford: Biological Records Centre.

HAMMOND M 2019. Flight records for some Hydrophiloidea and Hydraenidae. *Latissimus* **43** 6.

Received July 2025

KESTREL EAT *DYTISCUS*

A study of the pellets of Kestrel *Falco tinnunculus* L. in Oxford demonstrated a switch from a diet dominated by beetles early in the year to small mammals in July. The beetles included *Dytiscus semisulcatus* Müller.

LOSITO L & COWLEY R 2025. The importance of beetles in the diet of kestrel *Falco tinnunculus* and Little Owl *Athene noctua*. *British Journal of Entomology & Natural History* **38** 21-25.

BEETLES & BEAVERS (BELATED)

Sommer *et al*. (2019) is a review of the influence of beavers on the biodiversity of semi-aquatic habitats spotted only recently and giving some citations for the effect of beavers on beetles.

- strong association of beavers with Dytiscidae, according to Hummi & Hahtola (2018) in Finland
- beaver dams strongly promote the occurrence of whirligig beetles and their larvae (e.g. *Orectochilus villosus* (Müller)), citing Freitag *et al*. (2001 - citation incomplete), in Germany.
- some species of gyrinid beetles have been found exclusively in beaver channels (Hood & Larson (2014) in Canada
- beetles and their larvae were particularly numerous only in the dams (compared to other parts of the stream) according to Freitag *et al*. (2001) in Germany
- the scarlet flat beetle, *Cucujus cinnaberinus* (Bertoli), critically endangered in Germany, was strongly promoted in Bavarian beaver habitats by the presence of standing deadwood caused by beavers (Zahner *et al*., 2006).

NUMMI P & HAHTOLA A 2008. The beaver as an ecosystem engineer facilitates teal breeding. *Ecography* **31** 519-524.

SOMMER R, ZIARNETZKY V, MESSLINGER U & ZAHNER V 2019. Der Einfluss des Bibers auf die Artenvielfalt semiaquatischer Lebensräume. Sachstand und Metaanalyse für Europa und Nordamerika. *Naturschutz und Landschaftsplanung* **51** 108-115.

ZAHNER V, HANÖFFER S, SCHURLI C & MÜLLER S 2006. Beaver induced structure change along a stream in Bavaria and its influence on fish fauna and indicator beetles. *Abstracts from the 4th European Beaver Symposium. Fachhochschule Weihenstephan, Freising, Germany*.

BEAVER DAMMING IN POLAND

This is a study of the effects of beaver damming on macroinvertebrates in a stream above the Żywiec Reservoir on the Vistula. In the undammed stream beetles were dominated by scirtids, up to 244 individuals/m², and hydrophilids, up to 108/m², plus smaller numbers of diving beetles, haliplids and weevils. Numbers of scirtids, stoneflies and *Gammarus fossarum* Koch increased in the dammed stream and declined in the undammed one. Beaver-created ponds supported 6-67 scirtids/m², 4-8 diving beetles, 0-13 haliplids. Whirligigs were found in one of the three ponds. The correspondent is Anna Cieplok.

SPYRA A, CIEPLOK A, KRODKIEWSKA M 2024. Beavers ecosystem altering: Influence of beaver dams on aquatic invertebrates in newly created beaver ponds and small mountain river. *Ecohydrology & Hydrobiology* doi.org/10.1016/j.ecohyd.2023.06.009 pp 13.

SWISS ORNAMENTAL PONDS

Forty-one ornamental ponds were studied in the most densely populated area by Lake Geneva. Much as one should applaud such Citizen Science efforts there is not much one can say about wildlife if only genera are identified. The urban ponds averaged 0.6 genera of beetles with a minimum of 0 and a maximum of 6, compared with rural ponds with 9.2 genera and between 0 and 28 genera. The ancillary data include 18 beetle taxa that can be assigned to twelve genera. *Hydraena nigrita* Germar is not normally found in ornamental ponds.

OERTLI B, DECREY M, DERNIERRE E, FAHY J C, GALLINELLI P, VASCO F & ILG C 2023. Ornamental ponds as Nature-based Solutions to implement in cities. *Science of The Total Environment* **888** 164300 pp. 14.

POLISH FOREST LISTS

Of the 568 beetle species found 197 proved new to Lublin, with 23 included in the Polish Red List. There were a few water beetles - *Dryops auriculatus* (Geoffroy), *Hydraena palustris* Erichson, *Hydrochus brevis* (Herbst), *Hydrochara caraboides* (L.), *Hydrobius fuscipes* (L.), *Coelostoma orbiculare* (Fab.), *Cercyon convexiusculus* Stephens, *C. marinus* Thomson, *Prionocyphon serricornis* (Müller), three common *Contacyphon* species, *Notaris acridulus* (L.), *N. scirpi* (Fab.), *Tournotaris bimaculata* (Fab.), and *Poophagus sisymbrii* (Fab.).

CIEŚLAK R S 2025. Chrząszcze (Insecta: Coleoptera) projektowanych rezerwatów Sosnowiec i Zakrzów na Wyżynie Lubelskiej [Beetles (Insecta: Coleoptera) of the Sosnowiec and the Zakrzów reserves designed on the Lublin Upland] *Wiadomości Entomologiczne* **44** 27-56.

BEAVERS PROMOTE SOME BEETLES

Three beaver and three "non-beaver" territories in Germany were investigated for the occurrence of animals including beetles. One must be wary of (a) a paper to do with "benthic invertebrates" - this almost guarantees misidentification of at least one group; (b) any paper in which those identifying the beetles are unknown; (c) any paper based on eDNA in combination with (b); and here, (d), the strange use of "*Castor* sp." in the title, surely a little vague given that eDNA sampling is part of the methodology? So, the beetles named are *Dianous coerulescens* (Gyllenhal) found exclusively in beaver dams, *Hydrochus elongatus* (Schaller), found in the flowing area downstream of dams, *Laccobius bipunctatus* (Fab.), exclusive to side channels, *Dryops ernesti* des Gozis in beaver ponds, and *Elmis aenea* (Müller), found only in the riffles of the non-beaver territory. Overall, the beaver territory had 340 taxa as opposed to the non-beaver area with 113.

SCHLOEMER S, KAIJSER W, HÖRREN T, von SCHLEDORN F, LORENZ A, MAUSBACH P, HUND K & NERING D 2025. Species richness and abundance of benthic invertebrates are multiplied by beaver (*Castor* sp.) activities in small floodplains. *Freshwater Biology* doi.org/10.1111/fwb.70046

BRAZILIAN SAVANNA STUDY

Larval and adult beetles from five streams in the Brazilian Cerrado were sampled in the wet and rainy seasons. There was no difference in the richness between the seasons but larvae were more abundant in the rainy season, as one would expect. Also as to be expected was the difference in species composition between the seasons. But the beetles do not appear to have been identified: 778 individuals were placed in 79 adult morphospecies and 36 larval ones, in the Dytiscidae, Elmidae and Scirtidae. Genera are named, the elmid *Hexacylloepus* and *Laccophilus*, though the beetle depicted in Figure 2 is altogether another species. What a pity, all that work.....

MARQUES K V S, da SILVA P G & FRIZZAS M R 2025.Quality-related variables drive taxonomic and functional diversity of aquatic beetle larvae and adults differently in a Neotropical savanna. *Biodiversity and Conservation* https://doi.org/10.1007/s10531-025-03096-9 pp 19.

