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A new *Stagetus* Wollaston, 1861 species from Baltic amber (Coleoptera: Ptinidae)

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Háva, J.: *A new Stagetus Wollaston, 1861 species from Baltic amber (Coleoptera: Ptinidae).*
Abstract: A new species *Stagetus zahradniki* sp. nov. is described, illustrated and compared with similar amber species. The new species differs by a very long setation of dorsal surfaces.

Keywords: Taxonomy, new species, Coleoptera, Ptinidae, Stagetus, Eocene Baltic amber.

Introduction

The genus *Stagetus* Wollaston, 1861 currently contains about 75 recent species worldwide and one amber species Háva & Zahradník (2020). In the present paper, a second new species from Eocene Baltic amber is described and compared.

Material and methods

The habitus photograph was made by Artur Michalski with the help of a digital camera using Canon EOS 4000D on stereobinocular microscope Nikon SMZ800 + SMZ1500 + PLAN APO lens.

The material mentioned is deposited in the following collection:
JHAC - Private Entomological Laboratory and Collection, Jiří Háva, Únětice u Prahy, Prague west, Czech Republic.

The holotype specimen of the new species described here is provided with a red, printed label showing the following text:
HOLOTYPE Stagetus zahradniki sp. nov. J. Háva det. 2022.

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Description

Stagetus zahradniki sp. nov.
(Figs. 1-4)

Type material: Holotype (unsexed): Amber inclusion No. 6071, Poland, Gdansk city area, (JHAC).

The complete beetle is included in a transparent amber piece 30x14 mm. Syninclusions consist of numerous minute organic particles.

Description of holotype: Body oval (Fig. 1), transversally and longitudinally convex, body length 2.2 mm, the greatest width 0.9 mm (in amber situation). Pronotum, head, elytra, abdomen and legs black, antennae not visible.

Head hypognathous, almost flattened, coarsely punctured, punctures almost touched. Eyes large, rounded, slightly convex, glabrous. Antennae and palpi not visible.

Pronotum about as long as wide, trapeziform, coarsely punctured on lateral parts, shiny, with long yellow setation. The greatest width very shortly before base. Posterior angles obtusely rounded (in dorsal view); anterior part of pronotum slightly raised.

Scutellum triangular, slightly oval, very small.

Elytra shortly oval, matt, with distinct shoulders, with very long yellow setation. Each elytron with eleven striae consisting of small punctures, first stria near suture very short; punctures small, defined discally and near apex of elytron, eleventh elytral stria ending at the second half of elytron. Prosternum and metasternum with large individual punctures laterally (Fig. 2). Wing as on Figs. 3-4.

Legs robust and short, entirely black.

All abdominal visible ventrites of the same length, with small punctures medially.

Differential diagnosis: The new species is similar to amber *Stagetus arturi* Háva & Zahradník, 2020 but differs from it by the black body, long setation on dorsal surfaces, elytral punctuation and abdominal setation.

Etymology: Patronymic, dedicated to my very good friend and colleague Petr Zahradník (Prague, Czech Republic).

Acknowledgements

I indebted very much to Artur Michalski (Wroclaw, Poland) for providing us with the interesting material and to Miloslav Rakovič (Czech Republic) for linguistic correction. The paper was supported by the Ministry of Agriculture of the Czech Republic, institutional support MZE-RO0118.

Figs. 1-4. *Stagetus zahradniki* sp. nov.: 1- habitus, in dorsal view, 2- habitus, in ventral view, 3- wing, in dorsal view, 4- wing in ventral view

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Háva, J. & Zahradník P. 2020: A new species of the genus Stagetus Wollaston, 1861 (Coleoptera: Ptinidae: Dorcatominae) from Eocene Baltic amber. - Natura Somogyiensis 35: 45-50. DOI:10.24394/NatSom.2020.35.45

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Magyarország faunájára új díszmolyok (Oecophoridae)

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Szeőke, K.: *New concealer moths (Oecophoridae) for the fauna of Hungary.*
Abstract: In recent years, two new concealer moth, *Aplota palpella* (Haworth, 1828) and *Denisia albimaculea* (Haworth, 1828) species (Oecophoridae) have been recorded in the fauna of Hungary in the Vértes and Bakony Mountains.

Keywords: New record, faunistic, Hungary, Vértes Mts, Bakony Mts.

