Records of new and rare beetles in Luxembourg (Insecta: Coleoptera)

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Abstract. Twenty species from ten different families of Coleoptera are recorded as new to the fauna of Luxembourg. Another ten species are rarely found, the most remarkable of those included being *Calosoma sycophanta* (Linnaeus, 1758) previously recorded for the last time in 1915.

1. Introduction

More than 3000 species of the order Coleoptera are currently known from Luxembourg (Gerend, unpubl.), but this number is provisional as each year species previously not recorded are found and added to the national list. In this paper, we present 30 species from ten different families of which twenty are new to the fauna of Luxembourg and ten are either rare and/or have not been recorded for some years or even decades.

2. Materials and methods

The beetles reported in this paper were observed with a range of different methods, which will be detailed under the respective species headings. In some cases, no voucher specimens were preserved, mostly when species were photographed by amateur naturalists and the data were then uploaded to the recording network iNaturalist. Names of the photographers (or their aliases) are given for each record. In the latter case, only species readily identifiable from the corresponding photographs were included. If not stated otherwise, species collected by the author are corroborated by specimens added to his private collection.

Abbreviations: MNHNL, Musée national d'histoire naturelle, Luxembourg; SICONA, Syndicat intercommunal pour la conservation de la nature; a.s.l., above sea level; coll., collection.

3. Results

3.1. **Carabidae** Latreille, 1802

Calosoma sycophanta (Linnaeus, 1758) (Fig. 1)

Mondorf-les-Bains, "Wouer", 49°30'55.87" N 6°16'34.33" E, 245 m a.s.l., 01.07.2021, photo: laumesfeld.

Esch-Alzette, Lallange, 49°30'42.66" N 5°58'50.74" E, 286 m a.s.l., 04.07.2021, photo: vrebizant.

Dudelange "Mäschhiel", 49°29'14.14" N 6°06'31.98" E, 286 m a.s.l., 06.07.2021, photo: Laurent Schmitz.

Moutfort, 49°35'38.09" N 6°15'36.68" E, 264 m a.s.l., 10.07.2021, photo: corinnecma.

Esch-Alzette "Gaalgebierg", 49°29'31.30" N 5°59'5.54" E, 312 m a.s.l., 10.06.2022, photo: hayasawaf.

Bascharage, "Bobësch", 49°33'18.38" N 5°55'15.70" E, 325 m a.s.l., 11.06.2022, photo: hinatea.

Betzdorf, Berg, 49°40'56.44" N 6°21'21.55" E, 260 m a.s.l., 12.06.2022, photo: renkramer.

Canach "Laangheck", 49°37'5.20" N 6°18'51.75" E, 256 m a.s.l., 22.06.2022, photo et leg.: claudekolwelter.

Bech, Blummendall, 49°44'43.29" N 6°15'56.63" E, 282 m a.s.l., 27.06.2022, photo: ignacio_gonzalez.

(All records: https://inaturalist.org/observations).

Last found in Luxembourg by V. Ferrant at the beginning of the 20th century near Wintrange and Vianden (MNHNL).

As in north-eastern France, close to the border with Luxembourg (Felten & Leblanc 2022), *Calosoma sycophanta* has been recorded, quite unexpectedly and in several places in Luxembourg, after an "absence" of more than a century. The species seems to be able to go undetected for a long period of time, with populations so small that they stay under the threshold of detection until, when conditions become favourable again, they bounce back locally, and the beetle becomes much more numerous and thus conspicuous (Felten & Leblanc 2022). Trautner (2017) describes how the species, after a quite regular presence at the end of the 19th century and at the beginning of the 20th in different areas of the German state of Baden-Württemberg, disappeared from most of its former locations outside the Rhine valley and the Black Forest foothills but was found again near Lake Constance at the beginning of the 21st century. The latter author (Trautner op. cit.) explains this with a reaction to climatic conditions becoming more favourable. *C. sycophanta* is a specialised predator of caterpillars of different moth species which are infamous for building up large populations in favourable years and wreaking calamity on the affected forests. The current return of this beetle is undoubtedly a reaction to the widespread presence of the moth *Thaumetopoea processionea* (Linnaeus, 1758) which has become a regular presence in oak-dominated woodlands in the south of Luxembourg since at least 2014 (Recorder database of the MNHNL) after being absent or going undetected for the better part of a century. The oak processionary has always been present in Lorraine (north-eastern France) (Groenen & Meurisse, 2012) but there too, the recent years have been marked by a rapid build-up of its populations with all the unpleasant sanitary consequences leading to eradication campaigns either by burning of the caterpillar nests or bringing out *Bacillus thuringiensis* toxins, both measures thought to have deleterious effects on the arboreal larvae of *C. sycophanta*, which use these same nests for hunting the aggregated caterpillars and for seeking shelter (Felten & Leblanc 2022). The spraying of Bt-toxins ("Forray ES") has also been carried out in the south of Luxembourg in 2021, though only in areas where human populations were directly affected by the caterpillars' hairs (Luxemburger Wort 2021).



Fig. 1. *Calosoma sycophanta*, Dudelange "Mäschhiel". Photo: L. Schmitz.

With the ecology of *C. sycophanta* apparently highly interlinked with that of its favourite prey (Weseloh 1985, 1993 cited in Felten & Leblanc 2022), the waxing and waning of its populations becomes much more understandable, the beetle reacting physiologically as well as on a behavioural

level to the increased presence of the oak processionary's caterpillars. The future will show whether the processionary becomes an established element of our fauna, in which case the beetle should be looked for in oak woodland, mainly in June (May to July). Its renewed presence in Luxembourg should also be an incentive for the authorities to limit the use of Bt-toxin-based pesticides to what is strictly necessary.