***RHANTUS FRONTALIS* IN WALES AND BEYOND**

The one specimen found in a restored bog pool at Hafod Ifan in vc 49 in North Wales represents a tiny step towards the joining up on the strangely disjunct distribution of this species in Britain and Ireland.

MACKAY-AUSTIN R & BENENSON I G 2025. A new inland record of *Rhantus frontalis* (Marsham) (Dytiscidae) in Wales. *The Coleopterist* **34** 32-33.

LEAVING THE WATER AND LEAVING AN IMPRESSION

This paper has two parts, one experimental the other to do with what a questionnaire for members of the public. On testing adult *Dytiscus sinensis* Feng were found to stay in the water when illuminated by artificial light, an unusual (unknown?) potential for light pollution contrasting with flying dytiscids being attracted to light at night. Beetles did not leave water between 16 and 25 °C but did leave when it was 32°C. Starved and fed beetles behaved in the same way. Out of 497 members of the public involved in sport or angling 46 knew something about dytiscids, mostly by direct encounters, and in ten cases by capturing them when young.

WANG L, LI J & WU G 2025. Effects of urban environmental factors on the water-exiting behaviour of predaceous diving beetle. *Journal of Insect Conservation* **29** 35 pp. 7.

IT MAY NOT BE WHAT YOU FOUND BUT HOW YOU FOUND IT

"Context-dependence" was defined by Jane Catford *et al*. (2022) as a variation in the sign or magnitude of an ecological relationship depending on the conditions under which the relationship occurs or is observed, also known as 'contingency'. Henna Snåre and 48 others (2024) found strong context dependency between biological uniqueness of stream insect assemblages and abiotic uniqueness of the sites' catchment features based on 42 drainage systems across four continents. They propose considering the specific land-use histories and examining each drainage basin separately if using the relationship between biotic uniqueness and abiotic uniqueness as a basis of conservation and restoration of river systems. Clearly one size does not fit all, but surely the authors are also indicating that each analysis could be unreliable? One major "context" difference could be the extent to which macroinvertebrate studies identify the taxa involved, the less deep it is the more likely communities will appear to be the same.

CATFORD J A, WILSON J R U, PYŠEK P, HULME P E & DUNCAN R P 2022. Addressing context dependence in ecology. *Trends in Evolution & Ecology* **37** 158-170.

SNÅRE H + ca 48 others 2024. The relationships between biotic uniqueness and abiotic uniqueness are context dependent across drainage basins worldwide. *Landscape Ecology* **39** 86 https://doi.org/10.1007/s10980-024-01883-3.

***CYBISTER* GUIDES ROBOTIC SWIMMING**

These engineers extol the swimming ability of diving beetles demonstrated by filming *Dytiscus bengalensis* Aubé. During the power stroke, the beetles stretch their hind tibias and tarsi, spreading out the bristles to maximise the cross-sectional areas against the water to increase propulsion. During the recovery stroke water resistance is minimised by rotating the tarsi through 90° and folding the bristles. The fine structure of the hind tarsi is such that the recovery stroke is only 1/40th of the thrust generated by the power stroke. The efficiency of drag-powered swimming is up 84%. And, of course, the synchrony of the hind legs. Diving beetles can retreat without having to turn around unlike turtles, jellyfish, fish, and frogs. A kinematic model has been constructed as a basis for a new type of robotic propulsion. The author for correspondence is Chengchun Zhang.

QI D, ZHANG C, HE J, YUE Y, WANG J & XIAO D 2021.Observation and analysis of diving beetles movements while swimming. *Scientific Reports, Nature* **11** 16581 10 pp.

DE CHATENET'S LEGACY

📖 LERAUT G & de CHATENET G 2024. *Beetles of Europe*. *Scarabs, Cockchafers, Rove Beetles, Hydrophiloid Beetles* Volume **2** *Polyphaga*. N.A.P. Editions. £74 plus postage from Pemberley Natural History Books seems to be the cheapest.

Following the death of the illustrator Gaëtan de Chatenet in 2023 Guillaume Leraut completed the task of producing this volume in the style of that of earlier volumes in the "Beetles of Europe", two of which were also in English, largely with American spellings. This is presumably why so much of the 79 pages of General Overview are based on Carabidae and Dytiscidae. The habitus illustrations are magnificent but they belong to a former age, as the norm is now an image generated from a 3D stack of photographs. Despite being in English it is obvious from comments on distribution that the targeted market for the book is mainly in France; charmingly, *Crenitis* has "a pronotum with a distal edge shaped like a policemen's hat", which must be a *postillion*! One must give some leeway to any attempt to popularise beetles on a European basis but the facts have to be right. The very first species covered is *Helophorus aquaticus* (L.), mapped as British and Irish, having been confused with *H. aequalis* Thomson, mentioned further down the page. *Megasternum concinnum* (Marsham), *Hydrobius fuscipes* (L.), *Chaetarthria seminulum* (Herbst) and *Ochthebius viridis* Peyron are covered without mentioning that they are part of species complexes. *Paracymus aeneus* (Germar), not indexed, is mapped as being solely circum-Mediterranean, *Crenitis punctatostriata* (Letzner) is mapped as occurring in Northern Ireland! *Helochares lividus* (Forster) does not occur in the west of Ireland, nor do *Hydrophilus piceus* L. and *Ochthebius alpinus* (Ienişţea) occur in northern England. Another reviewer has noted "Some UK maps are out-of-date, but that does not deflect from the value of the book." Oh yes it does, the more so if some maps are just wrong. The nomenclature is commendably modern, but with the occasional lapse, for example. "Ochthebiidae" mysteriously resurfacing on page 290. Buy this book to complete your set, but there are better alternatives for water beetle guides in Europe. The Club Library copy had a loose leaf page of minor corrections.

INDONESIAN SURPRISES

Out of 1,240 benthic macroinvertebrates identified in this survey of a Sumatran watershed 275 belonged to beetles - *Afrobrianax ferdyi* (Lee Philips & Yeng), *Ancyronyx variegatus* (Germar), *Microcylloepus pusillus* (LeConte), *Stenelmis canaliculata* (Gyllenhal) and *S. consobrina* (Dufour), *Tropisternus quadristriatus* (Horn), and *Liodessus affinis* (Say). Manfred Jäch disputes most of these identifications.

One clue is "*Afro*-". Indonesia is not in Africa and that psephenid, if that is what it is, cannot be as claimed. Follow through with the rest of the species claimed, which are mostly confined to North America or to the Palaearctic. Full contact details are available for Zainal Muchlisin.

OCTAVINA C, MUCHLISIN Z A, SATRIYO P & HURZAID A 2025. Diversity and distribution of benthic macroinvertebrates in Krueng Aceh watershed, Aceh Province, Indonesia. *Biodiversitas* **26** 601-616.

