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Front and rear covers: *Hydrobius arcticus* Kuwert, taken by Barend van Maanen at Låktatjåkka **LÅ1** (see page 6).
Photographs: Arno van Berge Henegouwen

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

WATER BEETLES RECORDED AT THE BALFOUR-BROWNE CLUB MIDSUMMER CAMP AT ABISKO IN 2019

Anders N. Nilsson, Johannes Bergsten, David Bilton, Jan Cuppen, Gert van Ee, Folke Gabrielsson, Joja Geijer, Lars Hendrich, Jonas Köhler, Wenfei Liao, Barend van Maanen, Helena Shaverdo, Oscar Vorst & Garth N. Foster

The Abisko Science Station, viewed from the Torneträsk Lake looking towards Lapporten, "the Lapponian Gate", a classic U-shaped hanging valley.
Photograph: Barend van Maanen

The Balfour-Browne Club held its annual meeting 2019 at Abisko in northernmost Sweden over the Midsummer weekend 21-23 June. The meeting was attended by 22 participants representing nine different countries (Anonymous 2019). Collecting was intense. There is not much else to do in pouring rain with strong winds, when dancing around the midsummer pole is already done with. As some attendants had prolonged their visit to the north, species records span the period 14 to 27 June. Geographically the material has a focus on the Abisko area, with excursions reaching westwards to Låktatjåkka, 8 km E of the Norwegian border, and eastwards to Paksuniemi, about 20 km E of Kiruna. Whereas Abisko is in the subalpine region with birch forest, collecting was extended to alpine areas above the treeline, as well as to lower regions within the coniferous taiga region. All records are from the faunistic province of Torne Lappmark representing the northernmost part of Swedish Lapland. The administrative county is Norrbotten ("län"), with Kiruna ("kommun") the largest and northernmost municipality in Sweden.

The records here reported on represent the joint efforts of fourteen people; initials and personal names including: (AN) Anders Nilsson, (BM) Barend van Maanen, (DB) David Bilton, (FG) Folke Gabrielsson, (GE) Gert van Ee, (GF) Garth Foster, (HS)

Helena Shaverdo, (JB) Johannes Bergsten, (JC) Jan Cuppen, (JG) Joja Geijer, (JK) Jonas Köhler, (LH) Lars Hendrich, (OV) Oscar Vorst, and (WL) Wenfei Liao.

Individual species lists were processed by the first author in order to delimit and name localities in a standardised way. This means that some detail is lost in order to make data more compact. Whereas most collectors have provided information on the number of specimens kept at each locality, other have only listed the species names. In the latter case, the first author has assumed only a single specimen per species kept. Consequently, the number of specimens given has to be viewed as relative and not absolute values. Collecting was chiefly carried out with the hand net or sieve, whereas Lars Hendrich also used bottle traps at some localities.

Abisko

The Abisko area at the shore of the large Torneträsk Lake is faunistically rather well investigated, largely thanks to the railway, built in 1902 and electrified in 1915, and that early on opened up the area for visitors. Part of the area formed a National Park in 1909 and the Science Station was opened in 1912. The accessibility of the area was increased further in 1984 when the 160 km long E10 road between Kiruna and Narvik was opened.

Abisko beetle faunistics were put on a firm basis from two early works by Lars Brundin (1931; 1934). An overview of the beetle fauna of the National Park was followed by Brundin's more extensive dissertation *Die Coleopteren des Torneträskgebietes*. Brundin later switched to chironomids and became one of the founding fathers of phylogenetic biogeography. Water beetle records for the whole region have been covered by Nilsson (1984; 1987) and Nilsson & Persson (1989).

Current knowledge of Swedish beetle faunistics is presented in the online database Artportalen (2020), also including a catalogue of county records of all species. One should note that the database is not fully comprehensive as there are collectors who have not entered their records so far. Also, many of the older literature records have not been added. There is also a competing recording system based on the BeetleBase platform. Nevertheless, the Artportalen catalogue of county species records gives a fair view of distributions as currently known. Taxonomically, Artportalen is linked to the *Dyntaxa* database.

Localities

Thirty-five localities were searched in ten different areas. Some terms may be unfamiliar to readers. An **aapa** bog is a mire complex in which the central part is minerotrophic while the periphery and the edges of any streams running through it have vegetation reflecting any additional enrichment. These will have **strings**, which are long hummocky ridges, with flatter areas known as **flarks** between them. A **palsa** fen is based on a giant hummock containing a permafrost core. if these lose their insulation in a hot summer or by growing too high they collapse down to a rim sometimes enclosing a pool – and we have been guilty in the past (and still) of calling them pingo fens, which have a slightly different origin, albeit under permafrost conditions.

For each locality we present here: name and habitat, latitude and longitude in decimal degrees, date or dates, and initials of collectors

AB1 Abisko bog and bag.
Photograph: Gert van Ee

AB5 Abisko bog lake.
Photograph: Lars Hendrich

***Abisko* AB**

AB1 Bog area and ponds, N68.348-55 E18.834-49, 22.vi, AN BM GE JK OV

AB2 Research Station, mixed smaller habitats, N68.353-55 E18.807-15, 21-24.vi, BM GE HS JC LH WL

AB3 Research Station, a forest pond 1 km to the SW, N68.344 E18.817, 21.vi, HS

AB4 Research Station, a small stream W to the SW, N68.354-55 E18.806-07, 21.vi, AN DB FG HS JC LH

AB5 Abisko Östra, bog lake 700m to the SE, N68.343 E18.818, 21.vi, LH

AB6 Bajip Njahkajavre, lake margin, N68.338 E18.817, 20.vi, AN

AB7 Bajip Njahkajavre, NE of, big pond, N68.344 E18.818, 20-21.vi, AN DB JG WL [AB5 and AB7 are very close together]

AB8 Torneträsk, lake margin and pools, N68.355-62 E18.801-23, 20-24.vi, BM FG GE HS JC JG JK LH OV WL.

***Björkliden* BL**

BL1 Roadside pools, N68.384 E18.738, 355m asl, 20.vi, HS

BL2 Golf course ponds, N68.407-09 E18.670, 520m asl, 20-23.vi, AN BM DB FG GE GF JC JK OV WL

BL3 Alpine lake and ponds, N68.410-13 E18.658-63, 550m asl, DB BM GE GF HS JB JC OV.

BL2 One of the golf course ponds with Wenfei Liao. Photograph: Anders Nilsson

***Björkstugan* BS**

BS1 Ponds and pools N of main road, N68.430-31 E18.396-97, 430m asl, 23.vi, AN GE GF JC WL

BS2 Alpine small lakes, N68.435 E18.414-16, 480 m asl, 23.vi, BM DB HS JK OV.

***Kaisepakte* KA**

KA1 River mouth Torneträsk, N68.304 E19.231, 24.vi, GE JC.

***Kiruna* KI**

KI1 Bogdanofftjärnen small lake, N67.866 E20.259, 16.vi, LH

KI2 Karhuniemenjänkkä marsh, N67.886 E20.215, 14.vi, LH

KI3 Krokvik, small lake, N67.977 E20.043, 21.vi, GF

KI4 Lokstallarna, 500-750m NW of, wetland, N67.878 E20.174-82, 20.vi, LH

KI5 Luossavaara, sedge marsh, N67.887, E20.263-68, 25.vi, OV

KI6 Màttàràhkkà Lodge, W of, N67.883 E20.157, 17.vi, LH bottle traps

KI7 Maunovuoma, bog lake, N67.979 E19.948, 21.vi, LH bottle traps

KI8 Nukutusvaara, lake, N67.890 E20.261, 25.vi, BM GE JC

KI9 Sakkaravaara, trench and seepage, N67.892 E20.314, 25.vi, BM JC OV.

***Kopparåsen* KO**

KO1 Springfed bog pond, N68.433 E18.512, 20.vi, AN FG WL.

***Kurravaara* KU**

KU1 Rautasälven river and pools, N67.953-54 E20.292, 26.vi, BM GE

KU2 Aapa bog and pond, N67.958-63 E20.280-82, 26.vi, BM GE OV

KU3 Rautasälven river, N67.972 E20.276, 26.vi, OV.

KU1 Kurravaara, Rautasälven river. Photograph: Barend van Maanen

***Låktatjåkka* LÅ**

LÅ1 Oxbow ponds and small brooklets near river, N68.425-26 E18.300-01, 23.vi, BM DB FG GE GF HS JC JG OV WL

LÅ2 Alpine ponds, N68.426 E18.301, 23.vi, AN BM DB JG JK OV.

LA2 Låktatjåkka. Photograph: Barend van Maanen

***Paksuniemi* PA**

PA1 Reindeer dung, N67.812 E20.652, 27.vi, OV

PA2 Marshy forest and stream, N67.813 E20.652-53, 27.vi, OV

PA3 Peat pools and ditch, N67.816 E20.661, 27.vi, GE

PA4 5 km SW of Paksuniemi, aapa bog, road pool and small stream, 67.793-802 E20.624-37, 27.vi, GE OV.

***Stordalen* ST**

ST1 Miellejohka, palsa fen, N68.349 E18.969, 22.vi, GF (see ***Latissimus* 44** 10)

ST2 Central part, mixed habitats, N68.023-354 E19.041-48, 22.vi, AN BM DB FG GE GF HS JC JG JK LH OV WL

ST3 East part, bog lake and marsh, N68.335 E19.138, 20.vi, LH.

Species records

For each species records are presented as locality code: number of individuals, followed within square brackets by: number of collectors, number of localities, number of individuals, and mean rank (min. 1, max. 85). Eighty-five species were recorded, and the total number of specimens collected was 5,656. The only three sphaeridiine hydrophilids found were in reindeer dung. We support dung-living Sphaeridiinae because no-one else does!

Dytiscidae
Acilius canaliculatus (Nicolai) AB7:2, BL2:1 [2-2-3-22.3].
Acilius sulcatus (L.) AB7:1, BL2:2, ST3:5 [3-3-8-30.2].
Agabus adpressus Aubé AB1:4, AB4:24, AB8:1, ST2:3 [9-4-32-50.8].
Agabus affinis (Paykull) KI1:13, KU2:7 [3-2-20-31.7].
Agabus arcticus (Paykull) AB3:1, AB5:40, AB7:16, AB8:5, BL2:1, BL3:51, BS1:3, BS2:7, KI1:3, KI6:5, KI7:4, KI8:9, KO1:5, LÅ1:4, LÅ2:9, ST2:4, ST3:61 [14-17-233-78.3].
Agabus bipustulatus (L.): BL1:1, BL2:2, BS1:8, KI9:1, KO1:1, LÅ1:1, LÅ2:1 [8-7-15-48.5].
Agabus confinis (Gyllenhal) AB1:1, AB2:1, AB4:5, AB5:6, AB8:2, BS1:1, KA1:1, KI3:2, KI4:212, KI6:8, KI7:1, KI9:25, KO1:1, KU1:1, LÅ1:12, LÅ2:4, PA4:1, ST2:28, ST3:1 [11-19-289-74.8].
Agabus discolor Hellén KI6:2 [1-1-2-10.0]
Agabus elongatus (Gyllenhal) KI4:4, KU2:3, LÅ1:1, ST2:6, ST3:1 [8-5-15-46.7].
Agabus guttatus (Paykull) AB1:6, AB2:1, AB4:13, BL1:1, KO1:1, KU1:1, LÅ1:1, PA2:3, ST2:1 [10-9-28-57.5].
Agabus lapponicus (Thomson) AB1:5, AB2:28, AB4:3, AB5:10, AB7:16, AB8:4, BL1:1, BL2:34, BL3:29, BS1:19, BS2:39, KI3:5, KI4:364, KI6:9, KI7:9, KO1:12, KU1:2, LÅ1:12, LÅ2:44, PA2:2, PA3:7, ST1:5, ST2:88, ST3:17 [12-24-764-82.0].
Agabus melanarius Aubé KI5:2, KO1:2, LÅ1:1 [4-3-5-33.0].
Agabus serricornis (Paykull) AB3:1, AB5:3, AB7:2, BS2:6, KI1:1, KI6:5, ST2:1, ST3:12 [8-8-41-55.8].
Agabus setulosus (Sahlberg) AB4:31 [5-1-31-33.3].
Agabus sturmii (Gyllenhal) K17:1 [1-1-1-8.5]
Agabus thomsoni (Sahlberg) AB1:8, AB2:7, AB5:5, AB7:2, AB8:2, BL1:1, BL2:10, BL3:4, BS1:12, KI4:10, KI6:5, KO1:4, LÅ1:6, LÅ2:4, PA2:1 [11-15-81-70.3].
Agabus zetterstedti Thomson BL3:10, BS1:2, BS2:19, ST2:2 [8-4-33-49.2].
Boreonectes multilineatus (Falkenström) BL2:17, BL3:22 [7-2-39-42.7].
Colymbetes dolabratus (Paykull) AB3:1, AB5:1, BL1:1, BL2:5, BL3:9, BS2:4, LÅ1:2, LÅ2:22 [10-8-45-59.5].
Colymbetes paykulli Erichson AB1:2, AB3:1, AB5:3, BL2:3, BS1:5, BS2:4, KI4:5, KI5:1, KO1:1, KU1:1, KU2:1, LÅ1:8, LÅ2:18, ST1:5, ST2:1 [9-15-59-66.0].
Dytiscus circumcinctus Ahrens KI6:1 [1-1-1-8.5].
Dytiscus lapponicus Gyllenhal AB3:1, AB5:2, AB7:14, KI6:2, LÅ1:1, LÅ2:10 [8-6-30-50.7].
Graphoderus zonatus (Hoppe) AB7:2, KU2:1 [3-2-3-25.3].
Hydrocolus sahlbergi Nilsson BS1:1, KI4:1, KI9:2, PA2:2 [3-4-6-33.8].
Hydroporus acutangulus Sturm AB1:1, AB8:1, BL3:1, BS1:86, ST2:4 [5-5-93-53.0].
Hydroporus brevis Sahlberg AB8:4, KI9:14, KU2:1, LÅ1:2, ST2:35, ST3:4 [10-6-60-59.8].
Hydroporus erythrocephalus (L.) AB3:1, AB7:1, BL2:5, BL3:2, KI4:1, KI5:1, ST2:3, ST3:1 [7-8-15-48.2].
Hydroporus fuscipennis Schaum AB3:1, BL2:2, KO1:1 [3-3-4-29.8].
Hydroporus geniculatus (Thomson) AB5:13, AB8:5, BL2:65, BL3:13, BS1:9, BS2:14, KI4:1, KI7:1, LÅ1:5, ST2:1 [12-10-127-72.3].
Hydroporus glabriusculus Aubé AB8:1, ST2:1 [2-2-2-20.5].
Hydroporus incognitus Sharp BL2:4, BL3:1, BS2:1, KI1:8, KI4:8, KI7:2, KI9:1, LÅ1:3, ST2:24 [5-9-52-54.7].