Az *Aplota palpella* (Haworth, 1828) a Vértesben, Csákvár Zöld-hegy lábánál 2020. augusztus 10-én, nappali gyűjtés során, a délelőtti órákban került elő (1. ábra). A lepke zuzmós fatörzsön 0,5-1,0 m magasságban, rövideket repülve fürgén „ugrált". A következő évben, szintén a Zöld-hegyen az *Aplota nigricans* (2. ábra) egy példánya is begyűjtésre került. A lepkét mesterséges fény (160 W, HMLI) csalta a gyűjtőlepedőre.

Az *Aplota palpella* (Haworth, 1828) európai elterjedésű (10-12 mm szárnyfesztávolságú), rejtett életmódot folytató, zuzmófogyasztó lepkefaj. Karsholt & Razowski (1996) európai fajjegyzékében Norvégia, Dánia, Svédország, Lengyelország, Csehország, Németország, Hollandia Nagy-Britannia, Belgium, Franciaország, Spanyolország, Olaszország, Svájc és Ausztria előfordulása szerepel. A közel múltban Szlovákiából is kimutatták (Tokár et al. 2010). Ugyanakkor Magyarország területéről még nem észlelték (Gozmány 1958, Pastorális et al. 2016). A hozzá hasonló, nagyobb méretű, egyöntetűen sötét szárnyú *Aplota nigricans* (Zeller, 1852) már előkerült a Bakony-hegységből (Szabóky 2013, 2019).

A *Denisia albimaculea* (Haworth, 1828) (3. ábra) egy példányát a Bakony keleti részén (Várpalota, Fajdas) 2016. május 22-én gyűjtöttem. A hozzá hasonló *Denisia augustella* (Hübner, 1796) előfordulása korábban ismert volt a Vértesből (Pastorális et al. 2016), és a Bakony-hegységből (Szabóky 2019). Egy példányát nappali hálózás alkalmával gyűjtöttem Gánt-Gránás térségében (4. ábra).

A *Denisia albimaculea* (Haworth, 1828) európai elterjedésű (9-11 mm szárnyfesztávolságú), lokálisan előforduló, ritka lepkefaj (Tokár et al. 2005). Karsholt & Razowski (1996) európai fajjegyzékében Dánia, Svédország, Lengyelország, Csehország, Németország, Hollandia, Nagy-Britannia, Belgium, Luxemburg, Franciaország, Szardínia, Olaszország, Szerbia, Románia előfordulással szerepel. Az egymáshoz hasonló *Denisia* fajok (*D. albimaculea, D. augustella, D. luctuosella*)

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1. ábra: ***Aplota palpella*** **(Haworth, 1828)**

2. ábra: ***Aplota nigricans*** **(Zeller, 1852)**

határozóbélyegeit LEMPKE & GIELIS (1988) ismerteti. Magyarországról eddig csak a rokon, *D. albimaculea* fajhoz hasonló *Denisia augustella* (Hübner, 1796) faj került elő (PASTORÁLIS et al. 2016, SZABÓKY 2019).

Valószínűleg számos Oecophoridae faj azért számít ritkának, mert a mesterséges fényt közvetlenül ritkán keresi fel és így csak elvétve kerül a gyűjtők szeme elé.

3. ábra: ***Denisia albimaculea*** **(Haworth, 1828)**

4. ábra: ***Denisia augustella*** **(Hübner, 1796)**

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New *Phytoecia* (*Pseudopilemia*) species from North Iran (Coleoptera: Cerambycidae: Lamiinae)

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Skořepa, L.: *New Phytoecia (Pseudopilemia) species from North Iran (Coleoptera: Cerambycidae: Lamiinae).* **Abstract:** *Phytoecia* (*Pseudopilemia*) *kostali* **sp. nov.** from North Iran is described. The habitus and male genitalia are illustrated.

Keywords: taxonomy, *Pseudopilemia*, *P. kostali* sp. nov., Iran,

Introduction

The subgenus *Pseudopilemia* Kasatkinem, 2018 was established as a new taxon of the genus *Phytoecia* Dejan, 1835 with the type species *Saperda hirsutula* Frölich, 1793. *Phytoecia* (*Pseudopilemia*) *evae* D. Marklund et S. Marklund, 2014, *Phytoecia* (*Pseudopilemia*) *kruszelnickii* Szczepański et Karpinski, 2017 and *Phytoecia* (*Pseudopilemia*) *konyaensis* Danilevsky, 2010 were determined as typical species of the subgenus *Pseudopilemia* Kasatkin, 2018. Additionally, *Phytoecia* (*Pseudopilemia*) *hirsutula* Frölich, 1793 with the subspecies *Ph.* (*P.*) *h. homoiesthes* Ganglbauer, 1888 are considered as members of this subgenus. According to Szczepański & Karpiński (2017) *Ph*. (*P*.) *moreana* Breuning, 1943 was set as a separate species and *Ph*. (*P*.) *buglanica* D. Marklund & S.Marklund, 2014 was synonymized with *Ph*. (*P*.) *hirsutula* (Frölich, 1793).