MAGNUS SINCLAIR 8 November 1928 - 11 April 2025

Magnus was born in the Orkneys but spent most of his life in the Scottish Borders, teaching biology at Hawick High School. His interest in beetles in a poorly known part of the country stood him in good stead for some great finds leading to friendship with many British coleopterists. An auspicious date was 27 July 1974, on which he caught two male *Hydroporus glabriusculus* Aubé new for Britain in one of the Borders mosses. That day was the second on which I met him, having only recently been introduced by Eric Pelham-Clinton, all too briefly Duke of Newcastle. Remarkably, on that same day on my way to that meeting, I caught another beetle new for Britain, *H. elongatulus* Sturm, in a moss in Peeblesshire. Magnus was a founding member of the Balfour-Browne Club in 1976, but he mastered beetles as a whole rather than just those in the water. His 7,000 records of water beetles must be matched by as many of terrestrials. His is one of the finest conserved collections in the National Museums Collection Centre in Granton, perfectly set with beautifully handwritten labels. We enjoyed arguments about the pros and cons of that approach as well as so many other things. Reminiscences from fellow coleopterists all note his correctness and precision, often nullified by his taste for fast driving, including a Daimler SP250! He has one honorific, the South African *Mesoceration sinclairi* Bilton, 2015 (Col., Hydraenidae). His nearest kin will be his stepson, Neil Horne, the son of Magnus's late wife, Kate, plus a niece and a nephew in Orkney. The funeral was at Melrose Crematorium on 29 April 2025.

Chris Badenoch, formerly Principal Officer for Scottish Natural Heritage in the Borders Magnus and I used to meet occasionally for lunch in Denholm. He was a truly great 'naturalist' and biologist, delightfully free from all the anthropomorphic and sentimental nonsense with which the fashionista 'greens' and so-called 'conservationists' beset us nowadays! We had great times in the field, and his site assessments were invariably sound and correct. His water-beetle lists are legendary, although sadly, many of our mires and fens have suffered badly from incautious drainage and huge inputs of - especially- phosphatic fertiliser on the Silurian. He introduced me to John Carter - a world-renowned Diatomist and limnologist - who, strangely, also lived in Denholm, where he taught as a piano teacher! I managed to find a volume about Magnus' father, in Manitoba, where he founded a hamlet of the same name in the early 20th century. I also worked with his stepson, Neil, on a major gravel excavation of the Junction Pool on Tweed and the adjacent Teviot a few years ago. I had great battles with Scottish Natural Heritage over this, but am confident that the inverts of the gravel beds were not harmed!

Steve Hewitt I was very fond of Magnus and greatly enjoyed his gentle sense of humour. I think I first met him on a Scottish Entomologists field meeting when I was working in Perth in the late 1980s. He very kindly sent me a recipe for Atholl Brose written in his immaculate hand. I think his hand-written data labels are the finest I have ever seen. When I later moved to Carlisle, I found that Magnus was a member of Carlisle Natural History Society and regularly drove to evening lectures in the museum there. We would sometimes meet for lunch when he came into the city to have his car serviced and we enjoyed fieldwork together, particularly on river shingle sites in north Cumbria. Another memory I have of him is the day I arrived at his home in Denholm for a coffee before visiting some of his local entomological sites. Magnus said "We'll take my car; it will be quicker." Understanding dawned as I got into the rally car style passenger seat in his car and was immediately thrust deep into my bucket-seat as we accelerated off down the road. I hadn't appreciated that this taste for speed is an Orcadian thing, until I visited Orkney myself some years later...

David Hutchins We first met in 1998 at the [Edinburgh] Entomology Club and met at regular intervals at the Traquair Arms in Innerleithen. A lot of the talk was on beetles and we collaborated on a paper in the 'Coleopterist' on a Chrysomelid beetle he had collected recognising it as *Aphthona pallida* (Bach). I had been able to e-mail Professor Warkalowski in Poland and he had sent us specimens, so we immediately distinguished the difference between *pallida* and *nigriceps*. I believe this was his last main contribution but still in Britain they cannot see the way, the truth and the light. All these are wonderful, wonderful memories.

David Bilton I first met Magnus on 30 May 1981, on a Carlisle Natural History Society field trip to the Upper Irthing, when I was fourteen years old. I know the exact date down to the label on a *Brychius elevatus* in my collection (my first), which was passed on to me by Magnus' stepson Neil, who actually netted it. Magnus was the first other entomologist I met and had a huge influence on me from that point on, helping immeasurably, introducing me to GNF and the B-BC and generally enabling me to take what I was doing to another level. I can still remember seeing his collection for the first time and being blown away by the diverse range of beautifully mounted beetles, with tiny but totally legible handwritten labels. I, of course, wanted a collection like this, but still can't really compete over 40 years later! Magnus' discovery of *Hydroporus glabriusculus* in the Borders gave me a starting point for my PhD research in the late 1980s, when I looked at population genetics and colonisation history of UK and Irish populations of this primary fen species. Magnus and I kept in touch until very close to his death and I have very fond memories of both collecting trips and our conversations; always including beetles, but ranging over a wide variety of topics and never dull!

Martin Collier My first memory of meeting Magnus was at Dorback Burn in 1987. I was spending a week at Kingussie with John Owen on my first ever beetling trip to Scotland (when it seemed like every second or third beetle I found was new to me) and Magnus joined us for the day. He had a large but docile ginger-coloured Chow Chow with him on a long lead and the dog insisted on walking the opposite side of every post and bush we came across, meaning Magnus had to repeatedly backtrack to untangle them both. Magnus made it very clear what he thought of the intelligence level of this particular breed of dog! I met up with Magnus at various times at beetle meetings in the following years and we soon discovered that we both had an interest in cars as well as beetles, especially sports cars. We often compared notes on cars we'd owned and loved or hated. When I stayed with Magnus for a few days in 1989 I had an old Porsche 911 and we had great fun driving on some of the roads in the borders, with sweeping bends, little traffic and not a pothole in sight. Those were the days. In later years he often reminded me how much he enjoyed those drives. I found Magnus to be kind and considerate with a wry sense of humour and I always enjoyed his company very much. He also helped me a lot with identifications of small and difficult staphylinids, especially of Scottish material, and I was always impressed and a little envious of the tiny and beautifully neat handwriting on his determination labels. Magnus's death is a sad loss to the British beetle world.

Ashleigh Whiffin on Magnus Sinclair's collection (NMS.Z.2015.105) Magnus gifted his beetle collection to National Museums Scotland in 2015. It now resides at the National Museums Collection Centre in Edinburgh, registered as NMS.Z.2015.105. It contains approximately 10,000 specimens, alongside an archive including his notebooks and card index. There are thirty curated drawers, largely containing rove beetles and water beetles, with a further 4,000 specimens covering a diversity of families, housed in store boxes. What really sets his collection apart is the

precision of his mounting and the exquisite handwritten specimen labels. The collection is fully indexed via a system of record cards, and his notebooks make up sixteen volumes, spanning 52 years (1961-2013), all of which he carefully indexed to species, places and people. As it is such a significant and data rich collection of British beetles, it is on the museum's priority list for digitisation, with the aim of making his diligent work accessible to all.

GNF on *Hydroporus glabriusculus* Aubé On the day before Magnus's funeral I visited the site where he took this species new for Britain 51 years ago. Boot-sized pools in deer tracks through this Borders Moss were teeming with *glabriusculus*. The common name awarded for it in the Irish Red List was the Three Bs Diver, which has

never caught on. A literal alternative would be Little Baldy but I propose here **The Magnus**. Some early photographs below give some idea how Magnus ranged around Britain and met up with other coleopterists.

Neil Horne, Mogens Holmen, Susan and Owen Foster, and MS in Lanarkshire in August 1985

John Flint and wife "Tim"* with MS at Hart Bog, County Durham, in February 1982

Geoff Hancock and MS on Little Cumbrae in June 1981

Peter Hodge, GNF and MS at Sunbiggin Tarn, Westmorland, in April 1979

In 1977, Magnus re-enacting the swallowing of *Agabus striolatus* (Gyllenhal) by William Bontine Cunninghame over 120 years earlier when *striolatus* was discovered in Norfolk

MS, GNF, Susan Foster and David Holland at Wood Walton Fen in May 1980

*Mrs Flint was the Speaking Clock on the telephone system during World War II.