Hydroporus lapponum (Gyllenhal) AB1:2, AB2:4, AB5:5, AB6:1, AB7:3, BL3:8, BS1:5, BS2:9, KI2:1, KI4:57, KI5:1, KI7:1, KO1:1, LÅ1:83, LÅ2:41, ST2:20 [14-16-242-80.0].
Hydroporus longicornis Sharp AB1:1, KI2:1, KI4:16, KI9:35, LÅ1:1 [6-5-54-51.3].
Hydroporus melanarius Sturm AB2:1, BS1:14, KI4:8, KI9:1, KO1:3, KU2:7, LÅ1:2, LÅ2:1, PA3:3, PA4:2, ST2:13 [11-11-55-66.5].
Hydroporus memnonius Nicolai AB1:2, AB2:17, AB4:3, AB7:1, AB8:1, KI9:1, KO1:13, KU1:2, LÅ1:5, LÅ2:1, PA2:9, ST2:74 [12-12-129-73.7].
Hydroporus morio Aubé AB1:14, AB2:96, AB7:1, AB8:1, BL1:1, BL2:1, BL3:1, BS1:6, BS2:38, KI4:110, KU2:4, LÅ1:2, PA3:5, PA4:4, ST1:5, ST2:122, ST3:5 [11-17-417-77.8].
Hydroporus nigrita (Fabricius) BL2:13, BL3:4, BS2:2, KI4:6, LÅ1:8, LÅ2:5, PA2:3 [11-7-41-59.7].
Hydroporus obscurus Sturm AB3:1, AB5:2, AB7:3, BL3:20, BS2:23, KI2:1, KI4:6, KU1:1, KU2:44, LÅ1:2, LÅ2:3, PA4:7, ST2:18, ST3:10 [12-14-141-74.7].
Hydroporus palustris (L.) AB2:6, AB5:4, AB7:6, AB8:3, BL2:11, BL3:10, BS1:2, BS2:4, KI8:2, KI9:1, KO1:1, KU1:2, LÅ1:20, LÅ2:11, ST2:6 [13-15-89-74.3].
Hydroporus puberulus LeConte ST3:6 [1-1-6-15.8].
Hydroporus semenowi Jakovlev BL3:1 [1-1-1-8.5].
Hydroporus striola (Gyllenhal) AB1:17, AB2:1, AB3:1, AB7:5, AB8:14, BL2:34, BL3:16, BS1:4, BS2:14, KI1:9, KI2:15, KI3:2, KI4:11, KI5:24, KI7:3, KI8:1, KO1:1, KU1:1, KU2:1, LÅ1:92, LÅ2:23, PA3:10, ST1:5, ST2:70, ST3:1 [14-25-375-83.7].
Hydroporus submuticus Thomson KI4:2, KO1:1 [2-2-3-22.3].
Hydroporus tristis (Paykull) AB2:1, AB7:1, AB8:2, BS1:2, BS2:28, KI2:1, KI4:10, KI5:4, KO1:7, KU2:8, PA3:50, ST1:5, ST2:38, ST3:5 [10-14-162-70.8].
Hydroporus umbrosus (Gyllenhal) AB3:1, AB7:3, AB8:1, KI1:63, KI2:16, KI3:1, KU2:4, PA4:2, ST2:3, ST3:12 [8-10-106-64.0].
Ilybius aenescens Thomson AB7:5, BL2:1, BS1:1, BS2:5, KU2:5, ST3:1 [8-6-18-48.8].
Ilybius angustior (Gyllenhal) AB1:28, AB2:3, AB4:1, AB5:1, AB7:11, BL2:23, BL3:12, BS2:19, KI1:2, KI3:2, KI4:141, KI6:3, KO1:6, KU2:3, LÅ1:8, LÅ2:9, PA3:1, ST2:49, ST3:1 [13-19-323-80.8].
Ilybius crassus Thomson AB4:1, BL2:2, BL3:3, BS1:3, BS2:7, KI7:4, KO1:5, LÅ1:2, LÅ2:12 [11-9-39-62.2].
Ilybius erichsoni (Gemminger & de Harold) AB1:1, AB5:6, AB7:3, BL2:22, BL3:4, BS1:7, BS2:7, PA3:2, ST2:1, ST3:2 [11-10-55-65.8].
Ilybius guttiger (Gyllenhal) AB7:1 [1-1-1-8.5].
Ilybius opacus (Aubé) LÅ1:2, PA3:2, PA4:1, ST3:1 [5-4-6-37.8].
Ilybius picipes (Kirby) AB1:27, AB2:1, AB4:1, AB5:1, BL2:6, BL3:17, BS1:7, BS2:5, KI1:3, KI2:1, KI3:1, KI4:223, KI5:2, KI7:20, KO1:1, KU1:4, LÅ1:10, LÅ2:17, ST1:5, ST2:20, ST3:18 [13-21-390-82.3].
Ilybius subaeneus Erichson AB1:1, AB7:1, LÅ2:1 [2-3-3-25.5].
Ilybius wasastjernae (Sahlberg) ST2:3 [3-1-3-19.8].
Ilybius vittiger (Gyllenhal) AB5:4, KI4:40, KI9:5, KO1:1, KU2:14, PA2:8, PA3:2, ST2:21 [9-8-95-62.8].
Nebrioporus depressus (Fab.) KI8:1 [1-1-1-8.5].
Oreodytes alpinus (Paykull) AB8:3, KA1:5, KU1:1 [3-3-9-32.7].
Nectoporus sanmarkii (Sahlberg) AB8:41 [8-1-57-42.2].
Platambus maculatus (L.) AB5:4, KI8:1, KU3:1 [2-2-5-24.3].
Rhantus exsoletus (Forster) KI7:5, ST3:4 [1-2-9-22.5].

Rhantus suturellus (Harris) AB1:6, AB3:1, AB8:1, BL1:1, BL2:3, BL3:13, BS2:10, KI2:2, KI4:3, KI6:6, KI7:3, KO1:1, KU1:1, KU2:5, LÅ1:4, LÅ2:14, PA3:2, PA4:5, ST2:2, ST3:12 [11-20-95-73.8].

Gyrinidae
Gyrinus minutus Fab. AB3:1, BL3:1, BS2:2, KI6:6 [4-4-10-38.2].
Gyrinus opacus Sahlberg AB7:1, BL2:30, BL3:2, KI3:5, LÅ1:1, LÅ2:5, ST2:1, ST3:6 [12-8-51-64.3].

Haliplidae
Haliplus fulvus (Fab.) KI8:31 [3-1-31-29.3].

Helophoridae
Helophorus flavipes Fab. BS1:3, PA4:16 [3-2-19-33.2].
Helophorus glacialis Villa & Villa AB8:4, BL2:30, BL3:1, LÅ2:3 [6-4-38-46.8].
Helophorus lapponicus Thomson BL2:4, BS1:6 [4-2-10-32.7].
Helophorus nanus Sturm AB7:1 [1-1-1-8.5].
Helophorus sibiricus Motschulsky AB8:2, BL2:10, BL3:3, KU1:3 [6-4-18-43.3].
Helophorus strandi Angus BL2:1 [1-1-1-8.5].

Hydraenidae
Hydraena britteni Joy KI6:1, KI9:16 [4-2-17-34.5].

Hydrophilidae
Anacaena lutescens (Stephens) LÅ2:1 [1-1-1-8.5].
Cercyon lateralis (Marsham) PA1:2 [1-1-2-11.0].
Enochrus affinis (Thunberg) KU2:4, PA3:1 [3-2-5-25.3].
Enochrus ochropterus (Marsham) KU2:2 [2-1-2-15.0].
Hydrobius arcticus Kuwert AB1:4, AB2:10, AB3:1, AB5:20, AB6:1, BL2:10, BL3:11, KI4:15, KI7:1, LÅ1:21, LÅ2:25, ST1:5, ST2:24, ST3:7 [11-14-155-72.7].
Hydrobius fuscipes (L.) AB5:12, BL2:24, KI1:8, KI2:8, KI4:18, KU1:1, KU2:37, PA4:9 [8-8-117-61.7].
Laccobius minutus (L.) KI5:3, KI6:5, KI8:63, KU1:1 [5-4-72-50.2].
Megasternum concinnum (Marsham) BL2:1, LÅ2:2 [1-2-3-18.3].
Megasternum immaculatum (Stephens) BL2:1, KI9:4, PA1:6 [2-3-11-30.8].

Scirtidae
Contacyphon pubescens (Fab.) BL2:1 [1-1-1-8.5].
Contacyphon variabilis (Thunberg) AB1:5, AB8:2, BS2:1, KI3:2, KI5:2, KU2:3, PA4:3, ST2:1 [3-8-19-43.8].

Chrysomelidae
Donacia aquatica (L.) KI3:1 [1-1-1-8.5].
Donacia obscura Gyllenhal PA4: 1 [1-1-1-8.5]
Plateumaris discolor (Panzer) PA4: 3 [1-3-12.8]

Three genera at the top
As is typical for more northern regions, the dytiscid dominance in our water beetle material is heavy with 60 out of 80 species recorded belonging to this family. Among the diving beetles, the three genera *Agabus*, *Hydroporus* and *Ilybius* together have 46 species, leaving little room for the others.

Rarities and ubiquists
When looking at the species rank values based on how many collected them at how many sites and in which numbers, the top six commonest species are: (1) *Hydroporus striola*, (2) *Ilybius picipes*, (3) *Agabus lapponicus*, (4) *Ilybius angustior*, (5) *Agabus arcticus*, and (6) *Hydroporus lapponum*. Many of the northern species really have a stronghold this far north. It is notable that the species-pair *I. angustior*/*picipes* was very common. However, it might be that the difficulty of separating them in the field created an urge to put many of them in the tubes.

Ten species were found only in a single individual. Excluding the scirtid and the *Donacia*, it can be noted that some of the southern “trash” species like *Agabus sturmii*, *Anacaena lutescens*, and *Ilybius guttiger* here belonged to the rarities. Lars Hendrich’s record of *A. sturmii* from a small Kiruna lake is seemingly also the first from the Torne Lappmark province. Of the northern rarities *Helophorus strandi*, *Hydroporus semenowi* and *Agabus discolor* can be mentioned.

What we did not get
The material collected gives a good idea of the water beetle fauna of the studied part of Swedish Lapland. However, a few of the species recorded by Brundin (1934) were not refound by us. *Hydroporus rufifrons* (Müller) and *Agabus labiatus* (Brahm) were both found by Brundin in two ponds near the Torneträsk railway station, not visited by us. He also recorded *Hydroporus notabilis* LeConte (as *arcticus* Thomson), a species reported to overwinter only as larvae and thus not present as adults in early summer. The same reason could explain our failure to find *Agabus fuscipennis* (Paykull). Wirén’s 1968 record of *H. notatus* Sturm from Abisko is interesting as we could not rediscover this species in the area. Moreover, we did not find any *Hygrotus*, although Nilsson and Persson (1989) listed both *H. marklini* (Gyllenhal) and *H. novemlineatus* (Stephens). Lundblad (1950) collected *marklini* in the alpine region of Luopakte (Luobakti) together with *A. labiatus*.

We didn’t find any elmids, although Nilsson (1984) reported *Elmis aenea* (Müller) from Abisko. It was the same with *Limnebius truncatellus* (Thunberg) as *Hydraena britteni* Joy was our only hydraenid.

Within the genus *Agabus*, the separation of *lapponicus* and *thomsoni* caused some problems owing to the presence of specimens of intermediate size. Moreover, it cannot be ruled out that *A. congener* (Thunberg) also occurs in our material, as suggested by Barend and others. It seems that a more detailed study of the entire material collected of this complex is needed before any firm conclusions can be drawn and the separation of the species made with any confidence. Adding some molecular data would most likely be a good idea as previous morphometric studies suggest some overlap in the morphological characters used so far.

Hydrobius
The meeting’s target species *Hydrobius arcticus* turned out to be an easy catch, found at 14 localities with more than 150 individuals collected. Especially, in the Abisko area it was the commonest and often also the only hydrophilid at a specific site. Its congeneric mate *H. fuscipes* was markedly less common, and in the Abisko area chiefly found in the golf course ponds at the Björkliden hotel. Specimens found in this survey were used in the analysis by Sergey Ryndevich *et al*. (2020).

Nutrients needed
It is surely rather annoying that the golf course ponds at the Björkliden hotel turned out to be real hotspots, including also the man-made ponds higher up on the slope

where most likely sand had been taken for the construction. In a landscape so rich in smaller aquatic habitats, it seems that good spots are still not very common due to dominance of acid water of low productivity. Exposing fresh mineral substrate in combination with adding nutrients for the grass is one way of creating the high productivity ponds preferred by many water beetles. The corresponding natural ponds seem to be those with a large amplitude, creating nutrient pulses due to seasonally dried out bottoms, like pond no. 7 in the Abisko valley.

Other interesting habitats are provided by the many smaller streams passing flatter areas, like the small stream west of the Abisko Research Station with species like *Agabus adpressus* and *A. setulosus*. This fauna was documented by Lundberg and Müller (1977) using drift nets in an adjacent stream. As we observed both at Låktatjåkka and Stordalen, this kind of stream experiences strong floods in connection with the frequent rain storms, which can make collection difficult.

BS2 Björkliden, with Helena Shaverdo. Photograph: Clive Turner

Observations on parasitisation by trematodes

Two dytiscids were found to be full of trematode eggs when dissected to extract genitalia. These were a male *Agabus confinis* at K13 and a female *Ilybius picipes* at BL3. The eggs strongly resembled those of *Allocreadium neotenicum* Peters (see Bray *et al*. 2012), a trematode found in *Agabus melanarius* and *Hydroporus rufifrons* in England, and subsequently identified by matching DNA-sequencing from pea mussels, *Pisidium casertanum* (Poli), in Norway (Petkvičiūtė *et al*. 2018) as well being known from other dytiscids.

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www.artportalen.se

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NILSSON A N & PERSSON S 1989. The distribution of predaceous diving beetles (Coleoptera: Noteridae, Dytiscidae) in Sweden. *Entomologica Basiliensia* **13** 59-146.
PALM T 1949: Ett exempel på anemohydrochor insektspridning vid Torne träsk. *Entomologisk Tidskrift* **70** 65-74.
PETKEVIČIŪTĖ R, STUNŽĖNAS V, ZHOKHOV A E, PODDUBNAYA L G & STANEVIČIŪTĖ G 2018. Diversity and phylogenetic relationships of European species of *Crepidostomum* Braun, 1900 (Trematoda: Allocreadiidae) based on rDNA, with special reference to *Crepidostomum oschmarini* Zhokhov & Pugacheva, 1998. *Parasites & Vectors* **11** (530) 17 pp.
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WIRÉN E 1968. Några svenska *Hydroporus*-arter (Col. Dytiscidae). Mit Beschreibung von *Hydroporus eljasi* n. sp. *Opuscula Entomologica* **33** 114-118

October 2020

HYDROPHILID CHROMOSOMES – MAJOR UPDATE

This review more than doubles the number of karyotypes known from the Hydrophiloidea to 33 genera and 95 species covering all the subfamilies and tribes. Most groups are diploid with XY and XX chromosomes, the male Y chromosome being dot-like, not recombining during meiosis. Exceptions occur in *Anacaena*, with parthenogenetic diploid or triploid populations in some populations and sex chromosomes fused with ordinary chromosomes in others. The formula is $2n = 18$ overall, but *Hydrochara* and *Hydrophilus* have $2n = 30$. The number of chromosomes in the subfamily Cyclominae is $2n = 24\text{-}30$ and in all clades of the Sphaeridiinae it is $2n = 22\text{-}32$. The methods of obtaining karyotypes, with and without colchicine, are described. There are good illustrations too. The correspondent is Martin Fikáček.