According to Danilevsky (2019) the subgenus *Pseudopilemia* comprises eight taxa including one subspecies. *Phytoecia* (*Pseudopilemia*) *hirsutula* Frölich, 1793, *Phytoecia* (*Pseudopilemia*) *hirsutula homoiesthes* Ganglbauer, 1888 and *Phytoecia* (*Pseudopilemia*) *ghobarii* Danilevsky, 2018 are the three taxa of the subgenus known in Iran. In the present paper, the new species of the subgenus is described as clearly morphologically distinct from the aforementioned taxa, and it is directly compared with the closest congeners *Phytoecia* (*Pseudopilemia*) *hirsutula* Frölich, 1793 and *Phytoecia* (*Pseudopilemia*) *kruszelnickii* Szczepański & Karpinski, 2017.

Material and Methods

The habitus of all specimens was taken by the Canon EOS 350D digital camera with the Sigma 105 mm macro lens. Composite images were created using the software Image Stacking Software Combine ZP. Microstructures of dissected parts were observed

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under the DNT DigiMicro Profi USB microscope. The genitalia photographs were taken with a Canon MP-E 65mm/2.8 1–5× Macrolens on bellows attached to a Canon EOS 550D camera. Each photograph was taken as several partially focused images and afterward composed in the Helicon Focus 3.20.2 Pro software. The photographs were modified using Adobe Photoshop CC.

Specimens examined including type materials are deposited in the following collection:

LS – collection of Lukáš Skořepa (Peč, Czech Republic)
TP – collection of Tomáš Peterka (Veselí nad Lužnicí, Czech Republic)
DS – collection of David Šanc (Plzeň, Czech Republic)

The new species is compared with closely related taxa that were represented by the following material.

Phytoecia (*Pseudopilemia*) *hirsutula* Frölich, 1793
Type locality: Austria.
Examined material: 1♂, Makedonia centr., Trojaci env., Kozjak hill, 23.v.2010, leg. V.Křivan (LS); 2♂, Turkey, prov Malatya, 35km NE Gelbasi, Resadiye Gec., 23.v.2011, leg. L.Skořepa, (LS); 3♂♂, 3♀♀, Turkey, prov Mus, 10km E Solhan, Buglan Gec., 1600 m, 30.v.2011, leg. L.Skořepa, (LS);1♂, Georgia, east, NP Vaschlovani, 15.v.2017, leg. T.Peterka (LS); 2♂♂, 1♀, Georgia, centr., 7km S Kvemo Nichbisi, 16. - 17. vi.2019, leg. L.Skořepa (LS);1♂, Slovakia, Štůrovo env., Hegyfarok, 7.v.1995, leg. P.Viktora (DS).