Carabus cancellatus Illiger, 1798 (Fig. 2)

NW Troisvierges (Ulflingen) "Oben Biwescherweg", 50°07'53.4" N 5°58'54" E, 448 m a.s.l., 02.08.2012, 1 ad. Photo: J. Vanryckeghem, observation.org., det. W. Rowold.

Weiswampach "An Illebur", 50°08'36.6" N 6°04'50.3" E, 477 m a.s.l., 27.07.2021, 1 ad. Photo: Rose (nickname), observation.org., det. W. Rowold.

Goedange "Héicht", 50°08'57.8" N 6°00'11.6" E, 497 m a.s.l., 1 ad. crushed on country lane, 1 ad. in pitfall trap, April 2022, leg. et det. I. Peeters.

NW Troisvierges (Ulflingen) "Oben Biwescherweg", 50°07'51.3" N 5°59'01.7" E, 446 m a.s.l., 8 ad. in pitfall traps, April 2022, leg. et det. I. Peeters.

Carabus cancellatus had not been recorded in Luxembourg since 2000, when one adult was found near Niederanven (Braunert leg., RECORDER database) and slightly later, in 2005 around Weiswampach (leg. T. Olthoff, coll. MNHNL). Prior to this, the species had been found by A. Mousset (1960ies) and V. Ferrant (end of the 19th century). Interestingly, these records are all from different parts of the Gutland, the Mesozoic southern two thirds of the country. A search on the Internet and the obliging goodwill of an entomologist from Belgium, Ief Peeters, made me aware of three hitherto unknown populations from the Devonian north of the country in the vicinity of Troisvierges (Ulflingen) and Weiswampach. The region is an upland plateau marked by agriculture and small copses of spruce and beech. The beetles were found in open farmland.

It is very difficult to establish the current status of *C. cancellatus* in Luxembourg with any degree of precision due to a lack of data. What we can see is a near total absence of *C. cancellatus* from several sampling campaigns from the late 1980ies onwards carried out either by the MNHNL, SICONA or private entomologists (RECORDER database) except for Spithoven et al. (2011), who recorded five specimens with pitfall traps in just one out of 36 sampled locations.



Fig. 2. *Carabus cancellatus*, Troisvierges region. Photo: Lef Peeters.

This ground beetle is a characteristic species of the arable countryside but is also found in grassland and fallows (Trautner 2017). There are indications according to this same author that population levels are lower now than 30 or more years ago, which would be explained by changes in agricultural practices, especially an overall intensification. According to Turin (2000), this is a species of small-scale farmland with a low degree of intensification especially with respect to chemical fertilisers. As early as 1941, Horion (1941) pointed out that intensified farming was likely to cause a decline in *C. cancellatus* populations in Germany.

Ocys tachysoides (Antoine, 1933)

Dudelange "Riedchen" (now "Zone industrielle Riedchen") 49°29'14.3"N 6°06'46.6"E, 283 m a.s.l., 09.01.2022, 1 male, 3 females, sifted from loose bark and rotten wood of willow trees, small copse of willow carr by a streamlet, leg. et det. R. Gerend.

New to Luxembourg.

Maddison & Anderson (2016) showed that what was up to then thought to be *Ocys harpaloides* (Audinet-Serville, 1821) was in fact a complex of two sibling species:

O. harpaloides (Audinet-Serville, 1821) and *O. tachysoides*, which can be clearly separated in both sexes. It was then subsequently shown that of these two, *O. tachysoides* is in fact the much more common, indeed often the only one present in many parts of western and central Europe (Muilwijk & Felix 2017, Fritze et al. 2017, Marggi et al. 2019, Dekoninck et al. 2019), with many of the revised *O. harpaloides* specimens turning out to belong to *O. tachysoides*.

Near Dudelange, the author found four specimens of *O. tachysoides* while sifting litter as well as moss/loose bark and red rot from cavities in a small remnant of willow carr in an area of former water meadows which has been all but destroyed by industrial parks and infrastructure development. It is very likely that the few specimens previously identified as *O. harpaloides* known from Luxembourg also belong to the present species, especially so as they are from similar habitats (Gerend, unpubl.). These, as well as material preserved in the MNHNL collection still needs to be checked though.

Harpalus cupreus Dejean, 1829 (Fig. 3)

Dudelange, "Wal" or "Im Wald" 49°28'48" N 6°07'30.9" E, 301 m a.s.l., 09.05.2021, 1 male and 1 female found by night, leg. et det. R. Gerend.

New to Luxembourg.

Harpalus cupreus is a species with a Euro-Mediterranean type distribution (Hůrka, 1996) known from France, south-western Germany, the UK, Austria, Bulgaria, Greece, Italy and Turkey (GBIF, 2023). There are no current records from England where the species is thought to be endangered (UK beetle recording, 2022) and it has only been found in Germany quite recently in the federal state of Baden-Württemberg (Kramer & Trautner, 2000). According to GBIF (2023), the species has been recorded from eastern Lorraine, an area already mentioned by Horion (1941), and there is one more recent record from near Metzeresche (F-57) (Portail Entomologique de Lorraine, 2023), although we do not know if a voucher specimen has been kept. This latter record would place *H. cupreus* much closer to the border with Luxembourg. The species has never been found in Alsace (Callot & Schott, 1993) and it seems to be a more regular occurrence in the centre and south of France (Kramer & Trautner, 2000). The author has found some specimens near the confluence of rivers Saône and Seille in a vast area of water meadows and remnants of alluvial forest in the spring of 2006 (Gerend, unpubl.).