ANGUS R B, SADÍLEK D, SHAARAWI F, DOLLIMORE H, LIU H-C, SEIDEL M, SÝKORA V & FIKÁČEK M 2020. Karyotypes of water scavenger beetles (Coleoptera: Hydrophilidae): new data and review of published records. *Zoological Journal of the Linnean Society* **190** 1-40.

AUSTRALIAN *GIBBIDESSUS*

Genetic analysis confirms *Gibbidessus* diversifying from a centre in peat swamps and wetlands of south-west Australia. These tiny diving beetles live in very shallow parts of wetlands. The photographs show that most are associated with sedges but the habitat of *G. rottnestensis* (top right) is chosen here by virtue of the scenic nature of this site on Rottnest Island. A key is provided for eight species, six of which are new to science. At 1.1 mm long *G. atomus* is the smallest diving beetle known above the ground in Australia – it (bottom right) looks remarkably like *Bidessus unistriatus* (Goeze). Thanks to Lars for access to the imagery.

HENDRICH L, WATTS C H S & BALKE M 2020. The "minute diving beetles" of southern Australia – taxonomic revision of *Gibbidessus* Watts, 1978, with description of six new species (Coleoptera, Dytiscidae, Bidessini). *ZooKeys* **975** 11-49.

TAJIKISTAN

Ninety-nine species of water beetles are known from Tajikistan – 27 Dytiscidae, 9 Helophoridae, 1 Spercheidae, 35 Hydrophilidae, 14 Hydraenidae, 3 Elmidae, 8 Heteroceridae, 2 Scirtidae. *Berosus fulvus* Kuwert and *Heterocerus fusculus fusculus* Kiesenwetter are here recorded for the first time. The paper also refers to *Enochrus ochropterus* Marsham but Alexey has scored this out in the copy on circulation, changing it to *Enochrus* (*Methydrus*) sp. Manfred Jäch has recently (pers. comm. to GNF) commented on the difficulty of *Enochrus* and there being no-one specialising in them. This paper also covers other interesting species such as *Helophorus* (*Transithelophorus*) *beibienkoi* Angus [right] and *Laccobius* (*Compsolaccobius*) *pallidissimus* Reitter.

SAZHNEV A S 2020. Additional data to the fauna of water beetles (Coleoptera) of Tajikistan. *Entomological and parasitological investigations in Volga region* **17** 34-38.

HETEROCERIDAE IN EXTREMIS

Heterocerids are morphologically and ecologically distinct and yet they have been able to colonise some extreme semiaquatic habitats in extreme places. In support it is noted that a "*Heterocerus* sp." had a critical thermal maximum of around 50 ºC (Franken, O. & Bero, M.P. (compilers) 2018. Entomofauna van de Noord-Hollandse duinen. *Entomologische Berichten* **78** 42-69 - surely someone in Amsterdam University could have contacted a local coleopterist to get a full identification?) Four species are known north of the Arctic Circle, the most extreme being *Augyles intermedius* (Kiesenwetter) on the Bolshezemelskaya tundra at 68.3º North. *Heterocerus fenestratus* (Thunberg) has been found to 53.1º South in Patagonia, where it was originally described as *subantarcticus* Trémouilles. Heterocerids are not known from Greenland, the Antarctic and most Pacific islands, but endemic species, some yet to be described, are known from New Zealand, Fiji, the Galapagos, St Helena, Japan, Sakhalin and the Kuril Islands. Heterocerids occupy many coastal beaches. The evolution of the group is discussed on the basis of origin on the shores of the Tethyan Sea in the Oligocene. Heterocerids are not good mountaineers. The altitude record is held by *Augyles flavidus* (Rossi) at up to 3,800 metres above sea level in Kyrgyzstan. The most successful and ecologically adaptable *H. fenestratus* reaches the Tsaidam saltmarshes at 2,600-2,900 m asl in China.

The second paper deals with amendments to the 2016 catalogue for Russia and adjacent countries, and adds about 68 new country records for 29 species. The third paper concerns light trap catches of five species - *A. interhispidulus* (Charpentier), *H. fenestratus*, *H. fossor* Kiesenwetter, *H. fusculus* Kiesenwetter and *H. obsoletus* (Curtis) – in Khakassia, Siberia.

SAZHNEV A S 2020. Beetles of the family Heteroceridae (Insecta: Coleoptera) in extreme environments. *Ecosystem Transformation* **3** 22–31. doi: 10.23859/estr-200323a

SAZHNEV A S 2020. Variegated mud-loving beetles (Heteroceridae) of Russia and adjacent countries: additions and corrections to the Catalogue of Palaearctic Coleoptera, Volume 3 (2016). *Zootaxa* **4810** 368-374.

SAZHNEV A S & DRAGAN S V 2020. New data on the fauna of Heteroceridae (Coleoptera) of the Republic of Khakassia (Eastern Siberia). *Acta Biologica Sibirica* **6** 399-406.

SIBERIAN LISTS

Kemerovo is in Western Siberia. Thirty-one species of hydrophilid are listed in the first paper, with new records mainly by the second author, and earlier records by Sergey Ryndevich (***Latissimus*** **16** 17-20). The list includes eleven species of *Helophorus*, including *H. aspericollis* Angus and *H. barbarae* Angus, plus *H. discrepans* Rey new for the Asian part of Russia. *Cryptopleurum crenatum* (Kugelann) is also new for the area, and *Cercyon ustulatus* (Preyssler) is confirmed for Western Siberia. Four species are illustrated.

The second paper lists eight scirtid species from Kemerovo, including *Elodes triscuspis* Nyholm and *Microcara testacea* (L.) new for Asia. The female of a species of *Contacyphon* near to *C. laevipennis* (Tournier) is illustrated, but it awaits males before being given a name.

LITOVKIN S V & EFIMOV D A 2017. The marsh beetles (Coleoptera: Scirtidae) of Kemerovo Region, Russia. *Far Eastern Entomologist* **338** 16-20.

LITOVKIN S V & EFIMOV D A 2020. Beetles of the superfamily Hydrophiloidea of Kemerovo area. *Russian Entomological Journal* **29** 61-68.

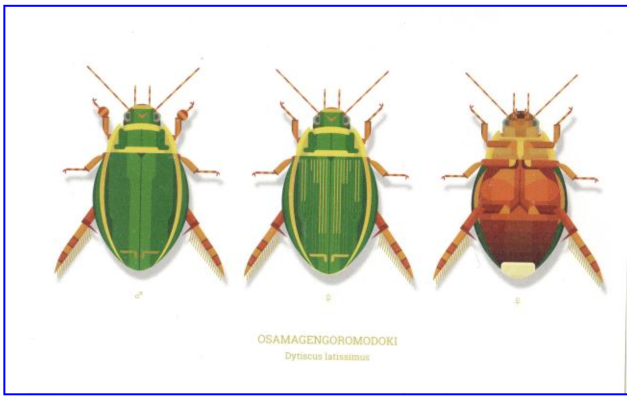
-JAPANESE HANDBOOK STARTS THIS JAPANESE SECTION

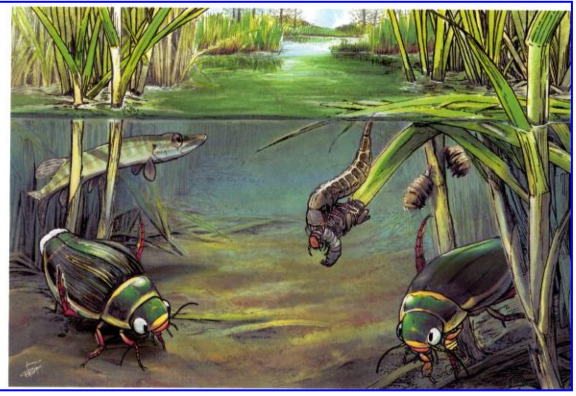
📖 MITAMURA T, HIRASAWA K & YOSHII S 2017. *The Handbook of Japanese aquatic insect. Volume 1: Coleoptera.* Bun-ichi Co. Ltd. ISBN 978-4-8299-8152-1. About ¥1900, £14, €15, $US18).

This is a genuine handbook, only 18 × 11 cm, in which 160 species and one subspecies of Hydradephaga and Hydrophiloidea, plus two Hydraenidae are depicted, including many larvae and some pupae. Each page is crammed with pictorial information, so the inability to read Japanese is not that important if one can match a specimen to a photograph and then work it back to a page containing the Latin name. The example page right is for *Laccophilus vagepictus*. You did know that the *Laccophilus* pupa is green, didn't you? Thanks go to Kei Hirasawa for the gift of this book for the Library.

PIN BADGES The Handbook came along with some pin badges for Aquamarine.

THERE WERE ALSO SOME POSTCARDS





….of which these are two examples. Question – why does the non-Japanese *Dytiscus latissimus* L. feature on a Japanese postcard? Read on.

***DYTISCUS LATISSIMUS* BREEDING IN JAPAN**

This is a follow-up to the visit to Latgale Municipal Zoo reported in ***Latissimus* 45**. Specimens sent by Valery to Japan were successfully reared and now feature in this remarkable display of living Japanese water beetles, the photograph being supplied by Kei Hirasawa.

The paper by Kohei Watanabe *et al*. has a great series of illustrations of the life-cycle of *latissimus*, here for example, showing a larva feeding on a *Limnephilus* caddis larva inside its case. The predation on ten different food items is compared for example being “very efficient” for all three instars on *Limnephilus*, and “extremely inefficient” for another caddis, *Eubasilissa regina* (McLachlan). First place must go to

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what appears at first sight (look carefully!) to be a young lady providing a logo for the paper*. *D. latissimus* is known as the King Dytiscid in Japan, hence the crown.

WATANABE K, HIRASAWA K & TOGASHI K 2020. [Challenges to the *ex situ* conservation of *Dytiscus latissimus* Linnaeus, 1758 (Coleoptera, Dytiscidae) in Japan. *Sayabane* **39** 1-7. [in Japanese]

*as illustrated by Agro Bio

MORE ON DYTISCID BREEDING

The illustrations of the development of *Acilius kishii* and *Hydaticus satoi* should provide some insights even if you cannot read Japanese.

WATANABE K, SUDO M &FUKUOMI H 2017. Efficient breeding method of diving beetles for *ex situ* conservation – focusing on *Acilius kishii* Nakane, 1963. *Sayabane* **27** 6- 12 [in Japanese]

WATANABE K & KATO M 2017. Reproductive ecology of *Hydaticus satoi* Wewalka, 1975 under rearing conditions. *Sayabane* **25** 36-41 [in Japanese]

LIFE CYCLE STUDIES OF JAPANESE *COPELATUS*

Laboratory rearing established the duration of the life cycle of *C. masculinus* as: eggs up to 7 days, instar I 2-7 days, II 5-15 days, III 11-19 days, pupation 12-27 days. However, one third instar larva lived on dry land for up to 56 days, indicating that they could survive in this way during drought. Earlier observations on *C. parallelus* indicated a lengthier development – eggs up to 7 days, I 2-43 days, II 3-23 days, III 5-56 days, pupation 4-6 days. Again, the third instar larva could live on dry land, inc this case for up to 46 days. Newly emerged adults remained in their cells, uncoloured, for up to 68 days. All of this points to adaptations to life in sites that dry up unexpectedly.

WATANABE K, HAYASHI M & KATO M 2017. Immature stages and reproductive ecology of *Copelatus parallelus* Zimmermann, 1920 (Coleoptera, Dytiscidae). *Elytra*, *Tokyo* **7** 361-374.

WATANABE K & HAYASHI M 2019. Reproductive ecology and immature stages of *Copelatus masculinus* Régimbart, 1899 (Coleoptera, Dytiscidae). *Elytra*, *Tokyo* **9** 269-278.

FAR EAST *HYDROVATUS* STUDIES

The *Hydrovatus* fauna of the Ryukyus has been found to comprise seven species, which do not include *H. subtilis* Sharp, the name incorrectly applied to four species, including *H. remotus*, the new species described in the 2017 paper. The sole specimen of *H. japonicus*, sex unstated, found in 1916, was found in Hokkaido University and was identified as *H. subrotundatus*, a species widely distributed in the Oriental region. As *H. japonicus* it would have been rated Globally Extinct, but even as *subrotundatus* should be considered Regionally Extinct.

H. remotus and *H. stridulus* Biström are newly recorded from Taiwan.

BISTRÖM O & WATANABE K 2017. A new species of the genus *Hydrovatus* (Coleoptera, Dytiscidae) from Iriomote Island, southwestern Japan, with a key to the Japanese species. *Elytra, Tokyo* **7** 5-13.

WATANABE K, LIU H-C, MITAMURA T & YOSHI S 2018. New distributional records of dytiscid beetles (Coleoptera, Dytiscidae) from Taiwan. *Elytra, Tokyo* **8** 429-430.

WATANABE K & BISTRÖM O 2020. *Hydrovatus japonicus* Takizawa, 1933, a new synonym of *Hydrovatus subrotundatus* Motschulsky, 1860 (Coleoptera: Dytiscidae). *Japanese Journal of Systematic Entomology* **26** 119-120.

WATANABE K, INAHATA N & BISTRÖM O 2020. A distributional review of the genus *Hydrovatus* (Coleoptera: Dytiscidae) from the Ryukyus, southwestern Japan. *Japanese Journal of Systematic Entomology* **26** 111-118.

HELOPHORUS AURICULATUS LIFE CYCLE & CONSERVATION

Gephelophorus Sharp is a subgenus of *Helophorus* with two known species, *H. auriculatus* Sharp in Far East Asia and the Holarctic *H. sibiricus* (Motschulsky). The egg-case and larvae are described in the first paper in detail, and this is only the third *Helophorus* for which the pupa has been described. The second paper concerns the life history in relation to the beetle's conservation. This species is classified as Endangered on the Japanese Red List. It lives in shallow wetlands, in particular in paddy fields, where it reproduces from autumn to spring, development from oviposition to adult emergence taking about four months. The main conclusion is that paddy fields should be flooded from the autumn during the rice fallow season.