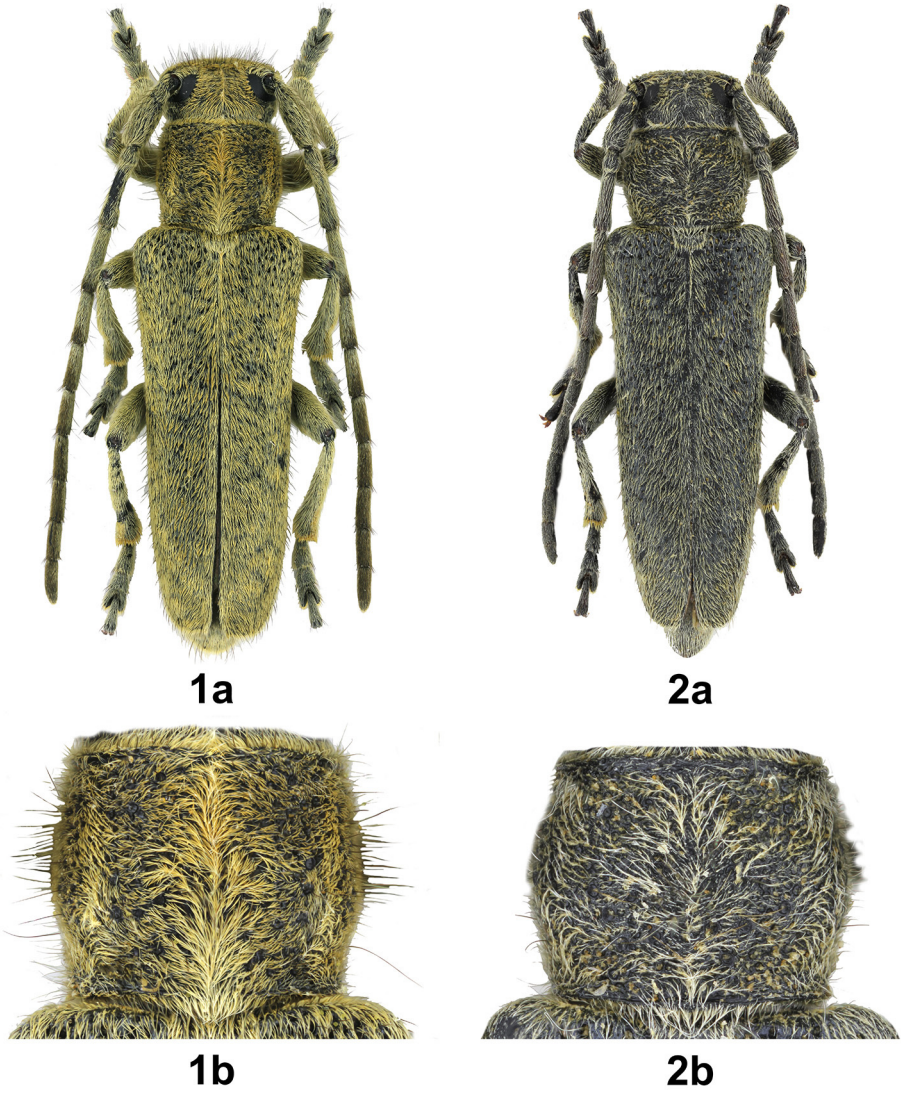
Phytoecia (*Pseudopilemia*) *kruszelnickii* Szczepański et Karpiński, 2017
Type locality: Greece
Examined material: 8♂♂, 6♀♀, Greece, Meteora, 2km NE Kalapaka – Kastraki, 8.v.2013, leg. L.Skořepa (LS)

Taxonomy

Tribe **Lamiinae**
Genus ***Phytoecia*** Dejean, 1835
Phytoecia (*Pseudopilemia*) *kostali* **sp. nov.**

Type material: *Holotype* (♂) (Fig. 2a): Iran, prov. Mazandaran, 20km E Marzanabad, Kinj env., 3. – 4.vi.2016, L.Skořepa lgt. (deposited in LS collection); *Paratypes*: (3♂♂, 2♀♀) (deposited in LS collection); (5♂♂, 4♀♀) (deposited in TP collection); (2♂♂, 1♀) (deposited in DS collection), same data as holotype.

Description. Habitus of the male holotype is presented in Fig. 2a. Body length ranges from 3.1 to 5 mm, body width is from 2.5 to 3 mm, females are more robust. The integument of the whole body is black. The whole body is covered by two types of pubescence. Basal pubescence is sparse and short, yellowish-white, uniform without fragmentation. Sides of pronotum and elytra bear scattered individual longer brownish setae. Pronotum is heavily punctuated. Head and elytra are with sparse punctuation. In both males and females pronotum is oblong, markedly wider than long (Fig. 2b). Pubescence of pronotum is more distinctive on sides (like in other taxa of the subgenus) and the longitudinal line of pubescence in the middle of pronotum is rather indistinctive. In both males and females antennae are markedly shorter than the body length, reaching approximately 8/10 of elytra length. Antennae are evenly and rather densely covered by short white procumbent pubescence. Scutellum and elytra are covered with similar



Figs 1–2: Habitus and pronotum of species *Phytoecia*, of the subgenus *Pseodopilemia*: 1a habitus *Ph.*(*P.*) *kruszelnickii* Szczepański et Karpiński, 2017; 1b pronotum *Ph.*(*P.*) *kruszelnickii* Szczepański et Karpiński, 2017; 2a habitus *Ph.*(*P.*) *kostali* sp.nov.; 2b pronotum *Ph.*(*P.*) *kostali* sp.nov.

sparse and short pubescence as the rest of the body, only margins of scutellum are rimmed with noticeably denser pubescence of yellowish-white colour. Elytra are elongated in males, they taper rearwards from humeri, while in females elytra are more parallel-sided. Elytra are convex, in males slightly flattened. Male genitals are very characteristic and well distinguishable. Parameres are pale, narrow, and long, with many setae at the apex (Fig. 3). The apex of the aedeagus is gradually narrowing apically (Fig. 4).