Fig. 3. *Harpalus cupreus*, Dudelange "Wal". Photo: R. Gerend.

The two specimens, which constitute the first record for Luxembourg, were caught very close to the French border indeed, while searching the ground with a torch in an area of hay meadows bordered on three sides by woodland. The soil here is heavy clay and not well drained, although in summer the top layers are prone to desiccation and cracking. Kramer & Trautner (2000) mention the presence of riparian habitats with their associated ground beetles next to the meadow (a type with Pepper Saxifrage *Silaum silaus* and Great Burnet *Sanguisorba officinalis*) where *H. cupreus* was found. The Dudelange site slopes gently towards a small temporary streamlet with marshy edges and there is a temporary pool with sedge beds nearby while most of the surrounding woodland is damp oak-hornbeam. Some authors considered the species one more typical of damper soils unlike most other *Harpalus* species (Bonadona 1971, Hůrka 1996).

Amara fulvipes (Audinet-Serville, 1821)

Dudelange, "Roudebierg" 49°28'17.2" N 6°05'38.4" E, 350 m a.s.l., 14.06.-17.07.2017, 1 male, pitfall trap, limestone grassland, leg. et det. R. Gerend

Dudelange, "Wal" or "Im Wald" 49°28'49.7" N 6°07'33" E, 302 m a.s.l., 12.06.2020, 1 female swept from grass ears, leg. et det. R. Gerend

Dudelange, "Roudebierg" 49°28'16.7" N 6°05'47.1" E, 370 m a.s.l., 02.06.-16.06.2021, 1 female, pitfall trap, limestone grassland, leg. et det. R. Gerend.

New to Luxembourg.

Amara fulvipes is a western European-Mediterranean species occurring from the Iberian Peninsula across France and much of southern Central Europe into the Balkans and western Turkey (Marggi 1992). The species seems to be very rare in most of Germany and is indeed variously described as "extremely rare" and "vulnerable" (Schmidt et al. 2016) or indeed "critically endangered" (Trautner & Fritze 2017). In the nearby federal state of Saarland, it is known from four locations (Delattinia 2022), while it has apparently not yet been recorded in Lorraine (Portail Entomologique de Lorraine 2023). Dekoninck et al. (2019) mention a recent record from Mechelse Heide in Limburg (Belgium), where two specimens were caught in a pitfall trap in 2017, whereas all but one former record from that country are prior to 1950.

Near Dudelange, two specimens were caught with pitfall traps in two locations on a south-facing slope of Jurassic limestone with dry grassland and scrub (Fig. 4), and yet another was swept from seed-bearing ears in mesophytic grassland (cf. sub *Harpalus cupreus* above).

According to Trautner & Fritze (2017), *Amara fulvipes* is almost exclusively found in different types of dry grassland, with far fewer records being from grass-dominated moist to dry banks or fallows. Marggi (1992) characterizes the species as a xero- and



Fig. 4. Dudelange "Roudebierg", nature reserve "Hëllef fir d'Natur", south-facing limestone slope with dry grassland and scrub. Habitat of *Amara fulvipes*. Photo: R. Gerend.

thermophile, feeding on grass seeds and, at least in the Canton of Ticino, more likely to be found on nutrient-rich than on poorer and dryer types of grassland.

3.2. **Hydrophilidae** Latreille, 1802

Enochrus bicolor (Fabricius, 1792)

Mondercange, Bergem, Alzette floodplain "An de Véierwisen", 49°30'59.9" N 6°02'02.9" E, 276 m a.s.l., 25.08.2019, 3 males, 1 teneral female, at light.

First mentioned by Gerend (2014), this is only the second record for Luxembourg of a species that has so far only been recorded on the wing in this country. The Alzette floodplain has been restored in recent years and presents large areas of shallow, well vegetated, though very nutrient-rich and even polluted water with a soft, muddy ground. The fact that one specimen was teneral hints at a local origin. *Enochrus bicolor* is generally known as a halophile water beetle and hence normally found in coastal habitats (e.g., Foster et al. 2014) though inland populations do exist, e.g., in French Lorraine and in Germany in the Cologne area (GBIF) with the former being linked to inland saline waters of the Seille valley southeast of Metz.

3.3. **Staphylinidae** Latreille, 1802

3.3.1. **Pselaphinae** Latreille, 1802

Bibloplectus minutissimus (Aubé, 1833)

Bertrange, "Hiermesweier", 49°36'34.8" N 6°01'47.8" E, 291 m a.s.l., 14.04.-04.05.2015, 3 males (females of *Bibloplectus* cannot be reliably identified), leg. SICONA, det. R. Gerend.

New to Luxembourg.

Pearce (1957) writes that this species can be collected from the base of grasses and under stones along sandy riverbanks and in flood debris in Britain, where it appears to be very local.

Both Pearce (1957) and Besuchet (1955) state that the species is infrequently collected but that this may be due to the extremely small size and unknown microhabitat requirements.

The species is native to the West Palaearctic region and widespread, though rare, in Europe (Schülke & Smetana 2015) and, according to GBIF (2023), it is currently known from Germany, the UK, France, Austria, Norway, Estonia and the Netherlands, although records for the latter go as far back as 1916. Not in consistence with this is the fact that the species is not listed for the Netherlands by Vorst (1995).