MINOSHIMA Y N & WATANABE R 2020. Morphology of immature stages of *Helophorus* (*Gephelophorus*) *auriculatus* (Coleoptera, Helophoridae). *Acta Entomologica Musei Nationalis Pragae* **60** 319-332.

WATANABE R, MATSUSHIMA R & YODA G 2020. Life history of the endangered Japanese aquatic beetle *Helophorus auriculatus* (Coleoptera: Helophoridae) and implications for its conservation. *Journal of Insect Conservation* **24** 603-611.

SWIMMING POOLS IN JAPAN

Cybister tripunctatus lateralis (Fab.) is on the Japanese Red List and yet it features as one of the insects found in school swimming pools along with *Eretes griseus* (L.).

OHBA S-Y, MURAKAMI R, WATANABE R & JUN B 2019. Factors affecting a fauna of aquatic insects in swimming pools of schools in the southern part of Nagasaki, Japan. *Japanese Journal of Applied Entomology and Zoology* **63** 163-173. [in Japanese with summary in English]

JAPANESE AQUATIC GUIDE

📖 NAKAJIMA J, HAYASHI M, ISHIDAK, KITANO T & YOSHITOMI H 2020. Aquatic Coleoptera and Hemiptera of Japan. Tokyo: Bun-ichi Sogo Shuppan. ISBN 978-4-8299-8411-6. about ¥5,500, £40, $US52, €44.

In the 1970s I remember Jack Balfour-Browne rhapsodising over a new book (Nakane *et al*. 1975) that claimed to have colour photographs of all Japanese beetles, a remarkable feat in those days even though colour imagery was scarcely a recent invention. Here we have the state of the art in 2020 for aquatic beetles, but it has proved difficult to obtain and I need to resort to Manfred Jäch's review in **KR90**, no bad thing as this will make this review so much more authoritative. He reckoned that Nakajima *et al.* is the first comprehensive work on the water beetles of Japan. This book covers 485 species of wetland beetle as well as over a hundred bug species but it does not include terrestrial hydrophilids. Each species gets one or more live photos, a brief description, and distributional information in Japan but not many maps. Information on whether species are at risk is limited to some Hydradephaga. Other photographs cover some habitats as well living larvae and the eggs and pupa of *Peltodytes intermedius* (Sharp). Manfred was particularly taken with live photographs of the two tiny, subterranean, blind *Phreatodytes* species as well as the *Ochthebius granulosus* Jäch & Delgado, densely packed into a small rock crevice on a reef, obviously in anticipation of the next tide. Manfred notes that the Japanese Dryopidae now includes *Dryops nitidulus* (Heer), found recently and obviously introduced from Europe. The other families, i.e. the "shore beetles" (Limnichidae, Heteroceridae, etc.) and those families in which only the larvae are aquatic, are only treated by a limited number of examples. The scirtids are species-rich in Japan, but need much more research. At 0.7 mm long, the single *Sphaerius* species, from Honshu and Shikoku, is awaiting recognition as a new species. From a European point of view, the Japanese Lampyridae and Ptilodactylidae are worth mentioning, as some have aquatic larvae. The Torridincolidae (larvae, pupae and adults aquatic) do not exist in Europe but, on the other hand, the Hydroscaphidae, Hygrobiidae and the aquatic Platypsyllinae (Leptinidae) are absent from Japan. The Spercheidae have only been recorded in Japan since 2019. A taxonomic picture key (Coleoptera: pp. 292–329) concludes this very interesting book, which is unfortunately only available in Japanese. Manfred's review concludes with reference to outlets which do not seem to work in the UK, but you may have better luck elsewhere.

NAKANE T, OHBAYASHI K, NOMURA S & KUROSAWA Y. 1975. *Iconographia Insectorum Japonicorum Colore* naturali edita. Volume 2 (Coleoptera). Tokyo: Hokuryu-kan Publishing Co. Ltd.

DYTISCID ATTACKS HAIRWORM

The title of the paper covers it well, the observation having taken place in a paddy field at night.

WATANABE R 2019. Field observation of predation on a horsehair worm (Gordioida: Chordodidae) by a diving beetle larva *Cybister brevis* Aubé (Coleoptera: Dytiscidae). *Entomological Science* **22** 230-232.

COELOSTOMA BHUTANICUM **IN JAPAN**

This species gets a Japanese name (Minami-semaru-gamushi) on its discovery in Okinawa. Its confusion with *C. stultum* (Walker) was recognised when it was recorded from Taiwan (Liu *et al*. 2020; ***Latissimus*** **46** 4). The aedeagi of the two species are depicted.

LIU H-C, HU F-S & FIKÁČEK M 2020. Review of the genus *Coelostoma* of Taiwan with description of a new species (Coleoptera: Hydrophilidae). *Acta Entomologica Musei Nationalis Pragae* **60** 155-162.

WATANABE K & MINOSHIMA Y N 2020. First record of *Coelostoma bhutanicum* Jayaswal, 1972 (Coleoptera: Hydrophilidae) from Japan. *Japanese Journal of Systematic Entomology* **26** 151-152.

JAPANESE *CHAETARTHRIA*

There is only one representative of the tribe Chaetarthriini in Japan, and *C. saundersi* is it, with this paper concerning its second record.

WATANABE K 2019. A new distributional record of *Chaetarthria saundersi* d'Orchymont, 1923 (Coleoptera, Hydrophilidae). *Elytra*, *Tokyo* **9** 289-290.

NEW OBSERVATIONS ON *LACCOPHILUS*

The principal new observation is, of course, a new species, *L. yoshitomii* Watanabe & Kamite, closely related to *L. kobensis* Sharp. A key is given to the six species of the *kobensis* species group. Even more original than a new species are some of the observations on the life cycle of *Laccophilus*. Eggs of *L. difficilis* Sharp have been observed being laid into *Blyxa japonica* (Miquel), a member of the Hydrocharitaceae. Eggs of *nakajimai* could not be found in this study of it life cycle. Development times were:- instar I 6-14 days, II 3-7 days, III 6-14 days, pupation 8-12 days. Pupal chambers were made at the highest point available in the soil. It is proposed that this selection is a strategy to survive ”Tsuyu”, the rainy season in which water levels might flood pupation chambers any lower down.

WATANABE K & KAMITE Y 2018. A new species of the genus *Laccophilus* (Coleoptera, Dytiscidae) from Japan. *Elytra*, *Tokyo* **8** 417-427.

WATANABE K 2019. Ecological notes on *Laccophilus nakajimai* Kamite, Hikida et Satô, 2005 (Coleoptera, Dytiscidae). *Elytra*, *Tokyo* **9** 279-283.

NEW JAPANESE *HYDRAENA*

Hydraena obaei is described and keyed from within the *Hydraena notsui* group. The authors inspirationally dissected females and found that three individuals each carried only one mature egg, hardly surprising as the beetles are only about 1.5 mm long and the eggs are 0.8 mm long!.

HAYASHI M & YOSHITOMI H 2020. A new species of *Hydraena* from Kagawa Prefecture, Shikoku, Japan (Coleoptera: Hydraenidae). *Japanese Journal of Systematic Entomology* **26** 99-105.

OREODYTES KANOI **LARVAE AND PUPA**

O. kanoi belongs to the *Oreodytes alpinus* group. It and *O. alpinus* (Paykull) are known from Japan, *O. kanoi* being an endemic. The pupation site is described as being in mounds built by larvae under flat stones on the river bank. The larvae of eight species of *Oreodytes* are currently known.

OKADA R & ALARIE Y 2020. Description of the immature stages of the endangered Japanese endemic *Oreodytes kanoi* (Kamiya, 1938) (Coleoptera: Dytiscidae: Hydroporinae) and comparison with the known larvae of *Oreodytes* Seidlitz, 1887. *Zootaxa* **4820** 1-18.

PADDY FIELDS NEED FROGS

….but not in the way you might think. *Hydaticus bowringii* Clark is classed as Near Threatened in Japan, where it lives in paddy fields. Its larvae feed on the tadpoles of five species of frog, and occasionally on insects, oligochaete worms and small fish. Experimentally reared larvae grew faster when fed tadpoles than when fed nymphs of water boatmen or a mixture of both types of prey. More larvae emerged as adults when tadpoles were included in the diet and those adults were larger than those derived from larvae fed corixids. On top of that the phenologies of the beetle and the frogs are suitable for an abundance of prey to be available at the right time. Declines in abundance of frogs can be linked to *H. bowringii* being under threat. And, by the way, you also get rice!

WATANABE R, OHBA S-Y & YOKOI T 2020. Feeding habits of the endangered Japanese diving beetle *Hydaticus bowringii* (Coleoptera: Dytiscidae) larvae in paddy fields and implications for its conservation. *European Journal of Entomology* **117** 430-441.

***HYPHYDRUS* LARVA A SPECIALIST COPEPOD PREDATOR**

The projection of the *Hyphydrus* larva's head is used with vertical movements of the mandibles to capture copepods and to get between the valves to extract food.

HAYASHI M & OHBA S-Y 2018. Mouth morphology of the diving beetle *Hyphydrus japonicus* (Dytiscidae: Hydroporinae) is specialized for predation on seed shrimps. *Biological Journal of the Linnean Society* **125** 315-320.

ROCKPOOL *OCHTHEBIUS* RADIATION

The idea used to be that these rockpool *Ochthebius* could freely move around the Atlantic and Mediterranean, but it has become apparent that each archipelago and section of mainland coast may have its own species. Genetic analysis of the subgenus *Cobalius* has demonstrated this biodiversity. Four new species are described: *O. anzar* from south Morocco, *O. evae* from further north in Morocco and from the Mediterranean coast of Spain, *O. gorgadensis* from Ilha de Santiago in the Cape Verde archipelago, and *O. cortomaltese* from Malta. Molecular phylogeny of all known species revealed three clades:- 1. *O. serratus* Rosenhauer as sister to the newly defined *O. algicola* group, which include *O. algicola* Wollaston from Madeira, *O. freyi* d'Orchymont from the Azores, *O. lanthanus* Ribera & Foster from Gran Canaria and Lanzarote, *O. balfourbrownei* Jäch and *O. gorgadensis* from Cape Verde; 2. *O. anzar* as sister to the newly defined *O. biltoni* group, with *O. biltoni* Jäch & Delgado from Sicily, *O. evae* and *O. cortomaltese*; 3. the newly defined *O. lejolisii* group, with *O. lejolisii* Mulsant & Rey from Morocco to the Orkneys, *O. subinteger* Mulsant & Rey in the western Mediterranean, and from the Central and Eastern Mediterranean, *O. adriaticus* Reitter and its subspecies, *O. celatus* Jäch and *O. asper* Sahlberg, the latter resurrected as a valid species. Despite the deep differences genetically there is a lot of morphological variation, so, if you collect insects but do not analyse their DNA, you will have to have faith when naming them!

VILLASTRIGO A, HERNANDO C, MILLÁN A & RIBERA I 2020. The neglected diversity of the *Ochthebius* fauna from Eastern Atlantic and Central and Western Mediterranean coastal rockpools. *Organisms, Diversity & Evolution* doi.org/10.1007/s13127-020-00463-y

STENELMIS KOREANA MORE THAN KOREAN

Stenelmis koreana is newly recorded from Kyrgyzstan and Western Siberia, having previously been thought to be limited to Korea and the Russian Far East. Identification of a specimen from was Kyrgyzstan was confirmed by DNA sequencing. The site is interesting for a novel form of conservation, the River Imjin being close by the Demilitarized Zone. The correspondent is Branka Bruvo-Mađarić and the photographer was Dr Sang Woo Jung.

LITOVKIN S V, BRUVO-MAĐARIĆ B, JÄCH M A, JUNG S W & EFIMOV D A 2019. *Stenelmis koreana* Satô, 1978 (Coleoptera: Elmidae): confirmed as a wide-spread species by DNA-sequencing. *Zootaxa* **4651** 596-600.

KOREAN WATER PENNIES

The Korean representatives of the Psephenidae comprise four species split between four subfamilies in four genera. *Homoeogenus coreanicum* is newly described. Adult psephenids were usually collected by sweeping or with a light trap set next to a stream, whereas females of the new species were normally collected by netting in the water. The larva of the new species is narrower than most psephenids and cannot be called penny-shaped. The correspondent is Yeon Jae Bae.

JUNG S W, JÄCH M A & BAE Y J 2020. Review of the water penny beetles (Coleoptera: Psephenidae) of the Korean Peninsula based on morphology and mitochondrial cytochrome c oxidase subunit I gene sequences. *Journal of Asia-Pacific Biodiversity* **13** 13-23.

SPIDER BEETLES (*ANCYRONYX*)

Thirty-four species of these black and yellow elmids are now known, 12 species confined to Sulawesi and 11 to the Philippines. The new species *clisteri* is depicted here courtesy of Manfred Jäch. There are two more or less distinct colour forms of the largest (2.4-2.8 mm) member of the genus, *procerus* Jäch, the one with the lighter elytra being found in lower sites than the dark form. These forms cannot be distinguished by their DNA nor by any differences in the genitalia. This kind of phenomenon, presumably temperature-linked, has been previously observed in *Elmis maugetii* Latreille and *Ilamelmis foveicollis* (Grouvelle).

KODADA J, JÄCH M A, FREITAG H, ČIAMPOROVÁ-ZAŤOVIČOVÁ Z, GOFFOVÁ K, SELNEKOVIČ & ČIAMPOR F 2020. *Ancyronyx clisteri*, a new spider riffle beetle species from Borneo, redescription of *A. sarawacensis* Jäch including a description of the larva and new distribution data for *A. procerus* Jäch using DNA barcodes (Coleoptera, Elmidae). *ZooKeys* **912** 25-64.

NEW CAUCASIAN *HYDROPORUS* LANDED?

This beetle was found by Volker Assing when searching beech litter for staphs. The site is at just over 1,000 metres above sea level at Adjara. This is in general appearance a typical species of what we used to call the subgenus *Sternoporus*, except that the median lobe of the aedeagus is almost symmetrical. Its razor-like sharpness is responsible for the name. The beetle lacks swimming hairs and may well prove to be the first *Hydroporus* known to be terrestrial. Subsequent to publication attention was drawn to the similarity of *novacula* to *H. anatolicus koksali* Hájek & Fikáček 2010, described from Turkey. Hans is certain that *koksali* is not the same taxon as *novacula*, but at least it provides the opportunity to mention the earlier paper, which has not been reviewed before. In it, apart from recognition of the subspecies of *H. anatolicus* J. Balfour-Browne, a new subspecies of *bodemeyeri* Ganglbauer, *cariaensis*, is described from Turkey, the Albanian and Bulgarian *H. guignoti* Gschwendtner is recognised as another subspecies of *bodemeyeri*, the Cypriot *H. cuprescens* Miller & Fery is redescribed, and *H. kurdistanicus* is newly described from the Van province of Turkey. Canonical variate analysis was used to demonstrate differences in body size and shape in the *anatolicus-kurdistanicus* and the *bodemeyeri-cuprescens* groups.