Magnus Sinclair's bibliography

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PATRIARCH REMINISCENCES

This is a no-holds-barred account based on recollections of these two latter day experts on beetle classification staying with the arch expert himself, Roy Crowson. Roy might claim a direct water beetle link through chapter 13 of his magnum opus *The Biology of the Coleoptera* (1981, Academic Press Inc. (London) Ltd), still a thought-provoking read. All I can remember of that time was that my gentle probing on the number of typos in that book was fended off by Roy saying that was the publisher's job. I didn't dare recount how the first ever beetle collection I had seen was his in Royal Tunbridge Wells Municipal Museum, where he had once been curator, and that it just comprised a mass of museum beetle frass and a few tarsi clinging to an upright display box. Adam Ślipiński is the nominated correspondent author but I expect Rich will talk to you too.

LESCHEN R A B & ŚLIPIŃSKI A 2025. Curiosity and routine: remarks on Ray Crowson and John Lawrence. *Annales Zoologici (Warszawa)* **75** 1-8.

FRESHWATER FLORA AND FAUNA COMPARED IN A BRITISH MODEL

This is another paper based on the Hydroscape project, with data drawn from across Great Britain for beetles, molluscs, Odonata, fish, birds, macrophytes and lake chlorophyll. Earlier papers are referred to in *Latissimus* **44**, page15 and **45**, page 13. There is no point in trying to pretend one understands the statistical analysis which used "conditional inference tree-based Random Forests": the final result appears to be a model in which the various groups draw on a different range of explanatory variables. About 24% of the variance in the number of beetle species was explained by the model, with fewer species in urban and montane areas, and big differences between river basins. There was a humped relationship between pond density and beetle richness, which rang a bell for the days when Detrended Correlation Analysis was king. It is also noted that "There was limited evidence of connectivity-stressor interactions for beetles richness", Alan Law later noting that "connectivity can be a two-edged sword".

WILKIE C, LAW A, THACKERAY S J, WARD C, AUGUST T, BAKER A, BELMONT J, CARVALHO L, CHAPMAN D, DOBEL A, MILLER C, PRINGLE H, SCOTT M, SIRIWARDENA G, TAYLOR P & WILLBY N 2025. Landscape-scale responses of freshwater biodiversity to connectivity and stressors. *Global Ecology and Biogeography* **34** doi.org/10.1111/geb.70069

Connectivity again

The same project again, nothing on water beetles but perhaps rather relevant to how they get about. Measuring the connectivity of Britain lakes could be boiled down to lake area, pond count and river length expressed per unit area. So not only a sword but perhaps a blunt-edged one?

TAYLOR P, CARVALHO L, CHAPMAN D, LAW A, MILLER C, SCOT M, SIRIWARENA G, THACKERAY S J, WARD C, WILLKIE C & WILLBY N 2025. Understanding the hydrological and landscape connectivity of lakes. Landscape Ecology 40 140 pp. 23.

NEW *GALERUCELLA* IN NORWAY

Well, newish and not particularly aquatic. It is not certain whether this species is a newcomer to southern Norway or perhaps a northern species that has previously been passed over as *G. tenella* (L.). The means to separate it from *tenella* seem clear enough, with the thickness of the aedeagus in lateral view being distinctive. The last ventrite of the female is more incised than in *tenella* and the whole thing is paler. Finally, one must always admire the ability of the chrysomelidologist to use the shape of the spermatheca. Like *tenella* it is found on silverweed *Potentilla anserina* L.

ØDEGAARD F & HANSSEN O 2020. *Galerucella* (*Neogalerucella*) *anserina* Ødegaard & Hanssen, sp. nov., a new species of Chrysomelidae (Coleoptera, Chrysomelidae, Galerucinae) from Norway. *Zootaxa* **4755** 341–352.

***AETHIONECTES* AMPLIFIES MONOPHYLY OF ACILIINI**

Analysis of the morphological features of a third instar larva of the Madagascan *Aethionectes oberthueri* (Régimbart) ratified the monophyly of this with other known aciliine genera - *Acilius* Leach, *Graphoderus* Dejean, *Rhantaticus* Sharp, *Sandracottus* Sharp and *Thermonectes* Dejean. There is a key to the third instar larvae of World Aciliini.

ALARIE Y, MICHAT M C & DETTNER K 2025. Testing the monophyly of the tribe Aciliini and the phylogenetic position of the Afrotropical genus *Aethionectes* Sharp, 1882 (Coleoptera: Dytiscidae, Dytiscinae). *Zootaxa* **5620** 334-352.

DNA IN THE DMZ [and elsewhere] [and a.i.]

The mitochondrial genome has been analysed for *Dytiscus marginalis czerskii* Zaitzev collecting in the Demilitarized Zone of South Korea. It comprises 18,385 base-pairs with 37 genes. The paper includes a useful summary of what is known of other dytiscid genomes - for *Agabus uliginosus* (L.), *Colymbetes fuscus* (L.) [see Linard *et al.* 2016], *Dytiscus sharpi* Wehncke [see Nagata 2019 - also ***Latissimus* 58** 27], *Hygrotus nigrolineatus* (Steven), *Limbodessus palmulaoides* Watts & Humphreys [see Hyde *et al*. 2017], *Liopterus haemorrhoidalis* (Fab.) and *Paroster macrosturtensis* (Watts & Humphreys) [see Hyde *et al*. 2017]. The correspondent is Kyoung Su Choi.

A worrying sequel is that I mistyped *czserski* when searching for the authority of the name and Google's AI Overview came up with this - for something that does not exist!

It's a large, predatory aquatic beetle found in still or slow-flowing freshwater habitats. The name "*cesarski*" likely refers to its large size and impressive appearance, as "*cesarski*" translates to "imperial" or "royal" in some languages.

Perhaps we should base future ***Latissimus*** on Google alone?

KIMA H, KIMB J-Y, KIMC K, KIMD J, LEEA M, PARKD S Y & CHOIE K S 2025. The complete mitogenome of *Dytiscus marginalis czerskii* (Dytiscidae, Coleoptera) *Mitochondrial DNA, Part B: Resources* **10** 687–691.

HYDE J, COOPER S J B, MUNGUIA P, HUMPHREYS W F & AUSTIN A D 2017. The first complete mitochondrial genomes of subterranean Dytiscid diving beetles (*Limbodessus* and *Paroster*) from calcrete aquifers of Western Australia. *Australian Journal of Zoology* **65** 283-291.

LINARD B, ARRIBAS P, ANDÚJAR C, CRAMPTON-PLATT A & VOGLER A P 2016, Lessons from genome skimming of arthropod-preserving ethanol. *Molecular Ecological Resources* **16** 1365-1377.

NAGATA N 2019. The complete mitochondrial genome of the critically endangered diving beetle *Dytiscus sharpi* (Coleoptera: Dytiscidae). *Mitochondrial DNA, Part B* 4 2375-2376.

IRAQI BEETLES

Four species are characterised by their morphology and Cytochrome oxidase gene, *Berosus spinosus* (von Steven), *Rhantus suturalis* (Macleay), *Eretes sticticus* (L.) and *Hydrobius fuscipes* (L.). Despite distortion in the habitus photographs the diving beetles look fine. The *Hydrobius* is, of course, a member of a complex, the pale legs suggesting *fuscipes* sensu stricto. However, despite a 99% match on the mitochondrial COX1, the *Berosus* cannot be right as the labrum is pale, not black, suggesting *B. fulvus* Kuwert, but neither species appears to have been recorded from Iraq. Judging from the email given, the correspondent is Mustafa Fadil.