The specimens were caught in pitfall traps set in a narrow strip of riparian trees (alder) in the alluvial plain of a small headwater stream in open countryside.

Bibloplectus tenebrosus (Reitter, 1881)

Niedercolpach, "Grendelerbruch", 49°45'11.9" N 5°49'13.6" E, 284 m a.s.l., 20.02.2021, 1 male, litter sifting, Attert alluvial plain: valley mire, leg. et det. R. Gerend.

New to Luxembourg

This is a species occurring in large parts of Europe, though it is absent from the Iberian Peninsula, Italy and the Balkans (coleonet.de). Vorst (1995) lists it as "widespread and not uncommon" in the Netherlands apart from the north for which there are no records.

A single specimen has been sifted from organic debris in a valley mire straddling the border with Belgium in the alluvial plain of the Attert.

Bibloplectus delhermi Guillebeau, 1888

Bertrange, "Léi" (part of woodland biological reserve "Ënneschte Bësch"), 49°35'44.1" N 6°3'59.8" E, 282 m a.s.l., 30.03.2006, litter sifting, mixed oak-hornbeam woodland, 2 specimens (male), leg. R. Gerend.

Aspelt, Krokelshaff, 49°31'11.28" N 6°11'44.59" E, 264 m a.s.l., 26.05.2008-04.07.2008, flight interception trap, 1 male, leg. R. Gerend.

New to Luxembourg.

The species seems to be known from the UK, France, Italy, Austria and Turkey (Besuchet 1974). GBIF (2023) has only three additional records, one from Austria and two from the UK. The species is not listed for the Netherlands by Vorst (1995). The absence of any more tangible and above all recent records from anywhere in Europe suggests a genuinely rare and/or a very elusive species.

In Luxembourg, it has been caught in two locations with two different sampling methods but at both sites oak trees were present. The Aspelt location is a line of big mature oaks in an otherwise open countryside. Some of the trees are characterised by cavities, areas devoid of or with lose bark and other microhabitats suitable for saproxylic organisms. "Léi" is mature oak-hornbeam woodland presenting similar qualities. The single male specimen was sifted from litter collected from the base of a decaying oak harbouring a colony of the ant *Lasius brunneus* (Latreille, 1798).

Bryaxis pyrenaeus baudueri (Reitter, 1885)

Dudelange, "Laangebierg" (part of "Naturbësch Haard" biological woodland reserve), 49°27'57.5" N 6°04'21" E, on ca 403 m a.s.l., 01.04.2007, 1 male, leg. et det. R. Gerend (aedeagus dissected), teste C. Besuchet (Geneva), sifted from litter and woody debris from the base of a huge beech tree.

New to Luxembourg.

Bryaxis pyrenaeus baudueri is known from a range of locations covering a large part of France but they are, on balance, few and far between (Secq 1992). The location nearest to the site at Dudelange pertains to a specimen in the Fauvel collection from Malzéville near Nancy (ca. 78 km as the crow flies). GBIF (2023) knows of only two recent records (Île de France and Pyrénées-orientales). The species is also present in western Switzerland and north-western Spain but is absent from the remaining parts of Europe (coleonet.de, 2023).

According to Secq (1992), *B. pyrenaeus baudueri* (like other *Bryaxis* of this group) inhabits mainly clay and limestone areas, where dark and damp woodland sites form the main habitat. Specimens can be found in moss growing on rotten wood, and next to decomposing tree roots embedded in the soil. These criteria are perfectly met at the "Laangebierg" site which lies on a north-facing densely wooded slope at the northern end of a line of hills running north to south all the way from southern Luxembourg deep into Lorraine (thus connecting "Laangebierg" with the species' Malzéville site) and known as the "Côte de Moselle". This salient ridgeline is formed of oolithic and corallian limestones from the Middle Jurassic.

The single male specimen was found when sifting wooden debris, leaf litter and moss from around the base of a huge decaying beech growing near the crest of the hill. It is very likely that this tiny beetle will be found in other similar woodland sites along this ridgeline. Its presence there can be seen as proof of a long uninterrupted woodland tradition.

Reichenbachia juncorum (Leach, 1817)

Bungerefermillen ("Bei der Bondorfermühle"), 49°52'06.9" N 5°47'44.7" E, 329 m a.s.l., 30.03.2019, suction sampling, 12 sp. of both sexes, leg. R. Gerend.

Ibidem 07.11.2020, litter sifting, 1 specimen, leg. R. Gerend.

The species has been found previously by Köhler (2009, 2013) near Luxembourg City ("Laangmuer" NR) and Schengen ("Grouf" Nature reserve). It is a widespread European Pselaphid usually associated with wetland habitats or damp grassland (Besuchet 1974) but markedly absent from some of the better studied wetland sites in the south of the country (Gerend, unpubl.) though of course, absence of evidence does not necessarily mean evidence of absence.

3.3.2. Tachyporinae MacLeay, 1825

Cilea silphoides (Linnaeus, 1767) (Fig. 5)

Remerschen, "Haff Réimech", 49°30'02.3" N 6°21'32.7" E, 147 m a.s.l., 12.08.2021, 1 adult at light, leg. R. Gerend.

New to Luxembourg.

An almost cosmopolitan rove beetle of the tribe Tachyporini which is often caught on the wing and seems to prefer compost heaps and similar accumulations of heat-generating organic matter (coleonet, 2023).

3.3.3. *Aleocharinae* Fleming, 1821

Cypha discoidea (Erichson, 1839)

Noertzange, "Dréisch", 49°30'23.6" N 6°02'28.7" E, suction sampling, 29.03.2019, 2 males; ibidem 08.06.2019, 1 male, leg. R. Gerend, det. V. Assing (in litt. 25.11.2020).