FERY H 2020. *Hydroporus novacula* sp. n. from Georgia (Caucasus) (Coleoptera, Dytiscidae, Hydroporini) – the first terrestrial species of the genus? *Zootaxa* **4861** 290-296.

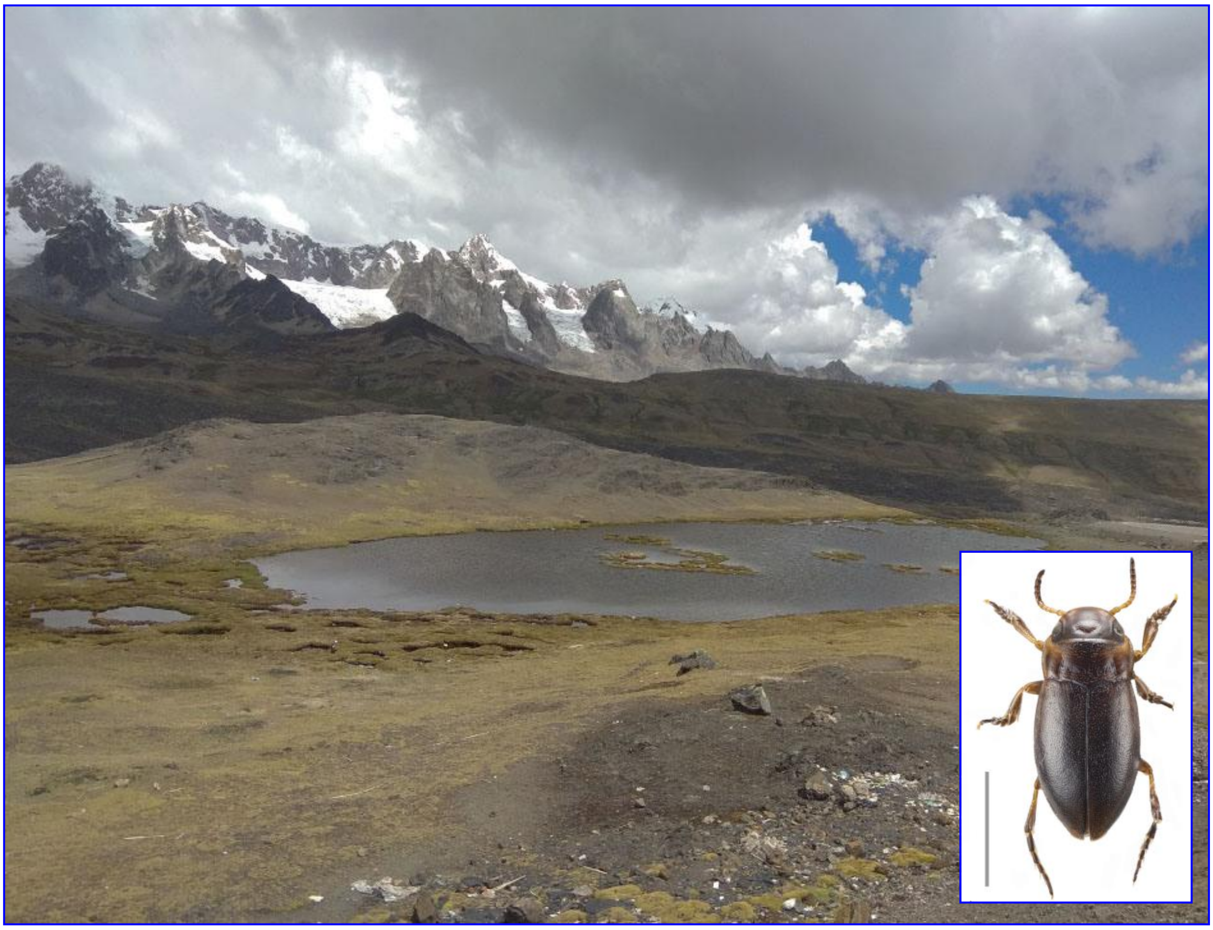
HÁJEK J & FIKÁČEK M 2010. Taxonomic revision of the *Hydroporus bodemeyeri* species complex (Coleoptera: Dytiscidae) with a geometric morphometric analysis of body shape within the group. *Journal of Natural History* **44** (27-28) 1631-1657.

GROUVELLINUS

With the four species newly described in this paper *Grouvellinus* Champion now has 47 known species. These elmids have a long keel down the middle of the pronotum.

BIAN D & JÄCH M A 2019. Revision of the species *Grouvellinus* Champion, 1923 (Coleoptera: Elmidae) with long median pronotal carina, including descriptions of four new species from China. *Zootaxa* **4586** 127-140.

MORE ANDEAN *LIODESSUS*



Four further species of these small diving beetles are described from 3,400 to 4,900 metres above sea level. *Liodessus thespesios* (above, with its habitat) described from Cusco at 4,353 m in Peru. Thanks to the authors for use of the images.

BALKE M, MEGNA Y S, ZENTENO N, FIGUEROA L & HENDRICH L 2020. New *Liodessus* species from the high Andes of Peru (Coleoptera: Dytiscidae, Bidessini). *Zootaxa* **4852** 151-165.

CARPATHIAN ELMID STUDY

Who would have thought that *Elmis aenea* Müller could be made interesting? This analysis is based on DNA analyses of 325 sequences of *E. aenea* and 269 of *L. perrisi* Dufour, mainly from the Western Carpathians. *E. aenea* was widely distributed in karst springs (31 sites) but less widespread in 16 streams. *L. perrisi* was the opposite, found in only eight springs, but ranging though 30 streams. Each elmid had one dominant haplotype, but *E. aenea* was significantly more diverse in the rest than *L. perrisi*. Further analysis suggests that the West Carpathian *E. aenea* started to expand about 3,000-2,500 years ago that *L. perrisi* expanded more sharply about 8,000 years ago. The latter coincided with the thermal maximum soon after glacial retreat, whereas springs were clearly important as stable sites for *E. aenea* during otherwise dramatic climatic changes. The correspondent is Zuzana Čiamporová Zaťovičová.

BOZÁŇOVÁ J, ČIAMPOROVÁ ZAT'OVIČOVÁ Z, ČIAMPOR F, MAMOS T & GRABOWSKI M 2020. The tale of springs and streams: how different aquatic ecosystems impacted the mtDNA population structure of two riffle beetles in the Western Carpathians. *PeerJ* doi.org/10.7717/peerj.10039 23 pp.

NOTES ON *GYRINUS NATATOR* (L., 1758) AND *G. SUBSTRIATUS* STEPHENS, 1828

Hans Fery

Recently I had the opportunity to study some Gyrinidae specimens from the Fabricius collection which were kindly sent in several boxes by Michael Kuhlmann (Zoological Museum of the University Kiel, Germany). One of the boxes contained two specimens standing under the joint name "*natator*" in the handwriting of Fabricius - see Fig. 1b. Both are males, one of them (Fig. 1a) provided with a label "*natator* L." handwritten by Georg Ochs (see Fig. 1b), who studied the Gyrinidae of the Fabricius collection in the second decade of the last century (Ochs, 1927). The other specimen was a *G. paykulli* Ochs, 1927, and it is not considered further here. Dorsal and ventral surfaces of the "*natator* L." were quite dirty, in part covered with dried-up fungal wefts/mycelia. After carefully cleaning parts of the elytra I found to my great surprise that the specimen had the diameter of the punctures of the elytral lines becoming distinctly smaller towards the suture (Figs 1a, 1c). In contrast *G. natator* has the diameter of the punctures more or less of equal size in all puncture lines (see Figs 2a, 2b; specimen from Kiuruvesi, Finland, leg. and coll. Fery). This was a first hint on the identity of the specimen – it should be a *G. substriatus*.

For a long time since, the identification of *Gyrinus natator* (L., 1758) and *Gyrinus substriatus* Stephens, 1828 has been said to be problematic. In particular, beginners have difficulties even if they use publications which contain figures of the male and female genitalia – features which are very helpful in most other species of the genus, e.g. Bameul (1985a, 1985b), Holmen (1987), Foster & Friday (2011). I must concede that I also feel unable to make reliable determination on the basis of the genitalia because in my experience their variability is too large (cf. the figures in Angus & Carr, 1982). Some authors also use the colour of the ventral surface – mesosternum and last abdominal ventrite yellowish or brownish in *G. substriatus* and blackish in *G. natator*. However, personally I don't trust much on colour, especially if the specimens are not freshly collected. It is worth mentioning that Ochs (1927) described several differences between both species, but he was not sure whether both are "good species" or only one a subspecies of the other.

In fact, the punctation of the elytra is a relatively safe character is (see above). However, I have seen specimens where a clear decision is impossible because the punctures near the suture are neither big, nor definitely small (see also the discussion about *G. substriatus* var. *oblitus* Sharp, 1914 in Angus & Carr, 1982). All these difficulties are not surprising if we consider that even in the year 1978 (Galewski & Tranda) the name *G. substriatus* was given as synonym of *G. natator* and the species treated under the name *G. mergus* Ahrens (see also Burakowski *et al.,* 1976, and Kowalik & Buczyński, 2003). And Robert Angus kindly communicated that the figures of the genitalia in Foster & Friday (2011: 16) are mixed up by mistake.

Even if I had wanted to compare the genitalia of the Fabrician specimen with illustrations in the publications mentioned above, I had to refrain from dissection to avoid the possibility of damaging the specimen. However, I remembered another character as given by Holmen (1987: 53) – the shape of the border of the pronotum in anterior half. Additionally, Jiří Hájek (Prague, Czech Republic) told me that it is also given in Galewski & Tranda (1978: 365, 367), but here both species are mixed up by mistake. Anyway, in both works this character is only badly illustrated and barely recognisable. It is much better figured in Foster & Friday (2011: p. 16, figs 29 and 33) and, finally, Garth Foster draw my attention to a work by Drost (2009: 138) in which this character is sufficiently illustrated; however, this work seems not to be known among the colleagues – I do not know of any publication where Drost's work is cited.

This is why it may be helpful to present further illustrations of the pronotum of both species and give some descriptive notes: the border of the pronotum is entirely inflected over its full length in *G. substriatus* (Figs 3a, 3b), whilst it is only very weakly inclined in the anterior part in *G. natator* (see Figs 4a, 4b). On first glance this structure looks like a lateral groove – complete in the former and distinctly abbreviated anteriorly in the latter. Angus and Carr (1982: 225) designated the lectotype of *G. natator* – a female, stored in the Linnean Society's collections in London (http://linnean-online.org/24751/) – and gave several details, but a description of the lateral parts of the pronotum is missing. It would be quite interesting to check this feature, but this seems to be impossible under Covid 19 restrictions.

References

ANGUS R B & CARR R 1982. *Gyrinus natator* (Linnaeus) and *G. substriatus* Stephens (Coleoptera: Gyrinidae) as British species. *Entomologist's Gazette* **33** 223–229.

BAMEUL F 1985a. Les *Gyrinus* de la faune de France (Col. Gyrinidae) (Première Partie). *L'Entomologiste* **41** (4) 191–199.

BAMEUL F 1985b. Les *Gyrinus* de la faune de France (Col. Gyrinidae) (Seconde Partie). *L'Entomologiste* **41** (5) 209–226.

BURAKOWSKI B, MROCZKOWSKI M & STEFANSKA J 1976. Catalogus faunae Poloniae, Coleoptera. *Polska Akademia Nauk* **23** (4) 1–307 [in Polish].

DROST B 2009. Notities over de Nederlandse status en de Europese verspreiding van *Gyrinus natator*, *G. colymbus* en *G. urinator* (Coleoptera: Gyrinidae). *Entomologische Berichten* **69** (4) 136–141.

FOSTER G N & FRIDAY L E 2011. Keys to adults of the water beetles of Britain and Ireland (Part 1) (Coleoptera: Hydradephaga: Gyrinidae, Haliplidae, Paelobiidae, Noteridae and Dytiscidae). *Handbooks for the identification of British insects* **4** (5) (2nd ed.). London: Royal Entomological Society.

GALEWSKI K & TRANDA E 1978. Chrząszcze (Coleoptera). Rodziny Plywakowate (Dytiscidae), Flisakowate (Haliplidae), Mokrzelicowate (Hygrobiidae), Krętakowate (Gyrinidae). *Fauna Slodkowodna Polski* **10** 1–396.

HOLMEN M 1987. The aquatic Adephaga (Coleoptera) of Fennoscandia and Denmark. I. Gyrinidae, Haliplidae, Hygrobiidae and Noteridae. *Fauna Entomologica Scandinavica* **20** 1–168.

KOWALIK W & BUCZYŃSKI P 2003. Beetles (Coleoptera) of saline waters from “Bogdanka” stone coal mine (south-eastern Poland). *Acta Agrophysica, Lublin* **1** (1) 115–121.

OCHS G 1927b. Über die Gyriniden von Linné und Fabricius. *Koleopterologische Rundschau* **13** (1) 34–42.