Fig. 3-4: 3 Tegmen *Ph*.(*P*.) *kostali* sp.nov.; 4 Apex of the median lobe *Ph*.(*P*.) *kostali* sp.nov.

Differential diagnosis. The newly described taxon must be compared to previously known valid taxa of the subgenus *Pseudopilemia* occurring in the West Palearctic region. Those are namely: *Ph*.(*P*.) *kruszelnickii* Szczepański et Karpiński, 2017 and *Ph*.(*P*.) *hirsutula* Frölich, 1793. Habitus of *Ph*.(*P*.) *kruszelnickii* and *Ph*.(*P*.) *kostali* sp. nov. are compared in Fig. 1a and 2a. Body of *Ph*.(*P*.) *kostali* sp. nov. is virtual without any long erect pubescence with this trait is the most marked on the head. Pubescence of the whole body is continuous and even, but sparse. Therefore, body integument is well visible. However, the newly described species seemingly appears as worn-down, it is a native appearance. The other species have denser pubescence, usually with distinct patches forming a marble pattern. Pronotum of the new species is markedly wider than long. Pronotum of *Ph*.(*P*.) *kruszelnickii* and *Ph*.(*P*.) *kostali* sp. nov. is shown in Fig. 1b and 2b, respectively. In male antennae are noticeably shorter than the elytra length, which is not the case for other species of the subgenus. The differences can be found also in parameres that are narrower and more elongated in the case of *Ph*.(*P*.) *kostali* sp. nov.

Biology. All the specimens were collected at the same locality, an intensive pasture (Fig. 5) with the growth of *Stachys byzantina* K.Koch, 1849 (Fig. 6) that might be a host plant of the newly described beetle species.

Etymology. The newly described species was named after my lifelong friend Zdeněk Košťál (Pardubice, Czech Republic), who has noticed this species at the type locality.

Discussion. The newly described species was recorded in North Iran, from where it was reported by Zdeněk Košťál for the first time. As the species is small and rather unimpressive it has been neglected up to now. There are three taxa from subgenus *Pseudopilemia* known from Iran (DANILEVSKY 2019). All these taxa markedly differ from *Ph*.(*P*.) *kostali* sp. nov. Certain levels of similarity can be found in populations of *Ph*. (*P*.) hirsutula from the Caucasus and eastern Turkey, where extraordinary small and dark specimens occur. Nevertheless, the aforementioned differential traits are valid even in this case. Regarding these differential traits, Iranian populations of *Ph*.(*P*.) *hirsutula*

Fig. 5: Habitat of *Ph.*(*P.*) *kostali* sp.nov.

Fig. 6: Host plant of *Ph.*(*P.*) *kostali* sp.nov.

are constant, varying only in coloration or marble pattern of elytra pubescence. In some aspects inclusion of *Ph.*(*P.*) *kostali* sp. nov. to the subgenus *Pseudopilemia* seems to be doubtful. It might even belong to a new subgenus, which should be examined in extensive future studies.

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A contribution to knowledge of Dermestidae (Coleoptera) from Cook Islands

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Háva, J. & McCormack, G.: *A contribution to knowledge of Dermestidae (Coleoptera) from Cook Islands.*
Abstract: The following species are newly recorded from the Cook Islands: *Anthrenus* (*Anthrenus*) *oceanicus* Fauvel, 1903, *Evorinea iota* (Arrow, 1915), *Orphinus* (*Orphinus*) *fulvipes* (Guérin-Méneville, 1838), *Dermestes* (*Dermestinus*) *carnivorus* Fabricius, 1775.

Keywords: faunistic, new records, Coleoptera, Dermestidae, Cook Islands.

Introduction

The family Dermestidae currently includes approximately 1750 species and subspecies worldwide (Háva 2022), from the Cook Islands the family is poorly known with only one species recorded (Háva 2004). Here we report new records for an additional four established species and a fifth species as a border interception.

Material and Methods

Species are arranged in alphabetical order, the nomenclature and zoogeography follow the catalogue of Háva (2015, 2022).

The following abbreviation refer to the collection, in which the examined materials are deposited:

CINH - Cook Islands Natural Heritage Trust, Rarotonga, Cook Islands

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Fig. 1: Location of Cook Islands

Faunistic

Subfamily **Dermestinae**

Dermestes (***Dermestinus***) ***carnivorus*** Fabricius, 1775

Material examined: Cook Islands, Rarotonga, „found in a fish tin in building", M. Poeschko lgt., 1 spec., J. Háva det., (CINH).