Fig. 5. *Cilea silphoides*, Remerschen-Wintrange, "Haff Réimech" gravel pit area. Photo: R. Gerend at light.

Schifflange "Brill", 49°30'31.8" N 6°00'29.2" E, 279 m a.s.l., 24.03.2021, 3 males, leg. et det. R. Gerend, litter sifting, alluvial plain of River Alzette, wetland and poplar plantation.

New to Luxembourg.

This is a wetland species found in decaying organic matter throughout Europe (Lohse 1974).

Atheta debilis (Erichson, 1837)

Bungerefermillen ("Bei der Bondorfermühle"), 49°52'06.9" N 5°47'44.7" E, 329 m a.s.l., 07.11.2020, litter sifting, valley mire, 1 male, leg. R. Gerend.

New to Luxembourg.

This is another species restricted to wetland habitats with a predominantly north-eastern distribution in Central Europe, records becoming few and far between in the western and southern parts of that area (coleonet, 2023).

The site where it was found is a valley mire located in an ancient meander of the river Sauer (Sûre) with a damp and cool microclimate.

Atheta terminalis (Gravenhorst, 1806)

Bettembourg, "Huedert" ("Stréissel"), 49°31'24" N 6°05'45" E, 270 m a.s.l., 08.03.2003, litter sifting: large, coppiced willow with rot-filled cavity, leg. R. Gerend.

Niedercolpach, "Grendelerbruch", 49°45'11.9" N 5°49'13.6" E, 284 m a.s.l., 20.02.2021, 1 male, litter sifting: sedge litter, Attert alluvial plain: valley mire, leg. R. Gerend.

Schifflange, "Brill", 49°30'31.8" N 6°00'29.2" E, 279 m a.s.l., 24.03.2021, 6 males, 6 females, litter sifting: eutrophic wetland, poplar plantation, leg. R. Gerend.

New to Luxembourg.

A species typically found in damp situations, be it on grassland or in woods, where it can be sifted from moss, tussocks or leaf litter. All the sites given here are in an alluvial setting.

Myrmoecia confragosa (Hochhuth, 1849) (Figs 6, 7, 8, 9)

Erpeldange/Bous, "Hiwwelbierg", 49°32'46.8" N 6°20'15.3" E, 228 m a.s.l., 4 specimens leg. (1 male dissected) 14.04.2022, leg. R. Gerend.

New to Luxembourg.

This is an exceedingly rare ground dwelling beetle known from the warmer parts of southern Central Europe but hardly recorded as of late (coleonet, 2023). There are a few modern records from France: Tronquet (2006) mentions records from the eastern part of the French Pyrenees and notes an association with ants of the genus *Tapinoma* although this seems to be a quotation rather than an actual observation by



Fig. 6. *Myrmoecia confragosa*, Erpeldange/Bous "Hiwwelbierg". Photo: R. Gerend.



Fig. 7. *Myrmoecia confragosa*, Erpeldange/Bous, showing characteristic tergites. Scale bar 1.0 mm. Photo: R. Gerend.



Fig. 8. *Myrmoecia confragosa*, Erpeldange/Bous, detail of abdominal tergites. Scale bar 0.5 mm. Photo: R. Gerend.



Fig. 9. Erpeldange/Bous "Hiwelbierg", former marlstone quarry, habitat of *Myrmoecia confragosa*. Photo: R. Gerend.

this author. Prudhomme (2017) gave a more recent record from a woodland site in the Ain department. Assing (2010) published Spanish records by Aßmann from Lugo province and points out that the species had previously only been known from Madrid. According to Hlavać et al. (2011), the species is known from Europe and the Caucasus, and these authors emphasize the very close or obligate association of many Lomechusini with ant species. The association of *Myrmoecia* species with *Tapinoma* ants is also mentioned by Lohse (1974). Of this genus, two species are known from Luxembourg, *T. erraticum* (Latreille, 1798) being the more widespread (Wegnez et al. 2021).

Several adults of *M. confragosa* were observed running about in sunshine on a steep earthen bank with loose soil in a former marlstone quarry.

Callicerus rigidicornis (Erichson, 1839)

Bertrange, "Hiermesweier", 49°36'34.8" N 6°01'47.8" E, 291 m a.s.l., 14.04.-04.05.2015, 1 female, leg. SICONA, det. R. Gerend.

New to Luxembourg.

Assing (2001) gives a very detailed overview of this species' vast European distribution and the range of habitats it can be found in. As it is present in all the neighbouring countries, its occurrence in Luxembourg does not surprise, although it seems to be either very rare or very elusive. The single female specimen was caught in a pitfall trap in a patch of rough damp grassland near a small stream on heavy clay soil.

Ilyobates bennetti Donisthorpe, 1914

Bertrange, "Hiermesweier" 49°36'35.1" N 6°01'47.7 E, 26.05.-15.06.2015, bank of "Péitruss" stream, alder trees, 1 male, 3 females, 04.05.-26.05.2015, 2 males, 1 female, leg. SICONA, det. R. Gerend.

The species has been recorded for the first time under the name of *I. subopacus* Palm 1935 by Köhler (2009) in a pitfall trap set up in the "Laangmuer" woodland nature reserve and then again near Bettembourg in the "Beetebuerger Bësch", another woodland reserve (Köhler, 2012).