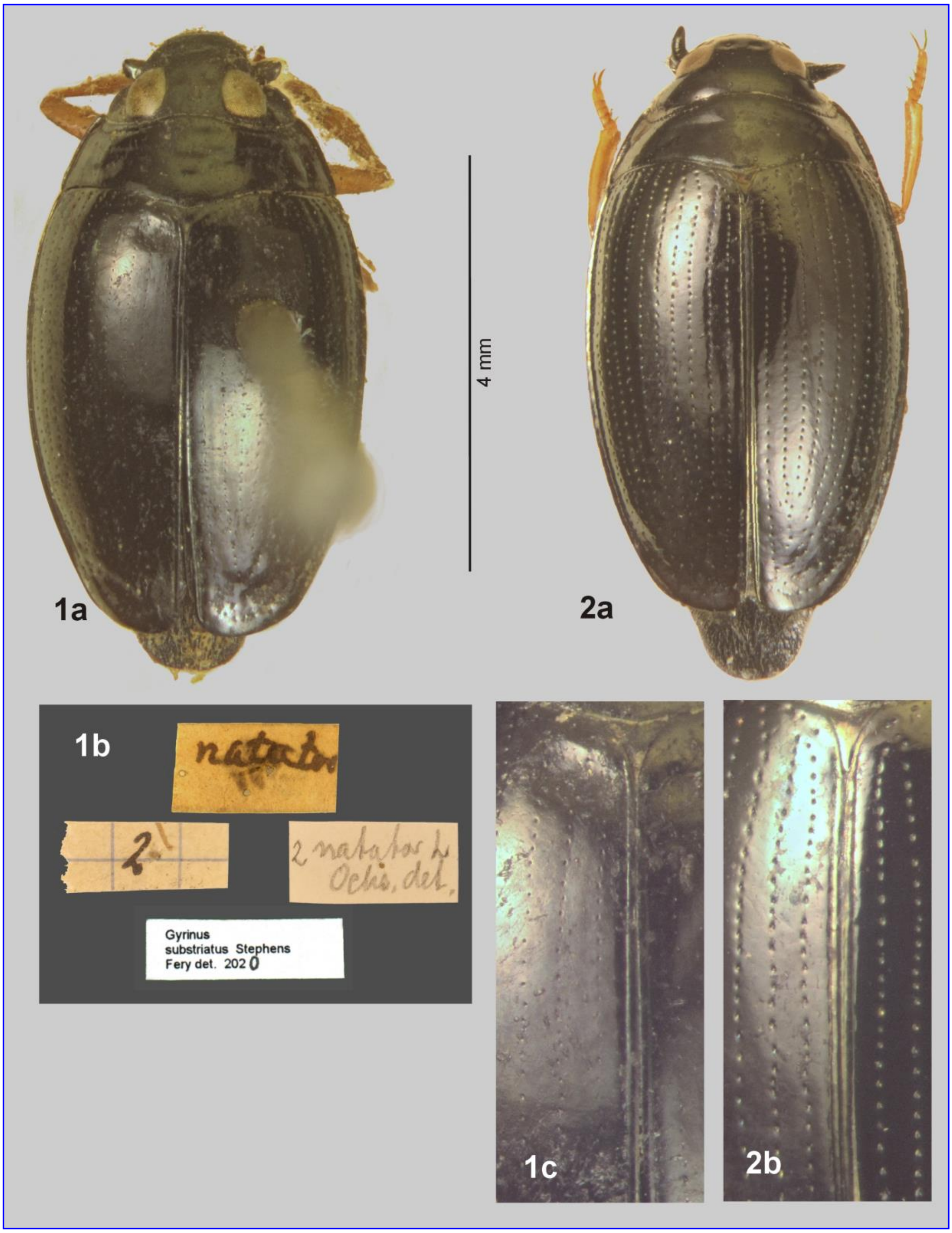
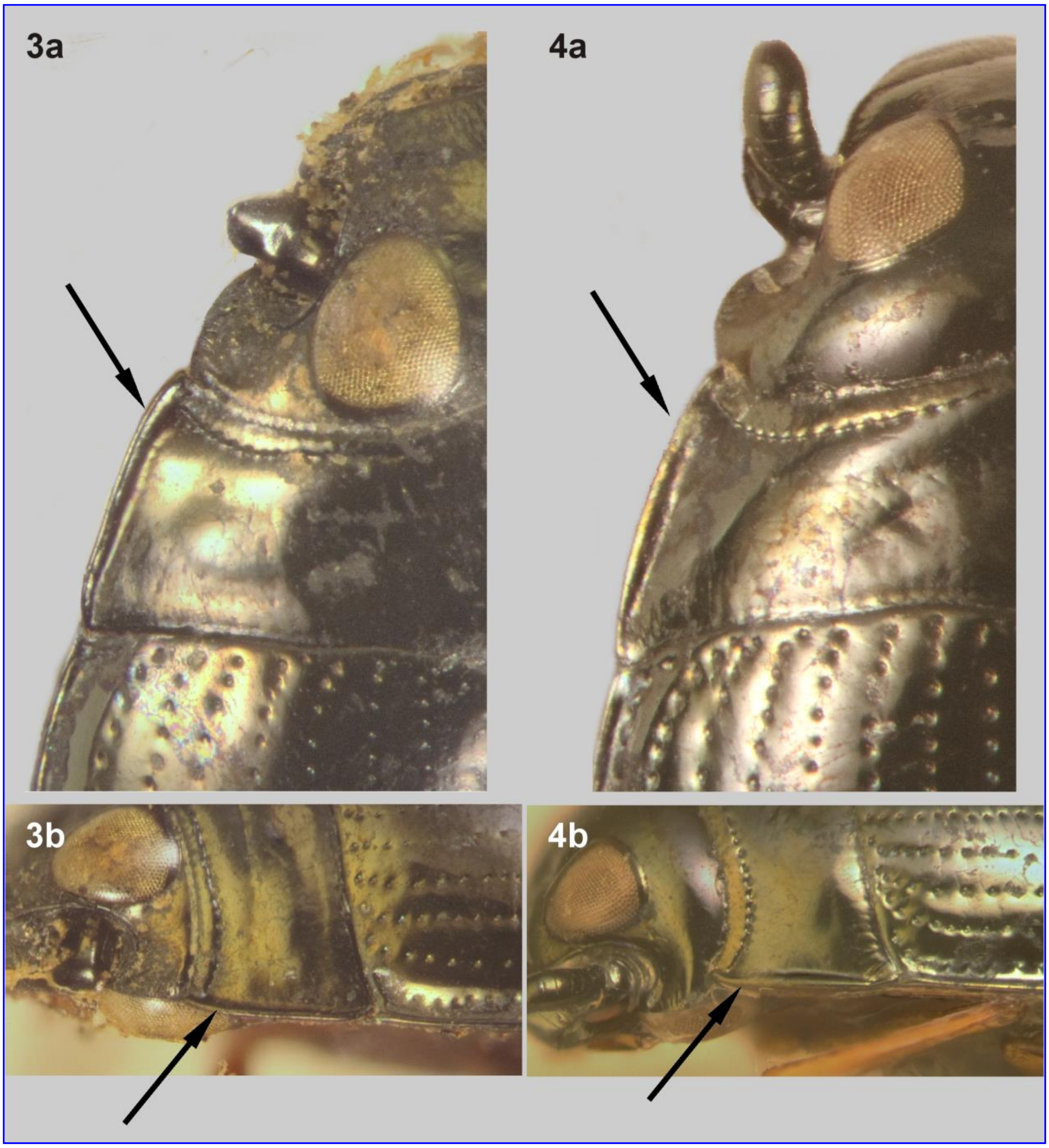


Figure 1 *Gyrinus substriatus*, specimen in the collection Fabricius standing under "*natator*": (a) habitus, (b) labels, (c) details of elytra. **Figure 2** *Gyrinus natator* (Finland): (a) habitus, (b) details of elytra.



Figures 3–4 Details of pronotum (a) dorsal view, (b) side view of **3** *Gyrinus substriatus* and **4** *Gyrinus natator*.

Received November 2020

BAGOUS CLAUDICANS **NOT AQUATIC?**

Larvae, pupae and adults of *Bagous claudicans* were found on the roots and stems of a stonecrop (*Sedum maximum* L.) growing in the centre of Katowice. This is rather a long way from the usual idea that this species feeds on *Equisetum*! This species is close to the milfoil-feeding *B. collignensis* (Herbst), as is emphasised by the DNA analyses establishing the identity of the larvae and adults.

GOSIK R, MAZUR M A & SAWKA-GĄDEK N 2019. First descriptions of larva and pupa of *Bagous claudicans* Boheman, 1845 (Curculionidae, Bagoinae) and systematic position of the position based on molecular and morphological data. *Insects* **10**, 166 doi:10.3390/insects10060166 pp. 18.

LE GRAND DYTIQUE BREXIT

This was sent in on the basis of Britain (and Ireland!) having disappeared from a map of Europe. This is appropriate in two respects but the only one of concern here is that *Dytiscus latissimus* L. has never been recorded in Britain or Ireland. Perhaps the distribution map should now include Japan? This article covers the life-cycle and the diet of caddis fly nymphs. It asks why there has been a decline, suggesting climate change favouring other water beetles, enrichment, "L'anthropisation" and pisciculture. The article concludes by pointing out that there is still mystery here in that the main decline occurred in the 19th Century before some of these possible causes were operating. Photographs are mainly by Lars Hendrich, as here.

RICHARD D & MAQUART P-O 2020. Un prédateur des eaux froides: le Grande Dytique. *Insectes* **198** 3-7.

CYLOMINAE REVIEW - NEW HYDROPHILID BASED ON LARVA

Saphydrus Sharp is a New Zealand endemic genus, the adults looking mostly like fat *Enochrus*, and living in leaf litter rather than in water. Genetic analysis establishes it as an isolated lineage in a clade with *Cylorygmus* d'Orchymont from South America, *Relictorygmus* from South Africa (established in the 2018 paper) and the Australian *Eurygmus* Hansen. The fun starts with a larva not fitting any known adult and named *Enigmahydrus larvalis.* It was found frequently in leaf litter in the 1970s but now appears to be confined to a lowland part of the Mount Egmont National Park, last being found in 2012. Fossil species are often named on the basis of larvae, but are there other examples of an extant species being named in this way? The correspondent is Martin Fikáček for the 2020 paper, and Matthias Seidel was noted in that role for the earlier paper.

SEIDEL M, MINOSHIMA Y N, ARRIAGA-VARELA E & FIKÁČEK M 2018. Breaking a disjunct distribution: a review of the Southern Hemisphere genera *Cylorygmus* and *Relictorygmus* gen. nov. (Hydrophilidae: Cylominae). *Annales Zoologici (Warszawa)* **68** 375-402.

SEIDEL M, MINOSHIMA Y N, LESCHEN R A B & FIKÁČEK M 2020. Phylogeny, systematics and rarity assessment of New Zealand endemic *Saphydrus* beetles and related enigmatic larvae (Coleoptera: Hydrophilidae: Cylominae). *Invertebrate Systematics* **34** 260-292.

IRANIAN *HYDROCHUS*

Records are given for *Hydrochus ignicollis* Motschulsky, *H. nodifer* Reitter and *H. farsicus* Hidalgo-Galiana, Jäch & Ribera. *H. ignicollis*, which is illustrated, is new for Iran.

NASSERZADEH H, JÄCH M A & SHIRAZI J 2019. New records of *Hydrochus* Leach, 1817 (Coleoptera: Hydrochidae) from Iran. *Aquatic Insects* **40** 370-374.

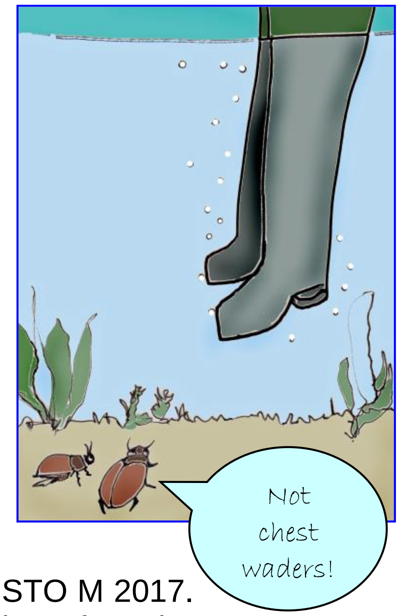
GREEK HOLIDAYS

The water beetle faunas of Rhodes (48 species), Crete (79) and Corfu (112) are catalogued. A useful effort for when holidaymaking becomes widespread again. For ***Latissimus***, better later than never.

CSABAI Z, LÖKKÖS A, PAP Z & MÓRA A 2017. Aquatic beetle fauna of Greek holiday islands (Rhodes, Crete and Corfu). *Spixiana* **40** 41-60.

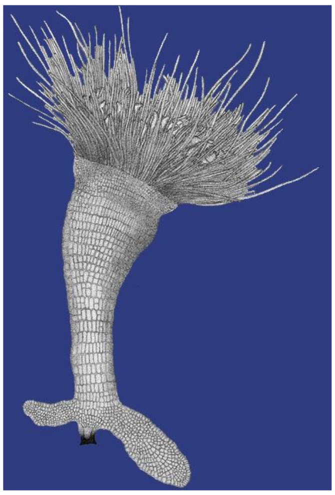
WADEABLE

Is there any point in whingeing on again about papers in which all the species are reduced to a number? Having perpetrated some in the past, perhaps not. The real reason for mentioning this paper, recently spotted on a website digest even though it was published in 2017, is use of the criterion "wadeable"! Beetles don't get mentioned at all, but there must been some very interesting ones caught (and thrown away?) in the Brazilian sites sampled. "Wadeable" does not get defined other than in contrast to those randomly chosen sites that were not sampled – dry, non-wadeable, inaccessible, access denied. It seems to have originated through the USEPA - see, for example, Barber M T, Gerritsen J, Snyder B D, & Stribling J B 1999. *Rapid bioassessment protocols for use in streams and wadeable rivers: Periphyton, benthic invertebrates and fish*. Washington, D.C.: U.S. Environmental Protection Agency, Office of Water.



SILVA D R O, HERLIHY A T, HUGHES R T & CALLISTO M 2017. An improved macroinvertebrate multimetric index for the assessment of wadeable streams in the neotropical savanna. *Ecological Indicators* **81** 514-525.

ZODIOMYCES VORTICELLARIUS **THAXTER IN WALES**



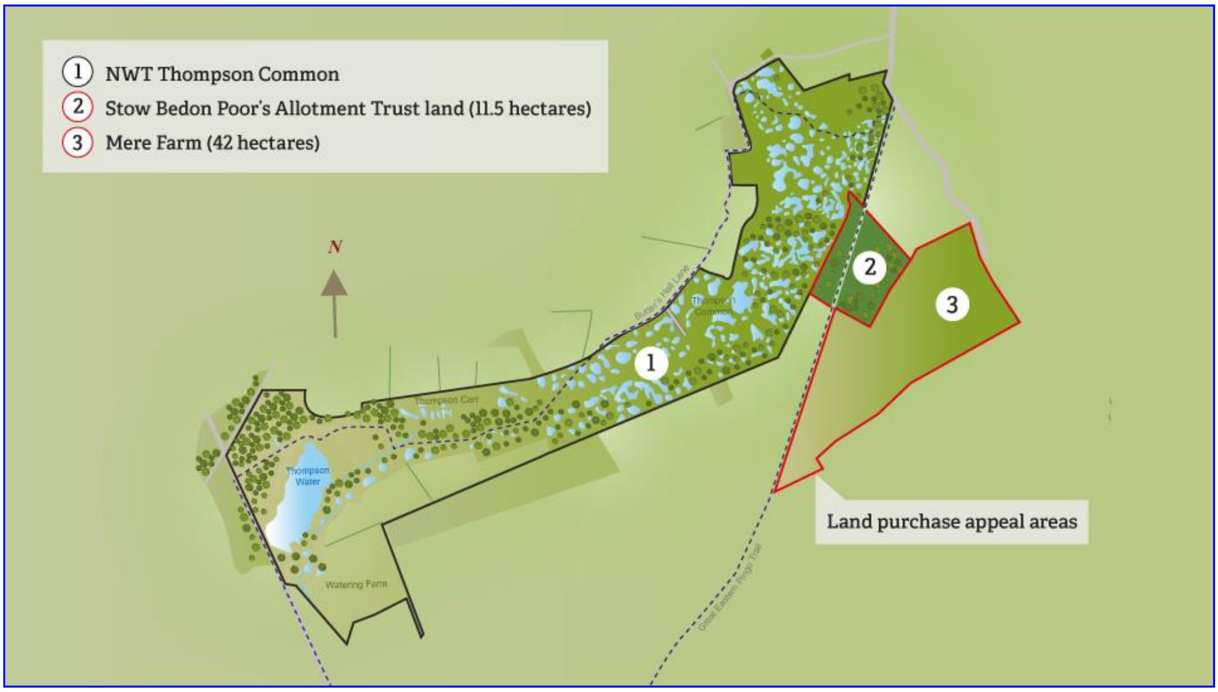
This is a striking member of the Laboulbeniales, identified by Professor Walter Rossi. The beetle is *Helochares lividus* (Forster) from the Malltraeth Marsh, Anglesey. The fungus is new for Britain. John notes that the host beetles have also included *Enochrus* and *Cymbiodyta*. It was originally reported from *H. lividus* by Majewski (1994). The *Zodiomyces* paper was noted in ***Latissimus* 39** 16. Photograph © John Bratton.