AL-ABADI M M & HATEM A N 2025. Morphological and molecular identification of four species of aquatic beetles (Coleoptera: Hydrophilidae, Dytiscidae) in Thi Qar Governate, Southern Iraq. *Egyptian Journal of Aquatic Biology & Fisheries* **29** 1397-1412.

***SCARODYTES HALENSIS* LECTOTYPE**

A lectotype selected from the type material in the Zoological Museum of the University of Kiel. It probably came from the city of Halle, hence the name *halensis*. The distribution of the species must be much narrower than before, with new species and subspecies, subsequently elevated to species, outside Central Europe.

FERY H 2025. Lectotype designation of *Dytiscus halensis* Fabricius, 1787, the type species of *Scarodytes* Gozis, 1914 (Coleoptera: Dytiscidae: Hydroporinae). *Zootaxa* **5646** 289-292.

FENLAND WATER BEETLES IN JULY AND AUGUST 2025 **Peter Sutton**

An unsuccessful search for *Agabus undulatus* (Schrank) and *Berosus luridus* (L.) in the fenlands of Cambridgeshire and Lincolnshire in England led to new records for several uncommon species.

This journey immediately began with the perennial problem faced by the humble wielder of a pond net: the remarkable inaccessibility of the English countryside. Observing nature is fine for those who like to be guided to observation huts on nature reserves and other designated sites, but for those who are attempting to observe the natural world by sampling the remaining good quality aquatic environments that still exist, it is a surprisingly laborious process to gain the necessary permission to do so, and politely requesting permission to dip a biosecure net by turning up unannounced invariably meets with a brick wall response. This often leads to the investigation of less satisfactory sites, and at one of these substandard locations, having misjudged the depth of a swampy waterway and had my t-shirt ripped in three places by a brutality of briars, I can remember recalling the words of Fred J. Taylor as he sat fishing on a freezing winter's day: "I'll be really glad when I've had enough of this!"

Nevertheless, various permissions were obtained, notably for Wicken Fen, and the journey revealed some pleasant surprises. The River Cam (TL53717228) was the first port of call on 31 July and produced many *Noterus clavicornis* (De Geer) in the submerged grassy margins of the river, as well as a specimen of *Rhantus suturalis* (MacLeay), but little else among its abundant fish fauna which included the Ruffe *Gymnocephalus cernua* (L.) and the Spined Loach *Cobitis taenia* L.

Fig 1 *Rhantus suturalis*, River Cam. 31 July 2025

Fig 2 The King Diving Beetle *Dytiscus dimidiatus*. Fulbourn Fen, 31 July 2025

Fulbourn Fen was visited in the afternoon, and the majority of the waterways contained no water. A small stream (TL53325591) produced several Black Belly Diving Beetles *Dytiscus semisulcatus* Müller while a remaining remnant of water (TL53095607) produced *Colymbetes fuscus* (L.), *Agabus bipustulatus* (L.), over 30 specimens of which were also observed in a cattle trough, Great Diving Beetle *Dytiscus marginalis* L., *D. semisulcatus*, and the big surprise of the day, a large adult male King Diving Beetle *Dytiscus dimidiatus* Bergsträsser, representing a new 10km square for this species (Garth Foster, pers. comm. 1 August 2025).

Wicken Fen was not yet available and searches of accessible sites in the immediate vicinity did not yield the two target species, so on 2 August the search continued in the Lincolnshire Fens near Peterborough. The same problems were faced and after a polite enquiry stating my desire to take an *in situ* photograph of

water beetles in a small portable glass tank, and assurance that my nets were biosecure, I was denied access to yet another locally run nature reserve that required a permit. I stopped at a site along what is known as the Maxey Cut and investigated the river that ran quickly over a stony substrate (TF14460723). It quickly produced two species typical of this habitat, *Nebrioporus elegans* (Panzer) and *Platambus maculatus* (L.). The Maxey Cut is linked to the River Welland and is connected through a series of drains to the Glen River where *P. maculatus* has previously been recorded.

Fig 3 *Nebrioporus elegans*. Maxey Cut, 2 August 2025

Fig 4 *Platambus maculatus*. Maxey Cut, 2 August 2025

Pools in the vicinity of Baston Fen (TF1417) produced many *N. clavicornis*, *Berosus affinis* Brullé, *Hygrotus inaequalis* (Fab.) and a single specimen of *Graptodytes pictus* (Fab.).

Fig 5 *Graptodytes pictus*. Baston Fen, 2 August 2025

Fig 6 Great Silver Water Beetle *Hydrophilus piceus*. Kingfishers Bridge Reserve,5 August 2025

The search returned to the Cambridgeshire Fens and on 5 August, I was kindly granted access to two ponds at the Kingfishers Bridge Nature Reserve (TL54297300), one of which was densely covered in stonewort (*Chara* spp.) growth. Both ponds produced a number of familiar species, but it was the smaller, stonewort-

choked pool that produced the surprise of the day in the form of a large specimen of the Great Silver Water Beetle *Hydrophilus piceus* (L.), as well as specimens of the finely marked *Haliplus obliquus* (Fab.).

Fig 7 *Haliplus obliquus*. Kingfishers Bridge Reserve, 5 August 2025

Fig 8 *Haliplus mucronatus*. New Cut, 5 August 2025

Fig 9 *Hydroporus figuratus*. New Cut, 5 August 2025

A waterway known as the New Cut (TL54207291) that serves as a boundary to the reserve was also productive and produced two more species of interest, the unmistakably large and nationally scarce *Haliplus mucronatus* Stephens, 1828, and *Hydroporus figuratus* (Gyllenhal), in England the commoner of the two species in the *Hydroporus dorsalis* complex.

A final visit to the Cambridgeshire Fens came on 8^{h} August when a permit to study the aquatic fauna of Wicken Fen had been processed. To cut a long story short, *Agabus undulatus* and *Berosus luridus* were not found, but the ditch in the immediate vicinity of the Wicken Fen visitor centre (TL56237055) was teeming with life and some very special species. Four of the six great diving beetle species were found in a couple of square yards of ditch (where else in Britain could that happen?), adding *Dytiscus circumflexus* Fab. to the three previously mentioned, and *Hydaticus transversalis* (Pontoppidan) was present in good numbers, as was *Hydaticus seminiger* (De Geer) in a small pond at the end of the boardwalk.

Fig 10 *Hygrotus versicolor*. River Great Ouse, 8 August 2025

Fig 11 *Noterus crassicornis*. River Great Ouse, 8 August 2025

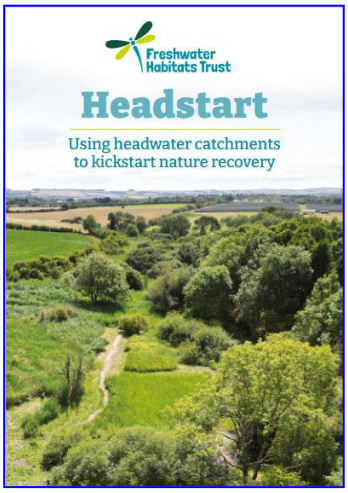
The journey concluded with an impromptu visit to the River Great Ouse (TL52047357) as I drove home, and in the grassy margins of this sluggish stretch of the river, I found the beautifully marked *Hygrotus versicolor* (Schaller) and a species that has long eluded me, *Noterus crassicornis* (O.F. Müller).