3.3.4. Oxytelinae Fleming, 1821

Carpelimus subtilis (Erichson, 1839)

Schifflange, "Brill", 49°30'31.8" N 6°00'29.2" E, 279 m a.s.l., 24.03.2021, 3 males, 5 females, litter sifting, leg. R. Gerend.

New to Luxembourg.

This is a species associated with riparian habitats, where it is believed to live in the interstices of sand and shingle banks along streams and rivers in the UK (Lott 2009). In contrast, Webster et al. (2016) mention that most New Brunswick records (Canada, where the species is not native) were sifted from leaf and grass litter on muddy or clayey soils near a river margin in a silver maple swamp. These circumstances correspond better with what we found at the Schifflange site, where the specimens have been sifted from leaf and sedge litter in a poplar plantation on heavy soil close to the river Alzette, which is polluted and presents neither sand nor shingle spits.

3.3.5. Staphylininae Latreille, 1802

Quedius schatzmayri Gridelli, 1922

Noertzange, "Dréisch", 49°30'23.6" N 6°02'28.7" E, 296 m a.s.l., 08.06.2019, 1 male, suction sampling, leg. R. Gerend.

New to Luxembourg.

Quedius schatzmayri is a western European species, widely distributed in the British Isles (Lott & Anderson 2011). Solodovnikov (2012) mentions the species for all the Benelux countries, although there are no records in the database of the Natural History Museum Luxembourg, which is why we consider it to be new to this country's fauna.

A male specimen was caught with a suction sampling device amongst sedge litter and other coarse organic debris in the riparian zone of a small eutrophic waterbody choked with vegetation on clayey soil.

Stenistoderus nothus (Erichson, 1839)

Dudelange, "A Schéleck", 49°29'51.3" N 6°05'40.7" E, 275 m a.s.l, 25.05.-21.06.2018, clayey bank of a crater-like artificial pool, floodplain of the "Diddelenger Baach" stream., pitfall trap, 1 female, leg. R. Gerend.

New to Luxembourg.

According to Assing (2012), *Stenistoderus nothus* has a range extending from the Canaries and North Africa eastwards to the Caucasus region and into Iraq but in Central Europe it is only known from southern Switzerland. Coiffait (1972) labels it a western Mediterranean species which in France can be found "almost anywhere but the extreme north" and which is more common in the south of the country. GBIF (2023) gives recent records for the Centre-Loire region of France, the Camargue and Manosque. The present author found it in a flooded alluvial forest in the Saône valley in 2006 (unpubl.).

This is a species of water edges and wetlands, where it can be found in litter and under stones (Coiffait, 1972). The location near Dudelange lies in the floodplain of a small stream in an area which used to be intensive pasture but has been set aside quite recently to compensate for the building of a vast logistic hub nearby: part of the stream's bed has been restored, three small pools have been created and trees have been planted. In order to study the beetle fauna of this area and monitor changes, pitfall traps were set up on the sloping banks of the pools which in 2018 still only had sparse vegetation (unlike the water body itself which was quickly overgrown with bulrush *Typha latifolia*) and a single female specimen was caught in May/June. This record, hundreds of kilometres outside its known range, may just be a chance encounter as the site lies in close proximity to a motorway, southbound railway line and a huge container terminal, and the specimen or its parents could have been brought there, hidden away in a lorry or railway carriage. On the other hand, active dispersal cannot be ruled out and further exploration will show whether the species is established for good. If this were the case, this would be the most northerly population of this rove beetle known so far.

3.4. Elateridae Leach, 1815

Brachygonus megerlei (Lacordaire, 1835)

Remich, "Elzebéchel", 49°33'6.12" N 6°21'23.15" E, ca 180 m a.s.l., 10.08.1998, 1 ad., leg. M. Meyer, det. F. Köhler, light trap.

Wellenstein, "Mäsberg", 49°31'14.16" N 6°21'14.47" E, ca 210 m a.s.l., 12.08.1998, 1 ad. leg. M. Meyer, det. F. Köhler, light trap.

Canach, "Wengertsbierg" 09.06.2021, 49°36'55" N 6°20'27.8" E, 289 m a.s.l., 09.06.2021, 1 female, leg. R. Gerend, at light.

New to Luxembourg.

This is a click beetle restricted to mature deciduous woodland or parkland with the larvae living in cavities of decaying oak, beech or willow trees (Iablokoff 1943 cited in Jeuniaux 1996). The species is rare and considered "threatened" in Germany (https://www.rote-liste-zentrum.de) and seems to have disappeared from Belgium (Jeuniaux 1996), where it used to be known from Glain (Liège) and Stavelot a century ago.

Adults are known to be crepuscular and nocturnal and are readily attracted to light and this is also how the recent Luxembourgish records came about. For the time being *B. megerlei* has only been found at three locations in the extreme southeast of Luxembourg, which happens to be the warmest and driest part of the country.

Procraerus tibialis (Lacordaire, 1835)

Aspelt, Krokelshaff, 49°31'15.3" N 6°12'16" E, 265 m a.s.l., 12.05.-26.05.2008, flight interception trap, 2 adults; 19.04.-20.05.2009, flight interception trap, 1 ad.; 28.06.-30.07.2009, 1 ad., all leg. R. Gerend.

Schengen, "Grouf", 49°28'23" N 6°20'46" E, 212 m a.s.l., 2008 and 2009 (div. locations within the "Grouf" woodland), 9 ad., flight interception trap, leg. et det. F. Köhler (Köhler 2013).

New to Luxembourg.