BRATTON J H 2018. *Zodiomyces vorticellarius*, a parasite of water beetles, new to Britain from Anglesey. *Field Mycology* **19** 26-27.

MAJEWSKI T 1994. The Laboulbeniales of Poland. *Polish Botanical Studies* **7** 1-466.

ROSSI W, HAELEWATERS D & PFISTER D H 2016. Fireworks under the microscope: a spectacular new species of *Zodiomyces* from the Thaxter collection. *Mycologia* **108** 709-715.

NORFOLK PALSA COMPLEX

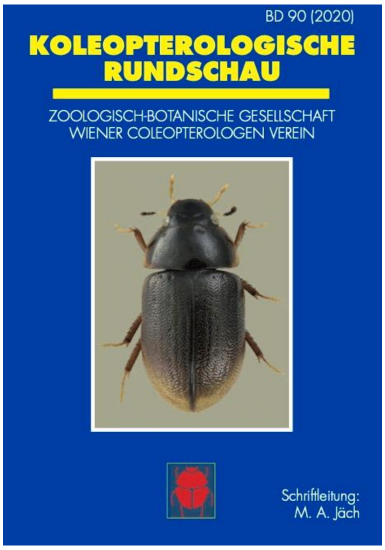


This is not one of those "save our nature reserve" campaigns but here is a chance to add to the most important one in Britain (equal to Catfield Fen, both of them in Norfolk). The idea is to buy land neighbouring Thompson Common totalling 53 hectares. £200,000 is needed in addition to the £425,625 already raised. The reserve is the largest palsa fen complex in Britain, with a claimed 400 "pingos". The beetles include *Gyrinus suffriani* Scriba, *Agabus labiatus* (Brahm), *A. undulatus* (Schrank), *Hydroporus elongatulus* Sturm, *H. glabriusculus* Aubé, *H. scalesianus* Stephens, *Laccornis oblongus* (Stephens), four *Hydrochus* species, six *Dryops* species, and about a dozen wetland weevil species. Leave a message with Sian at sians@norfolkwildlifetrust.org.uk and use this URL for a donation www.norfolkwildlifetrust.org.uk/donate.

GEORISSID CHALLENGE IN KYRGYZSTAN

Three species of uncertain identity are discussed and illustrated. One belongs to the subgenus *Neogeorissus*, near to *laesicollis* Germar and *trifossulatus* Motschulsky, a larger one is also a *Neogeorissus*, unnamed, and the third is larger again, in the subgenus *Georissus* and almost certainly *substriatus* Heer. Some photographs show mud-daubing, the adult beetles cleaned up, and their aedeagi.

LITOVKIN S V 2018 Contribution to the fauna and bionomy of Georissidae (Coleoptera) of Kyrgyzstan. *Euroasian Entomological Journal* **17** 428-432. [in Russian with abstract in English]



***KOLEOPTEROLOGISCHE RUNDSCHAU* 90**

One victim of Covid-19 is the annual publication of *Kol. Rundsch*. No **90** will have to wait until 2021, but the 2020 issue is available online now. The front cover shows the Indian *Agraphydrus rugosus* Komarek.

***KR*90 - WET ROCK LACCOPHILINE**

It is difficult to imagine how the average *Laccophilus* might survive living in wet rocks or in a waterfall. However we have here a laccophiline genus that is hygropetric/madiciolous/a wetrock liver with the group's jumping ability put to good use in escape. Eighteen species are now known with the new *Africophilus gabonicus*. The photographs show the site as a red rectangle with the discoverer of the habitat, Michael Madl, left and Doni, the driver, to his right.

BILARDO A, ROCCHI & JÄCH M A 2020. First record of the genus *Africophilus* Guignot, 1948 from Central Africa, with description of a new species from Gabon (Coleoptera: Dytiscidae: Laccophilinae). *Koleopterologische Rundschau* **90** 17-24.

***KR*90 - *HYDATICUS* (*PRODATICUS*) *VITTATUS* SPECIES GROUP**

The Asian and Australian/Pacific species of the group are reviewed, together with the two species of the newly established *H*. (*P*.) *daemeli* species group from Australia. *H*. *bipunctatus* ssp *conjungens* Régimbart and *H. satoi* ssp *dhofarensis* Pederzani are promoted to species. Several synonymies result in nine species being recognised overall in the *vittatus* group. Figures of elytral colour patterns and the male genitalia are provided along with a key to the species and distribution maps.

WEWALKA G 2020. Revision of the Asian and Australian/Pacific species of the *Hydaticus* (*Prodaticus*) *vittatus* and *H*. (*P*.) *daemeli* species groups (Coleoptera: Dytiscidae). *Koleopterologische Rundschau* **90** 25-72.

*KR*90 - *AGRAPHYDRUS* IV & V

So many new species are available that the genus needed to be redescribed. It is reported for the first time from Angola, Botswana, D.R. Congo, Djibouti, Eswatini (formerly Swaziland), Ethiopia, Thirty-one species are now known from the Afrotropical Region. One of these species, *A. minutissimus* (Kuwert) is the only species known from the Western Palearctic Region (northern part of Saudi Arabia and southern Iran). The habitats of many species are unknown. Most species are aquatic, including some that are hygropetric, but the newly described *A. vadoni* is probably terrestrial. It is good to see another species newly described. This is *A. flavescens* (right), found mainly from Ghana, but taken by the late Dominic Counsell in Cameroon in 1988.

Nine new species are described from the Philippines, all currently regarded as endemic there. *A. coomani* (d'Orchymont), widespread in the Orient and Australasia, is newly recorded from the Philippines. COI sequences and thorough morphological examination suggest that this and others are described as the *A. coomani* species group, currently undergoing radiation.

KOMAREK A 2020. Taxonomic revision of *Agraphydrus* Régimbart, 1903 IV. Africa, Western Asia, and redescription of the genus (Coleoptera: Hydrophilidae: Acidocerinae). *Koleopterologische Rundschau* **90** 127-200.

KOMAREK A & FREITAG H 2020. Taxonomic revision of *Agraphydrus* Régimbart, 1903 V. Africa, Western Asia, and redescription of the genus (Coleoptera: Hydrophilidae: Acidocerinae). *Koleopterologische Rundschau* **90** 201-242.

*KR*90 - CORAL REEF BEETLE IN MAURITIUS

Hyphalus mascarensis is described from an intertidal coral reef on Rodrigues, one of the islands of the Republic of Mauritius. This is the third *Hyphalus* known from the Indian Ocean. Scanning electron microscopy has revealed the fine structure of what appear to be three locking structures between the coxae and the sides of the thorax, and between the pronotum and the elytra. These may help the insect to become fixed in cavities in the rock so as to avoid the dislodgement during tidal action.

HERNANDO C & RIBERA I 2020. A new species of *Hyphalus* Britton, 1971 from the Mascarene Islands (Indian Ocean). *Koleopterologische Rundschau* **90** 243-252.

*KR*90 - MEXICAN *HETEROCERUS*

Given that the *Augyles*/*Heterocerus* split emanated from Pacheco's review in Mexico it is perhaps surprising that these two species need to be added to the 19 species of Heteroceridae known from there. *H. ezeri* is related to the *philippinus* group and *H. prepsli* is probably related to *H. similis* Grouvelle and *H. reticulatus* Pacheco.

MASCAGNI A 2020. Two new species of *Heterocerus* Fabricius, 1792 from Mexico (Coleoptera: Heteroceridae). *Koleopterologische Rundschau* **90** 253-256.

*KR*90 – BRITISH/IRISH ATLAS 3 – *ELODES*

Manfred Jäch's review in KR90 on page 296 has an interesting comment. We went along with the changes proposed in Bernhard Klausnitzer's 2016 treatment of Scirtidae in the Palaearctic Catalogue. It was noted that *Elodes*, despite its historic treatment as female, should be male in gender, resulting in *E. elongatus* Tournier, *E. minutus* (Linnaeus) and *E. pseudominutus* Klausnitzer. Manfred notes that the name derives from the Greek for swamp ελος, and ICZN Article 30.1.4 has it that names derived from Greek should take the gender of the original Greek. Guess what, that's neuter! So we might well have *Elodes minutum*, etc.

KLAUSNITZER B 2016. Family Scirtidae Fleming, 1821 pp. 412-424 in I. Löbl & D. Löbl (eds) *Catalogue of Palaearctic Coleoptera*. **3**. *Scarabaeoidea – Scirtoidea – Dascilloidea – Buprestoidea – Byrrhoidea: Revised and Updated Edition*. Leiden: Brill.

*KR*90 – IGNACIO RIBERA IN ENTIRETY

This obituary has all the hallmarks of Vienna. Great job done by Manfred with the most complete bibliography so far. It is noted that regulations prevented Ignacio's collection going to Vienna, and it will go instead to Madrid in the Museo Nacional de Ciencias Naturales.

JÄCH M A 2020. In memoriam Ignacio Ribera (1963-2020). *Koleopterologische Rundschau* **90** 349-380.

HASTA SIEMPRE AMIGO

This parting tribute to Ignacio Ribera is a farewell letter with a cartoon of a water beetler oblivious to all around.

MELIC A 2020. Hasta siempre amigo. Ignacio Ribera (1963-2020). *Boletin de la Sociedad Entomológica Aragonesa* **66** 285-286.

CHANGE IN THE CLUB LIBRARY

Perhaps these thoughts can be coupled with the need to move Ignacio's reprints to a different part of the Balfour-Browne Club Library – good company?

THE JUDGMENT OF PARIS

No, not by Cranach the Elder (right), but by Ivan Löbl, in a paper in *Koleopterologische Rundschau* **90** not on water beetles. He notes that in taxonomic studies the original specimens need to be re-examined whenever previously unobserved characters or character states of described species are needed to assess taxa more reliably or to support hypotheses more robustly. He notes that a new myth associated with the modern illustration facilities has spread through natural history museums: it is believed, mainly by non-taxonomists, that illustrations can replace specimens. In addition, illustrations may be preferred because they cannot be damaged or destroyed, and do not need heavy infrastructures for storage. Resources might then be shifted from research to digitising entire collections. At present, it is often easy to obtain photographs while access to specimens may be cumbersome or restricted, as in one of the most important natural history museums, the Muséum national d'Histoire naturelle in Paris, France (MNHN). As a result of he gave up studying the species-rich genera *Scaphidium* Olivier and *Scaphisoma* Leach rather than "misuse time with bureaucracy". From now on he will deposit the primary types of the newly recognised species only in institutes supporting taxonomic research without requesting superfluous paperwork.

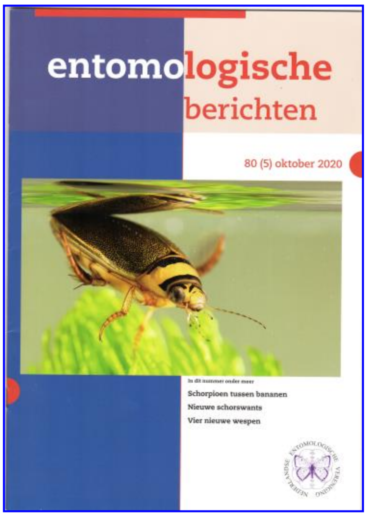
LÖBL I 2020. On the Scaphisomatini of Madagascar, and commentary on new trends in museums hampering taxonomic research (Staphylinidae: Scaphidiinae). *Koleopterologische Rundschau* **90** 89–126.

HALIPLUS IN PERU

The well marked and obese *Haliplus crassus* is the fourth *Haliplus* to be recorded from Peru. It was previously known from Panama, Venezuela, Brazil and Paraguay.

HENDRICH L & BALKE M 2020. First record of *Haliplus crassus* Chapin, 1930 in Peru. *Spixiana* **43** 42.

ENTOMOLOGISCHE BERICHTEN



Issue **80** (5) has *Graphoderus zonatus* at Niebert, Groningen, photographer on 31 October 2016 by Christophe Brochard www.cbrochard.com

BEROSUS GEMINUS IN RUSSIA

This is the first record of this species from the European part of Russia, taken in the Yarslavl Oblast in 2016 by the author. The paper includes illustrations of the adult beetles, the aedeagophore and a distribution map.

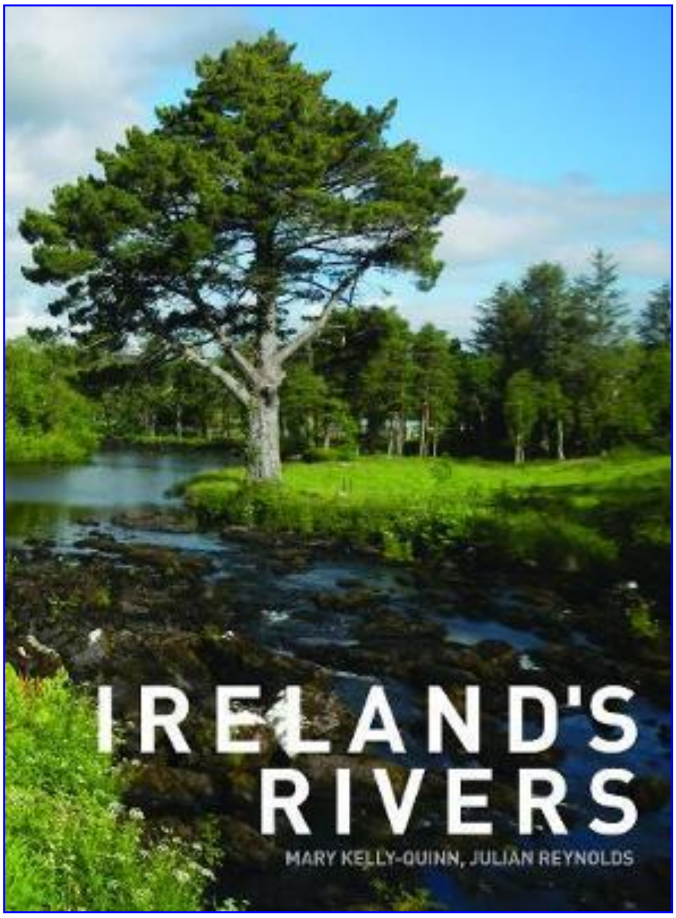
SAZHNEV A S 2020. New records of water scavenger beetles *Berosus geminus* Reiche & Saulcy, 1856 (Coleoptera: Hydrophilidae) from Russia. *Acta Biologica Sibirica* **6** 423-428.