Acknowledgements Sincere thanks to the National Trust and staff at Wicken Fen for the provision of a licence, and Garth Foster and Clive Turner for kindly confirming the identification of species.

Received August 2025

AN ADDITION TO THE FIELD EQUIPMENT

If you meet someone carrying a small fish tank in the field it could well be Peter Sutton. Thanks to him for the image here, and for those before.



HEADSTART - A NEW APPROACH TO NATURE RECOVERY

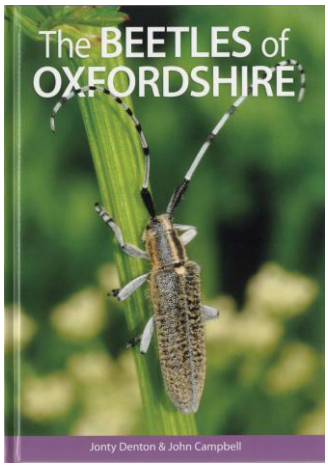
Noël Coward pithily commented 'Very flat, Norfolk', so it is a little surprising that Anglian Water, with so much level land in its drainage area, should be the company supporting the Freshwater Habitats Trust's proposed new approach to drive nature recovery in England and Wales by restoring headwaters. *Headstart - using headwater catchment to kickstart nature recovery* is a report available from the Freshwater Habitats Trust website. It might well inspire initiatives elsewhere.

NEW GUINEA *LIMBODESSUS*

This is a follow-up to the paper by Adrián Villastrigo et al. (2024 - see ***Latissimus* 58** 21). The New Guinea *Limbodessus* Guignot are reviewed. Eight new species are described from the Central Mountain Range of New Guinea, from altitudes of 1,800 up to 3,500 m above sea level. *L. skalei* Hendrich, Surbakti & Balke, described from Waigeo Island, is recorded for the first time for New Guinea. All thirteen species are illustrated. They can be separated mainly by the form of the male and female antennomeres and by the male genitalia. A modified key is presented, and the habitats of most species are illustrated in detail.

BALKE M, VILLASTRIGO A, HÁJEK J, SURBAKTI J, PANJAITAN R & HENDRICH L 2025. A review of *Limbodessus* Guignot, 1939 from New Guinea, with description of eight new tropical-alpine species (Coleoptera, Dytiscidae, Bidessini). *Alpine Entomology* **9** 5–28.

OXFORDSHIRE



📖 DENTON J & CAMPBELL J [M] 2025. *The Beetles of Oxfordshire*. Pisces Publications at the Nature Bureau, Unit 2C, The Votec Centre, Hambridge Lane, Newbury RG14 5TN, England. www.naturebureau.co.uk £29.50 including postage within UK.

In 1974 the Vale of the White Horse, Berkshire was merged into a new Oxfordshire, "a real act of cultural vandalism" for some and still contested more than 50 years on. The authors have gone to a lot of trouble in the text and maps to keep vc23 and that chunk of vc22 as separate recording units. One wonder is there is someone preparing a book on Berkshire who will wrest tha data back again? The new county list runs to 2,691 species including six species in the Gyrinidae, 17 species of Haliplidae, both northern European *Noterus*, *Hygrobia hermanni* (Fab.), 65 Dytiscidae, 16 Helophoridae, only two Hydrochidae, 57 Hydrophilidae, 19 Hydraenidae, nine Elmidae, three *Dryops*, five *Bagous* and various hangers-on such as *Eubria palustris* Germar, known in four sites. The nomenclature is a little dated and one has to be brave to use subgenera these days, potentially a minefield even after the genetic analysts have had their say. We get a mention in the introduction on the basis of our namesake and something that strangely doesn't get mentioned very much, the fact that you can find water beetles through much of a British winter. Very good value, a must for all coleopterists.

DEATH VALLEY BEETLE LARVAE

Mystonectes coelamboides (Fall) and *M. panaminti* (Fall) live in the Death Valley in California, reputed to be the hottest place on Earth with any water saturated with sodium chloride four times more concentrated than most sea waters. The long legs with swimming hairs link the larvae to those of *Scarodytes* des Gozis and *Leconectes* Fery & Ribera. The image here is a Pixabay one https://pixabay.com/photo/.

ALARIE Y & MICHAT M C 2025. Description of the mature larvae of the halophilic diving beetles *Mystonectes coelamboides* (Fall, 1923) and *M. panaminti* (Fall, 1923) and comparison with other known Deronectina (Coleoptera: Dytiscidae, Hydroporinae). *Zootaxa* **5666** 225-238.

EUBRIA UNDERGROUND

The Brzoza River goes underground in Łódź. Eight-five species in 41 invertebrate families were recorded in this concreted channel of calcareous water, the main prize being the water penny *Eubria palustris* (Germar), new for central Poland.

SŁOMCZYŃSKI K, BRODECKI J & BIENIAS J 2025. Unexplored source of urban biodiversity – preliminary studies on the underground channel of the Brzoza River (Łódź, Central Poland). *Urban Ecosystems* **28** (184) pp. 12.

VOLGA RIVER BASIN STUDY

One hundred and fifty-six taxa of benthic animals were identified in this remarkable study of the brackish rivers of the area. The authors claim that the Coleoptera "did not include highly specialized species or rheophilic forms", but one must beg to differ. True, *Haliplus ruficollis* (De Geer), *Peltodytes caesus* (Duftschmid), Noterus *clavicornis* (De Geer), *Hyphydrus ovatus* (L.), and *Donacia crassipes* Fab. are not that specialist and the species identified to genus only, *Cybister*, *Hygrotus*, *Ochthebius* and *Berosus*, cannot be assigned a specialism. But *Helophorus paraminutus* Angus, *Enochrus quadripunctatus* (Herbst), *Paracymus aeneus* (Germar) and, most of all, *Bagous argillaceus* Gyllenhal, together must characterise a rather special salty terrain.

GOLOVATYUK L V, NAZAROVA L B, KALIOUJNAIA I J & GREKOV I M 2025. Taxonomic composition and salinity tolerance of macrozoobenthos in small rivers of the southern arid zone of the East European plain. *Biology* **12** doi.org/10.3390/biology12091271.

FALLOW PADDYFIELDS AS RESERVES

Aquatic surrounds of paddy field are important for overwintering in water beetles (see ***Latissimus* 59** 20). Here it is shown that early summer is the best time for ploughing field as the reduced vegetation cover at this time is optimal for colonisation. This study includes an inventory of invertebrates associated with paddy fields in central Japan, with seven species of Hydrophilidae, two of Haliplidae and seven of Dytiscidae.

WATANABE R, KUBO S, FUKUOKA T, TAKAHASHI S, KOBAYASHI K, SAGAWA S & OHBA S-y 2025. Effects of early summer plowing on aquatic insects in fallow field biotopes. *Hydrobiologia* doi.org/10.1007/s10750-025-05949-4 pp. 22.

***LECONECTES* LARVA SUPPORTS THE DERONECTINA**

Description of the larva of the North American *Leconectes striatellus* (LeConte) and the subsequent cladistic re-analysis ratify the monophyly of the Deronectina and the validity of the genera *Deronectes* Sharp, *Deuteronectes* Guignot, *Hornectes* Fery & Ribera, *Nectoporus* Guignot, *Neonectes* Jack Balfour-Browne, *Oreodytes* Seidlitz, and *Scarodytes* des Gozis. *Scarodytes* and *Leconectes* are each monophyletic and in the lineage most adapted for swimming.