This is yet another elaterid species known from deciduous woodland rich in dead or decaying mature trees. Known from many European countries (GBIF 2023) it seems to be nevertheless rare in our area and there are no recent records from Belgium, where according to Jeuniaux (1996) the species has only been found ten times, all locations lying south of the Sambre-Meuse line.

In Luxembourg the records presented here have all been made with flight interception traps attached to decaying big oak trees, the Krokelshaff site presenting a line of mature oaks in otherwise open countryside, while

"Grouf" is a woodland nature reserve in the Moselle valley, with good amounts of dead wood and old standing trees.

Selatosomus cruciatus (Linnaeus, 1758) (Fig. 10)

Luxembourg, Weimerskirch "Kuebebierg", 49°37'54.7" N 6°08'37.6" E, 341 m a.s.l., 15.05.2020, 1 specimen, leg. R. Gerend.

Third record from Luxembourg.

This species has previously been found by V. Ferrant (no date given on the label) and A. Kuntchen (1945), both specimens being housed at the MNHNL, and by Alfred Mousset with all records being located in or close to the capital city. According to Jeuniaux (1996), the species has become much rarer in Belgium from the 1950ies onwards and it is currently only known from the south of the "Province de Luxembourg". *S. cruciatus* larvae live in damp sandy soils, where they feed on roots of herbaceous plants. The Luxembourgish site is a small nature reserve within the conurbation of Luxembourg City. The location is characterized by its sandy soil and offers a range of habitats from open dry grassland, arable, scrub to surrounding woodland. The single specimen was found on herbaceous vegetation along a woodland path.

3.5. Lymexylidae Fleming, 1821

Lymexylon navale (Linnaeus, 1758) (Fig. 11)

Aspelt, "Jongebësch", 49°31'43.7" N 6°12'35.2" E, ca 247 m a.s.l., flight interception trap, 1 specimen, 07.06.-31.07.2008, leg. R. Gerend.

W Rameldange (Niederanven), "Laangmuer" NR, 49°39'57.3" N 6°12'55.8" E, "Lufteklektor Standort 2", ca 377 m a.s.l., 4 specimens, flight interception trap, 30.07.2008, leg. F. Köhler (Köhler 2009).

Schengen, "Grouf", leg. et det. F. Köhler.

Dudelange "Däerebësch", 49°28'28.7" N 6°07'02.4" E, 302 m a.s.l., at light, 1 male, 18.06.2021, leg. R. Gerend.

New to Luxembourg.

These are the first records of the ship-timber beetle for Luxembourg. *L. navale* is a woodland saproxylic occurring mainly in deciduous woodland or wooded parkland where mature, decaying oaks are present. The species breeds in stems which have lost their bark so that the exposed xylem has dried out (www.ukbeetles.co.uk). While one male (Fig. 11) was observed at light in a woodland reserve near Dudelange on a warm summer night, the other beetles were caught in flight interception traps attached to the trunks of dead or dying oak trees. "Jongebësch" near Aspelt and "Däerebësch" near Dudelange are mainly of the oak-hornbeam type while "Laangmuer" is predominantly mature beech with some oak added.



Fig. 10. *Selatosomus cruciatus*, Luxembourg-Weimerskirch "Kuebebierg" nature reserve. Photo: R. Gerend.



Fig. 11. *Lymexylon navale*, Dudelange "Därebësch" nature reserve. Photo: R. Gerend at light.

3.6. **Silvanidae** Fleming, 1821

Airaphilus elongatus (Gyllenhal, 1813)

Schleif (NW Wiltz), "Bérelwiss", 49°59'27.6" N 5°51'32.904" E, ca 350 m a.s.l., 23.07.2004, by catch of the "cicada atlas project", leg. H. Nickel, det. St. Gürlich. (Recorder database MNHNL).

Aspelt, "Briedemsbaach", 49°31'35.7" N 6°12'51.1" E, 237 m a.s.l., 07.02.2010, litter sifting, 1 specimen, leg. R. Gerend.

Bungerefermillen ("Bei der Bondorfermühle"), 49°52'06.9" N 5°47'44.7" E, 329 m a.s.l., suction sampling, 3 specimens, leg. R. Gerend.

New to Luxembourg.

This is a species living in wetland habitats, especially in wet or damp grassland. It is known from all the federal states of southern Germany (www.colkat.de) but seems to be rather rare.

3.7. **Zopheridae** Solier, 1834

Aulonium trisulcum (Geoffroy, 1785) (Fig. 12)

Frisange/Aspelt, "Krokelshaff" 49°31'15" N 6°12'16" E, 264 m a.s.l. 28.06.-30.07.2009, 1 specimen, flight interception trap, 29.06.2009, 1 specimen, light trap, leg. R. Gerend

ESE Dalheim, Reckingerhaff "Weiergewan" 49°32'18.3" N 6°18'21.4" E, 217 m a.s.l., 21.06.2020, 1 specimen, at light., leg. R. Gerend.

The species was last found by V. Ferrant a century ago near Mamer and Ahn (MNHNL).

It seems to be associated with elm trees damaged by *Scolytus* species, the larvae and eggs of which are thought to be its prey (UK beetles 2022), or might otherwise just be attracted by the conditions created by these bark beetles without necessarily being their specialised predator (www.thewcg.org.uk/Colydiidae). Fact is that adults and larvae are found under loose bark of dead trees, although many records are from light traps as the species is readily attracted to artificial light sources. Due to its habitat requirements, *Aulonium trisulcum* is a species of open woodland, woodland pasture and, at least in our region, orchards (which are ecologically very similar to woodland pasture, although minus massive old trees).