IRISH RIVER BIODIVERSITY

This was intended to be a review of this new paper largely concerned with threats to invertebrates in rivers, but it coincided with notice of the official launch of the new book on Irish Rivers in December 2020. The paper includes some original analyses. First there is a data-base of macroinvertebrates sampled 2007-2009 in north-west Ireland (Sligo and Leitrim), the midlands of Offaly and Laois, and in the south in County Cork. This showed the response to increasing agricultural intensity. Data are also presented on the possible impact of the insecticide cypermethrin on the faunas of the Glengannon and Glen rivers in County Donegal. Thirdly the use of some groups as surrogates for others was investigated. Trichoptera family richness was the best surrogate for total richness, and Plecoptera richness was poorest, with Coleoptera intermediate.

> KELLY-QUINN M, FEELEY H & BRADLEY 2020. Status of freshwater invertebrate biodiversity in Ireland's rivers – time to take stock. *Proceedings of the Royal Irish Academy* **120** 65-82.

🕮 KELLY-QUINN M & REYNOLDS J D (eds) 2020. *Ireland's Rivers.* University College Dublin. ISBN-13: 9781910820551



In the absence of a sight of the book this preview is here mainly to advertise the current discounted price. The publisher's description includes "The book captures the expertise of 39 Irish freshwater experts to provide an up-to-date account on the evolution of Ireland's rivers and their flow characteristics, biodiversity and how humans have depended on, used and abused our rivers through time. Irish rivers include types that are rare elsewhere in Europe and support a wide range of aquatic organisms and processes. In Ireland's Rivers there are chapters on their hydrology and on their animal and plant life, on crayfish, fish and pearl mussels, and on aquatic birds and mammals, describing their importance and the threats to their survival such as pollution and loss of habitat. There are case studies of characteristic but contrasting Irish rivers, the Avonmore, Burrishoole, Araglin and the mighty Shannon, and information on invasive aquatic species. Water quality and river management are underlying themes." The list price is €40 (£35) but the current price is €30. Go to

https://www.ucdpress.ie/display.asp?isbn=9781910820551&

HET SCHRIJVERKE (*GYRINUS NATANS*), "YE PITTER-PATTERER"

Arno van Berge Henegouwen

One of the best known poems in Dutch is "Het Schrijvertje (*Gyrinus natans*)". Famous Dutch-Flemish priest and poet Guido Gezelle wrote it in 1857. Most school children in Belgium and The Netherlands know the poem through their teachers. It describes the habits of *Gyrinus*, in particular the movements of the beetles on the water surface. The priest must have seen this very often from the windows of his room in the monastery where he lived or when he was out to Flanders fields with his pupils. It is brilliant in the performance of its musical choreography of the beetles on the water surface. There have been several attempts to translate it into other languages. One very nice translation which is approaching the rhythm of the Dutch original was done by Scottish poet Edwin Morgan in 1999. It is given here next to the original text of Gezelle. Most will not immediately recognise the language but our Scottish friends in the Club will immediately know it for Glaswegian slang.

There is something peculiar in the name given by Gezelle. Not being a beetle specialist at all he uses the Latin name *Gyrinus natans* which is not published in a scientific paper of the time but in his 1858 published *Dichtoefeningen* p.36. The description of the habits of 'Het Schrijverke' clearly points to *Gyrinus*. The species name *natans* is connected to an extinct species *Xenogyrinus natans* (Brodie, P.B., 1845) from Liassic deposits in Britain. What remains open for discussion is the value of *Gyrinus natans* as a valid name.

HET SCHRIJVERKE (GYRINUS NATANS)

krinklende winklende waterding,
met 't zwarte kabotseken aan,
wat zien ik toch geren uw kopke flink
al schrijven op 't waterke gaan!
Gij leeft en gij roert en gij loopt zoo snel,
al zie 'k u noch arrem noch been;
gij wendt en gij weet uwen weg zoo wel,
al zie 'k u geen ooge, geen één.
Wat waart, of wat zijt, of wat zult gij zijn?
Verklaar het en zeg het mij, toe!
Wat zijt gij toch, blinkende knopke fijn,
dat nimmer van schrijven zijt moe ?
Gij loopt over 't spegelend water klaar,
en 't water niet méér en verroert
dan of het een gladdige windtje waar,
dat stille over 't waterke voert.
o Schrijverkes, schrijverkes, zegt mij dan, —
met twintigen zijt gij en meer,
en is er geen een die 't mij zeggen kan: —
Wat schrijft en wat schrijft gij zoo zeer?
Gij schrijft, en 't en staat in het water niet,
gij schrijft, en 't is uit en 't is weg;
geen Christen en weet er wat dat bediedt:
och, schrijverke, zeg het mij, zeg!
Zijn 't visselkes daar ge van schrijven moet?
Zijn 't kruidekes daar ge van schrijft?
Zijn 't keikes of bladtjes of blomkes zoet,
of 't water, waarop dat ge drijft?
Zijn 't vogelkes, kwietlende klachtgepiep,
of is 'et het blauwe gewelf,
dat onder en boven u blinkt, zoo diep,
of is het u, schrijverken, zelf ?
En 't krinklende winklende waterding,
met 't zwarte kapoteken aan,
het stelde en het rechtte zijne oorkes flink,
en 't bleef daar een stondeke staan:
«Wij schrijven,» zoo sprak het, «al krinklen af
het gene onze Meester, weleer,
ons makend en leerend, te schrijven gaf,
één lesse, niet min nochte meer;
wij schrijven, en kunt gij die lesse toch
niet lezen, en zijt gij zoo bot?
Wij schrijven, herschrijven en schrijven nóg,
den heiligen Name van God!»

THE WATTER-SCRIEVER

O croinklie crowlie watter-thingie,
croont wi beret sae bleck,
It's gret yer wee heid's ay sae springie
as ye scrieve tae sick effeck!
Ye leeve an ye muive and ye gang sae swith,
though wi fient an erm or leg;
ye birl wi sick an eident pith,
though without an ee – whit a geg!
Whit wiz ye, whit wur ye, whit'll ye be?
Wull ye no spell it oot, ma dear?
Wi yer braw wee skinklin heid ajee,
whit maks ye scrieve an steir?
Ye traivel owre the glessy watter
wi nae mair runkle therr
nor whit a fuff o win micht shatter,
ye pitter-patterer!
O scrievers, scrievers, spik tae me then,
twinty o ye, nae doot,
tell me, wan o ye, jist wan ye ken,
what scrievers ur scrievin aboot?
Ye scrieve, an the watter losses it,
ye scrieve sae gleg, an it's gane;
nae Christian comes up an endosses it:
och scriever, ye tell me nane!
Ye scrieve aboot wee fush, zat it?
Ye're a scriever o the sproats?
Scrieve stanes, leafs, flooers, ye'er at it?
Scrieve whaur yer boady floats?
Scrieve burds that chirm an cheep an peep,
or the bew that's owre awthing
ablow, abune leaming sae deep –
or is it yersel ye're scrieving?
An the croinkie crowlie watter-thingie
croont wi beret sae bleck
heezed up its lugs wi a braw flingie
an pit its birl oan the sneck:
'We're scrievin,' it sayed, 'in oor croinklie way,
whitever oor Maister telt us,
oor maker, oor dominie, tae scrieve an tae say,
the wan bit lear he selt us:
we scrieve, an kin je no jaloose,
or ur ye thick as a brod?
We scrievem re-scrieve, scrieve richt roose
The haly name o God!'

VINCENT P (ed.), 2016. *Poems of Guido Gezelle, a Bilingual Anthology*. London: UCL Press.
BRODIE P B 1845. *A history of the fossil insects in the secondary rocks of England*. London: John van Voorst.

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***LATISSIMUS* – corrections**

***Latissimus* 44** 16. The correct date for *Aquatic Insects* **41** is 2020.
***Latissimus* 45** 23. The author is Mičetić Stanković V.

Latissimus is the newsletter of the Balfour~Browne Club.

***Latissimus* 48** was produced as a PDF in November 2020.

Contact addresses

Robert Angus, Natural History Museum, Cromwell Road, London SW7 5BD, England, UK r.angus/at/rhul.ac.uk
Yeon Jae Bae, Division of Environmental Science and Ecological Engineering, College of Life Sciences and Biotechnology, Korea University, Seoul, 02841, Republic of Korea yjbae/at/korea.ac.kr
Michael Balke, SNSB-Zoologische Staatssammlung, Munchhausstraße 21, D-81247 München, Germany balke.m/at/snsb.de
Arno van Berge Henegouwen, Sheveningsebos 15, 2716 Zoetermeer, The Netherlands arnovbh/at/xs4all.nl
Dongju Bian, CAS Key Laboratory of Forest Ecology and Management, Institute of Applied Ecology, Shenyang 11016, China biuandongju/at/163.com
Armando Bilardo, Via De Amicis 29. I-21012 Cassano Magnago (varese
Olof Biström, Finnish Museum of Natural History, Entomology Unit, PO Box 17, FL-00014 University of Helsinki, Finland olof.bistrom/at/helsinki.fi
John Bratton, 18 New Street, Menai Bridge, Anglesey LL59 5HN jhnbratton/at/yahoo.co.uk
Branka Bruvo-Mađarić, Ruder Bošković Institute, Bijenička 54, 10000 Zagreb, Croatia bruvo/at/irb.hr
Zuzana Čiamporová Zaťovičová, Zoolab, Plant Science and Biodiversity Centre, Slovak Academy of Sciences, Bratislava, Slovak Republic zuzana.zatovicova/at/savba.sk
Zoltán Csabai, Department of Hydrobiology, Faculty of Sciences, University of Pécs, Ifjúság útja 6, Pécs, Hungary csabai/at/gamma.ttk.pte.hu
Denis Richard denis.richard/at/ch-poitiers.fr
Hans Fery, Rauschstr. 73, D-13509 Berlin, Germany hanfry/at/aol.com
Martin Fikáček, Department of Entomology, National Museum, Cirkuspvá 1740, CZ-19300, Praha 9 – Horni Počernice, Czech Republic mfikacek/at/gmail.com
Oscar Franken, Section of Animal Ecology, Department of Ecological Science, Vrije Universiteit, Amsterdam, De Boedelaan 1085, 1081 HV Amsterdam, The Netherlands oscarfranken/at/gmail.com
Rafał Gosik, Department of Zoology, Maria Curie-Sklodowska University, Akademicka 19, 20-033 Lublin, Poland r.gosik/at/poczta.umcs.lublin.pl
Dr Jiří Hájek, Department of Entomology, National Museum, Natural History Museum, Cirkusová 1740, CZ-193 00 Praha 9 - Horní Počernice, Czech Republic jiri.hajek/at/nm.cz
Masakazu Hayashi. Hoshizaki Green Foundation, 1664-2 Sono, Izumo, 691-0076 Japan hgf-haya/at/green-f.or.jp
Carles Hernando, PO Box 118, E-08911 Badalona, Catalonia, Spain leptotyphlus/at/gmail.com
Kei Hirasawa dytiscus.sharpi.sharpi/at/gmail.com
Mafred Jäch, Naturhistorisches Museum Wien, Burgring 7, A-1010 Wien, Austria manfred.jaech/at/nhm-wien.at
Mary Kelly-Quinn, School of Biology & Environmental Science and UCD Earth Institute, University College Dublin, Belfield, Dublin 4, Ireland mary.kelly-quinn/at/ucd.ie
Ján Kodada, Department of Zoology, Faculty of Natural Science, Comenius University, Mlynká dolina B-1, SK-842 15 Bratislava, Slovakia jan.kodada/at/uniba.sk
Albrecht Komarek, Naturhistorisches Museum Wien, Burgring 7, A-1010 Wien, Austria albrecht.komare/at/aon.at
Stanislav V. Litovkin, Russian Entomological Society, Samara 443016, Russia sats.lit/at/gmail.com
Alessandro Mascagni, Museo Zoologico de "La Specola", Università di Firenze, Via Romana 17, 1-50125 Firenze, Italy mascagni.ale/at/gmail.com
Antonio Melic, Boletin de la Sociedad Entomológica Aragonesa, Avda. Radio Juventud, 37, 50012 Zaragoza, Spain amelic/at/sea-socio.com
Yûsuke Minoshima, Natural History Museum, Kitakyushu Museum of Natural History & Human History, 2-4-1 Higashida, Yahatahigashi-ku, Kitakyushu-shi, Fukuoka, 805-0071 Japan minoshima/at/kmnh.jp
Toshimasa Mitamura, Fukushima Agricultural Technology Centre, Hama-dori Research Centre, 100 Goroemonbashi, Narita Soma-city, Fukushima 979-2542, Japan ayfugax.tm/at/nifty.com
Hiva Nasserzadeh, Insect Taxonomy Research Department, Iranian Research Institute of Plant Protection, Tehran, Iran h_nasserzadeh/at/yahoo.com
Anders Nilsson, Mullajö 258, S-41490 Nordmaling, Sweden andersnnilsson258/at/gmail.com
Shin-ya Ohba, Biological Laboratory, Faculty of Education, Nagasaki University, 1-14 Bunkyo, Nagasaki 852-8521, Japan ohba/at/nagasaki-u.ac.jp
Ryohei Okada, Coleopterological Society of Japan, National Museum of Nature and Science, Tsukuba, 3050005 Japan wasserinsekt/at/kub.biglobe.ne.jp

Alexey Sazhnev, Papanin Institute for Biology of Inland Waters, Russian Academy of Sciences, Borok 109, Nekouz District, Yaroslavl Region, 152742 Russia sazh/at/list.ru
Matthias Seidel, Department of Zoology, Faculty of Science, Charles University, Viničná 7, CZ-12843 Praha 2, Czech Republic seidelma/at/natur.cuni.cz
Deborah R.O. Silva, Universidade Federal de Minas Gerais, Instituto de Ciências Biológicas, Departamento de Biologia General, Laboratório de Ecologia de Bentos, Av. Antônio Carlos 6627, CP486, Belo Horizonte, Minas Gerais, Brazil deborah.ufmg/at/gmail.com
Adrián Villastrigo, Institute of Evolutionary Biology (CSIC- Universitat Pompeu Fabra), Passeig Maritim de la Barceloneta 37-49, 08003 Barcelona, Spain adrianvillastrigo/at/gmail.com
Kohei Watanabe, Ishikawa Insect Museum, Inu-3, Yawata-machi, Hakushan-shi, Ishikawa, 920-2113 Japan 渡部 晃平 koutarouhigasi/at/yahoo.co.jp
Prof. Dr Günther Wewalka, Starkfriedgasse 161/3, A-1190 Vienna, Austria g.wewalka/at/gmx.net
Hiroyuki Yoshitomi, Entomological Laboratory, Faculty of Agriculture, Ehime University, 3-5-7 Tarumi, Matsuyama, 790-8566 Japan hymushi/at/agr.ehime-u.ac.jp

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