ALARIE Y & MICHAT M C 2025. Testing the monophyly of the subtribe Deronectina and the phylogenetic position of the Nearctic endemic genus *Leconectes* Fery & Ribera, 2018 (Coleoptera: Dytiscidae, Hydroporinae) based on larval morphology. *Zootaxa* **5646** 255-275.

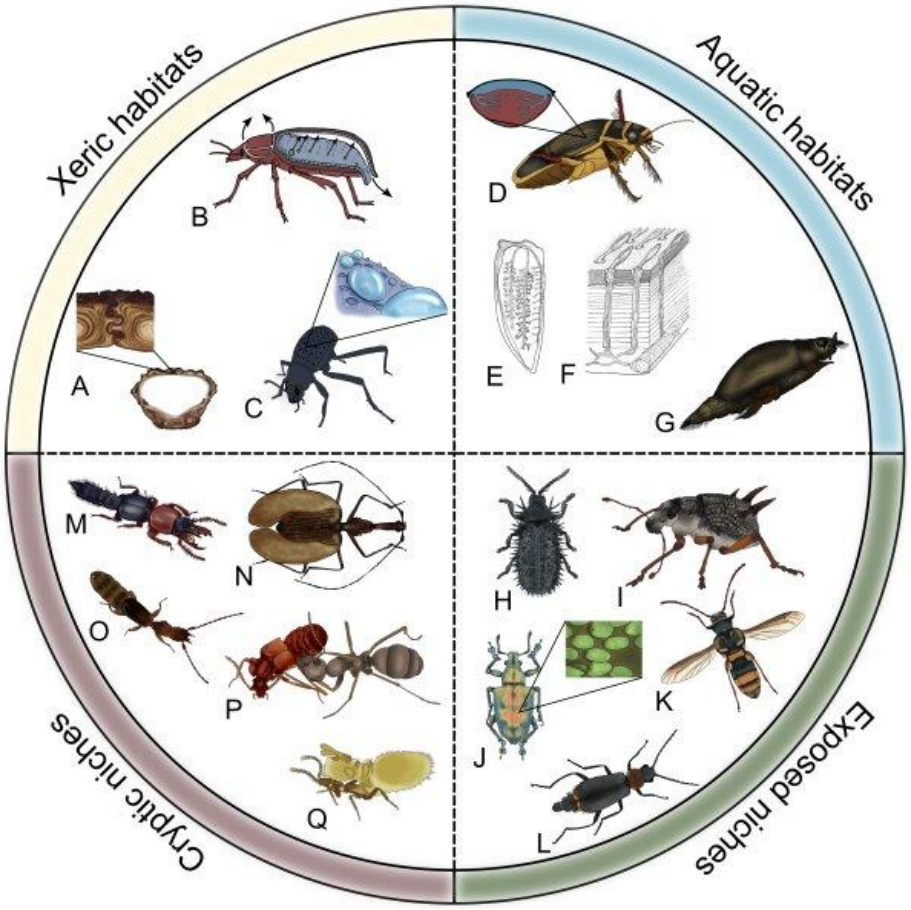
***HYDATICUS* VS ODONATES AS MOSQUITO PREDATORS**

The consumption rates of larval *Aedes albopictus* (Skuse) by adult *Hydaticus pacificus* Aubé and nymphs of three odonate species were compared under laboratory conditions. The beetles, at 25-60 larvae per day, performed better than the odonates and are also known to be better than some mosquito-eating fish. The correspondent is Darren Yeo.

CHOO M Z J, LOW B W & YEO D C J 2021. Predaceous diving beetles: a potential alternative mosquito biocontrol agent to dragonflies. *Journal of Vector Ecology* **46** 226-229.

ROLE OF ELYTRA IN THE MOST SPECTACULAR RADIATION ON EARTH

The authors critically re-examine the longheld belief that the development of the fore wings into elytra to protect the rear ones was the key innovation underpinning the success of beetles, now with an estimated 440,000 extant species (see Goczal *et al*. 2024). Similar developments in other groups did not result in such success. Rather, radiations in beetles followed on secondary modifications of the elytra, allowing the exploitation of a wider range of habitats than the original wood-related niches.



Examples of exploitation of four habitat types are displayed here. Water is top right, a diving beetle with a cross-section of its subelytral cavity filled with air and the intraelytral trachea of *Deronectes aubei* (Mulsant), a cross-section of its elytron showing the tracheole's penetration (see Kehl and Dettner, 2009), also a whirligig to show the exposed abdomen used as a rudder. The other habitats go beyond the remit of ***Latissimus*** and should be seen in the original paper - for example, B is the diabolical ironclad *Phloeodes diabolicus* (LeConte) with its elytra fused to provide an airtight chamber and K is a wasp-mimic longhorn. Thanks to Jakub Goczal and to Georgia Cowie, Journal Officer, for permission to use the figure.

GOCZAL J, BEUTEL R G, GIMMEL ML & KUNDRATA R 2024. When a key innovation becomes redundant: patterns, drivers and consequences of elytral reduction in Coleoptera. *Systematic Entomology* **49** 193-220.

GOCZAŁ J, BEUTEL R G & GORB S 2025. Formation of beetle elytra and the most spectacular animal radiation in the history of Earth. *Zoological Journal of the Linnean Society* **204** doi.org/10.1093/zoolinnean/zlaf102 pp. 12.

KEHL S & DETTNER K 2009. Surviving submerged. Setal tracheal gills for gas exchange in adult rheophilic diving beetles. *Journal of Morphology* **270** 1348-1355.

SAPROXYLIC WATER BEETLES IN POLAND

The authors point out how submerged wood decomposes so slowly compared to that on dry land, providing a rich source of nutrients for any species that can adapt to the environment. This is an entertaining review of four Polish beetles dependent on wet wood - *Macronychus quadituberculatus* (Műller), *Potamophilus acuminatus* (Fab.), *Pomatinus substriatus* (Műller), and *Prionocyphon serricornis* (Műller), covering most aspects of the life as well as their distribution within Poland. Perhaps they might consider adding *Dryops* species, where the wireworm-like larvae alone suggest as association with wood even if the actual association has rarely been recorded.

Photographs mainly by Krzystof Lubecki include studies of the *Potamophilus* larva which can be seen unfolding and moving its branchial tubes at the rear.

GREŃ C, LUBECKI K & RUTA R 2025. Saproxylic water beetles of Poland. *Rocznik Muzeum Górnośląkiego Bytomiu Przyroda* **31** 1-41.

PELTOCERCYON

Peltocercyon is a sphaeridiine genus of Asia. In this paper it is redefined genetically on the basis of five nuclear DNA fragments and three mitochondrial ones, together with morphological features, in particular the form of the metaventrite. There are two lineages defined by DNA. It includes seventeen species of which nine are newly described. All known *Peltocercyon* inhabit decaying organic material. By hydrophilid standards some of these beetles are beautiful and the diversity within the genus is a beautiful phenomenon too. The fine structure is interesting too, For example *P. basirugosus* Mai, Jia, Ryndevich, Angus & Fikáček not only celebrates such an international team but also has coarse punctures on the outside part of the metaventrite as to be seen in *Cercyon lateralis* (Marsham). It also has a wrinkled front edge to the first abdominal ventrite.