Fig. 12. *Aulonium trisulcum*, Dalheim "Weiergewan". Photo: R. Gerend at light.

3.8. **Tenebrionidae** Latreille, 1802

Asida sabulosa (Fuessly, 1775) (Figs 13, 14)

Dudelange, "Roudebierg", 49°28'19.2" N 6°5'31.09" E, 364 m a.s.l., July/August 2018, 1 female, pitfall trap, leg. R. Gerend.

Dudelange, "Gaalgebierg" (Haard NR), 49°29'2.54" N 6°3'49.82" E, 396 m a.s.l., 27.05.2021, 1 ad. photo: R. Gerend.

F-57 Contz-les-Bains, slope of Stromberg, 49°26'56.1" N 6°21'21.5" E, 282 m a.s.l., 10.05.2019, several ad. photo: R. Gerend.

New to Luxembourg.

Asida sabulosa sabulosa is a predominantly western European species known from France, the western part of Germany (Rhineland), Switzerland, Austria, the north of Italy (Soldati 2006). It is known from German Saarland but only from one site in the Moselle valley just across the border (Lillig 1999), a location which is incidentally very close to the French site related here. Unfortunately, there are no records from the Luxembourgish part of the Moselle valley which, at least in its current state, is devoid of suitable habitats. Köhler (1996) draws attention to the fact that many former



Fig. 13. *Asida sabulosa*, Dudelange "Haard" nature reserve. Photo: R. Gerend.



Fig. 14. *Asida sabulosa*, Dudelange "Haard" nature reserve. Photo: R. Gerend.

populations in the Moselle and Rhine valleys in Germany are now lost because of agricultural practices in the wine-growing areas. This might apply to Luxembourg as well, but in the absence of historic records such a conclusion would be speculative. The species is also known from Belgium where it used to be present in the extreme south-east of the country, hence very close to the border with Luxembourg (Libbrecht, 1988), although these data from "Lorraine belge" are all prior to 1950. Despite this absence of modern or at least recent records, the historic distribution in southern Belgium is in line with the species' current presence near Dudelange, which is limited to the same area of Jurassic limestone that outcrops here as well as in southern Belgium. However, other Belgian records slightly further north are from the sandstone region around Arlon. *Asida sabulosa* is a stenotopic species of habitats presenting dry and warm soil, hence its preference for lime- and sandstone areas. Due to their cryptic appearance, made even more effective by a crust of dirt adhering to the exoskeleton, and their habit of hiding under stones or burrowing in the soil (Libbrecht 1988, Soldati 2006), these beetles can be hard to find, although they are readily caught with pitfall traps (Soldati 2006). The fact that at the "Roudebierg" site just a single female was trapped this way in a campaign spanning three seasons, hints at a very small population size and thus raises the question of its viability. *Asida sabulosa* is a brachypterous beetle with a very limited ability to colonize new or restored habitats, although its presence at the "Haard" nature reserve, a former area of open-cast iron ore mining, suggests that the species can spread from isolated "pockets" into suitable habitats once they present themselves nearby, as was probably the case when the extraction industry created a "wasteland" of rocky and dry ground with a very sparse vegetation which suits this beetle well.

3.9. Meloidae Gyllenhaal, 1810

Stenoria analis Schaum, 1859 (Fig. 15)

Dudelange, "Roudebierg", 49°28'17.9" N 6°05'42.0" E, 365 m a.s.l., 12.08.2018, 1 specimen caught by chance, leg. R. Gerend.

Remerschen, "Haff Réimech", 49°30'02.3" N 6°21'32.7" E, 148 m a.s.l., 1 female, 15.08.2021, leg. R. Gerend.

New to Luxembourg.

This meloid beetle is thought to be in the process of extending its range northwards, very likely in the wake of its host, the ivy bee *Colletes hederae* Schmidt & Westrich, 1993, of which it is a cleptoparasite (Vereecken et al. 2010). The first records from western Germany were made in 2013 in the states of Baden-Württemberg and Rhineland-Palatinate (Niehuis & Lückmann 2013). It has since been found quite regularly in most countries of Western Europe (GBIF). The Dudelange record is from the south-facing "Roudebierg" limestone slope where one specimen was caught by chance, while the record from the Moselle valley near Remer-



Fig. 15. *Stenoria analis*, Remerschen-Wintrange "Haff Réimech" gravel pit area. Photo: R. Gerend.

schen was made in the context of attracting insects to an artificial light source: A single female of *S. analis* was found on a sand heap together with the Pantaloon Bee *Dasypoda altercator* (Harris 1780), although there is no evidence that this bee is another, hitherto unknown host species of the beetle.

3.10. **Chrysomelidae** Latreille, 1802

Mantura obtusata (Gyllenhal, 1813)

Bungerefermillen ("Bei der Bondorfermühle"), 49°52'06.9" N 5°47'44.7" E, 329 m a.s.l., suction sampling, 1 female.

New to Luxembourg.

This chrysomelid beetle is distributed throughout Europe (though absent from the Iberian Peninsula) and reaches the Caucasus in the east. It lives on dock species (*Rumex*), *Rumex acetosa* L. being the main host plant, and is mainly found in damp or even wet grassland, often at higher elevations. It is very rare in the German state of Baden-Württemberg and categorized as "critically endangered" in Germany (Rheinheimer & Hassler 2018). GBIF shows a cluster of records from neighbouring parts of Belgium (Upper Semois and Ardennes area) which are close to the Luxembourgish location mentioned here: a valley mire in a former meander of the River Sauer (Sûre) with a cool and humid microclimate.

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