MAI Z, JIA F, RYNDEVICH S K, ANGUS R, MINOSHIMA Y N, FIKÁČEK M & RŮŽIČKA J 2025. Taxonomic Revision and Phylogeny of the Genus *Peltocercyon* d'Orchymont, 1925 (Coleoptera: Hydrophilidae: Megasternini). *Zootaxa* **5671** doi: 10.11646/zootaxa.5671.1.1 pp. 74.

ICE-HOLES

Learning that the giant waterbug *Lethocerus americanus* (Leidy) could be found in holes drilled in the ice, this was researched as a method for finding insects in ice-covered ponds in Nova Scotia. The traps were modifications of the usual bottle or minnow trap driven vertically through the ice and held in place by coat hanger wire and snow. Over 1,300 specimens of at least 45 species in 17 families were captured. This included seven species of whirligig, three haliplids, fourteen diving beetles and the hydrophilid *Tropisternus mixtus* (LeConte). There is then a discussion about life under the ice in the "hypopagea". Thanks go to Yves Alarie for sending this paper.

LAUFF R F, DAUT L, DiRUBIO M, McLAUGHLIN G, ALARIE Y, CHORDAS S & TAYLOR B R 2025. The hypopagea: an unexplored habitat for winter-active insects. *Aquatic Insects* **46** 94-109.

TAXONOMIC TROLLING AND AN OLD FRIEND

The summer's issue of *The Biologist* brings an article about some who might be classified as vandals. As Naish says after describing the ICZN "this system would work fine if everyone was ethical and sensible, employed high standards and lacked the urge to mock, display contempt for or usurp the work of their colleagues. However, a few individuals ... have not acted in ethical, sensible ways. They have - according to their peers - vandalised the field of taxonomy." The article continues "In 2006 a letter signed by more than 120 researchers was sent to Utrecht University about the chaos one of its researchers was causing to beetle taxonomy. His work throughout the 1990s and 2000s was of particular concern - on top of allegedly poor scholarship and a failure to cite previous literature, the bulk of the species and genera he named have been shown to be synonyms of previously named beetles. The university denied any association with the (mostly self-published) publications of the researchers in question, who then took to sending disgusting emails to a number of taxonomists". We join the editors of *The Biologist* in cowardly not naming the person concerned but it may help to show the cited reference, *pace* Manfred.

NAISH D 2025. Taxonomic trolling. *The Biologist* **72** 26-30.

JÄCH M A 2007. Vandalism in taxonomy. *Koleopterologische Rundschau* **77** 38.

***QUEDA* ENIGMATIC NO LONGER**

David Sharp (1882) said about *Queda* ..."When fully known I think it probable the departure from *Hydrovatus* will be found very decided", further noting similarities to *Pachydrus*. Here the authors note the many opinions about the position and constitution of the Hydrovatini. The third instar larva of what appears to be *Q. hydrovatoides* Zimmermann is described from the Iberá wetlands in Argentina. Two larval head characters support the monophyly of the Hydrovatini including both *Queda* and *Hydrovatus*.

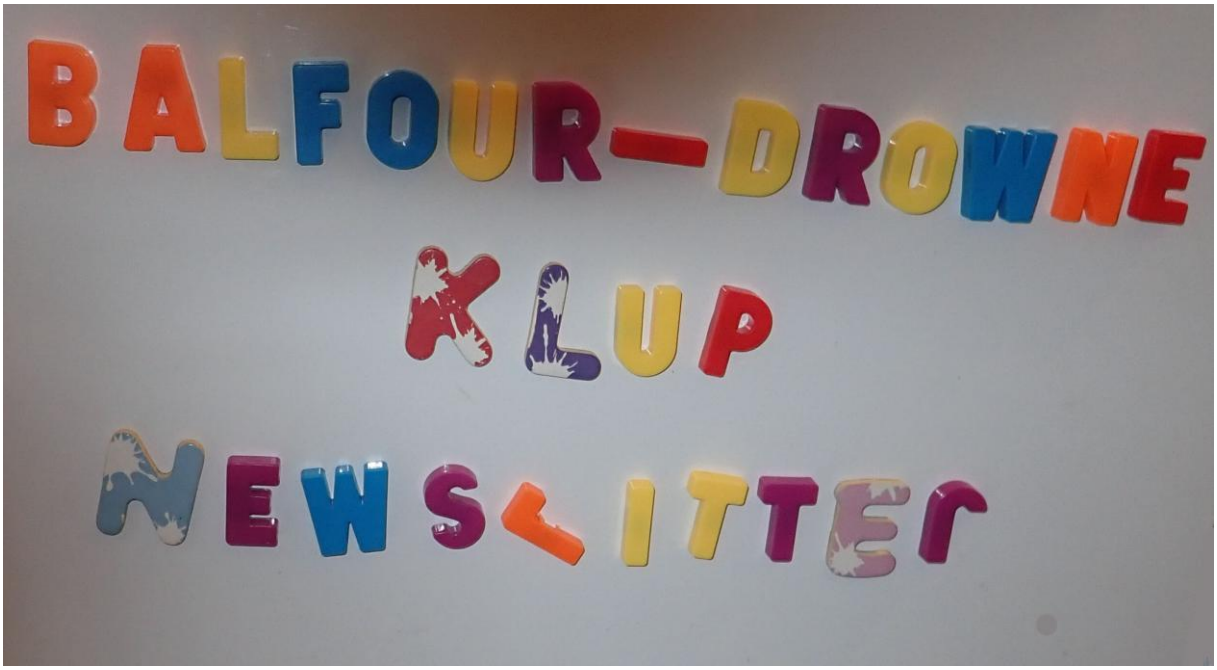
MICHAT M C, ALARIE Y, BENETTI C J, URCOLA J I, RODRIGUEZ G & TORRES P L M 2025. Larval morphology of the enigmatic genus *Queda* Sharp, 1882 supports monophyly of Hydrovatini (Coleoptera, Dytiscidae*). Arthropod Systematics & Phylogeny* **83** 303-314.

GB & IRELAND ATLAS

There is a plan to produce an **Atlas 4**, mainly maps of all British and Irish water beetles, in so doing generating a unified data-base of the old Recorder data, subsequent Excel files and iRecord/INaturalist. If you have records not yet copied to GNF or to iRecord now is the time.

CLUB MEETING 2026 IN IRELAND

A meeting is being planned for May 2026 based provisionally in Carrick-on-Shannon, Co Leitrim in NW of Ireland (53.9436, -8.0954). Carrick not only sits on the Shannon, Ireland's longest river but is in the middle of the drumlin belt that runs east to west across this part of Ireland. Drumlins are the small hills of glacial material and the hollows between them typically contain small lakes or wetlands. Most have barely been looked at from water beetle perspective. There are also turloughs (seasonal lakes on limestone) and large limestone lakes like Lough Gara and Lough Arrow rich in *Donacia* species. And then there are uplands (in an Irish sense!) which really should have species like *Boreonectes multilineatus* and *Agabus arcticus*, neither of which is yet on the list for county Leitrim. Carrick is the main centre for cruising on the Shannon/Erne system and lies about 2 hours north-west of Dublin Airport and 2.5 hours from Belfast. It is also served by trains from Dublin and the coach network. More details to be arranged but if you are interested contact Brian Nelson (bnsentomologybrian@gmail.com).



Latissimus is the newsletter of the Balfour-Browne Club

***Latissimus* 60** was produced in August 2025

This is the version of 29 August, updating an earlier draft

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