Distribution. A cosmopolitan species (HÁVA 2015, 2022), now introduced and established in the Cook Islands.

Subfamily **Megatominae**

Anthrenus (***Anthrenus***) ***oceanicus*** Fauvel, 1903 (Fig. 1)

Material examined: Cook Islands, Rarotonga, Tupapa, 4. 2010, G. McCormack lgt., NH074, 1 spec., J. Háva det., (CINH).

Distribution. A species known from Czech Republic (intr.); England (intr.); Malta (intr.); Egypt (intr.); Congo (intr.); Mauritius (intr.); Nigeria (intr.); Reunion (intr.); Tanzania (intr.); Hawaiian Is.; China (intr.): Guangdong, Jiangsu; India: Andhra Pradesh, Tamil Nadu; Indonesia: Java, Madura; Malaysia; Pakistan (intr.); Sri Lanka; Taiwan; Australia; French Polynesia: Tahiti; New Caledonia; Papua New Guinea (HÁVA 2015, 2022), now introduced and established in the Cook Islands.

Orphinus (***Orphinus***) ***fulvipes*** (Guérin-Méneville, 1838)

Material examined: Cook Islands, Rarotonga, 2.2022, G. McCormack lgt., NH272, 1 ♀, J. Háva det., (CINH).

Distribution. A nearly cosmopolitan species (Háva 2015, 2022), now introduced and established in the Cook Islands.

Orphinus (***Orphinus***) ***terminalis*** (Sharp in Blackburn & Sharp, 1885)

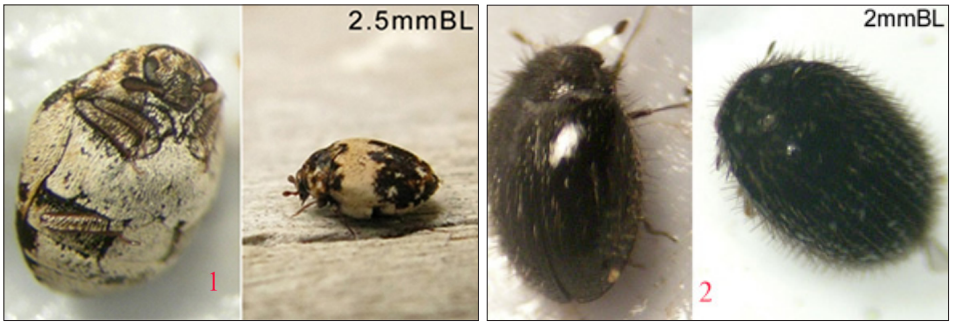
Remarks. The species from Cook Islands: Rarotonga recorded by Háva (2004).

Subfamily **Trinodinae**

Evorinea iota (Arrow, 1915) (Fig. 2)

Material examined: Cook Islands, Rarotonga, Tupapa, 10.2008, G. McCormack lgt., NH139, 1 spec., J. Háva det., (CINH).

Distribution. A species known from Kenya; Reunion; Bali; Cambodia; Japan; Java; Malaysia: Pahang, Sarawak; Myanmar; Philippines; Sri Lanka; Sulawesi; Sumatra; Taiwan; Thailand; Vietnam; Australia: Queensland; Caroline Is.; Kiribati (Gilbert Is.); Mariana Is.; Palau; Papua New Guinea; Ponape; Tanimbar Is.; Tonga; Truk; West Papua (Háva 2015, 2022), now introduced and established in the Cook Islands.



Figs. 1-2. Habitus: 1 - *Anthrenus* (*Anthrenus*) *oceanicus* Fauvel, 1903, 2 - *Evorinea iota* (Arrow, 1915) (photo by G. McCormack; BL - body length).

Remarks

Specimens of another cosmopolitan species *Trogoderma inclusum* LeConte, 1854 were found in June 2019 in a bag of Risotto rice from Italy being unpacked in a Rarotonga supermarket. Biosecurity was called and all the bags in the box were destroyed. Whether this interception was a complete success is unknown. The the species was identified by Dr Disna Gunawardana, Senior Entomologist with New Zealand Biosecurity who was running a workshop on biosecurity on Rarotonga at the time. No specimen or photograph was kept.

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New *Monoctenus* Dahlbom, 1835 (Hymenoptera: Symphyta) species from Georgia

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Japoshvili, G. & Haris, A: *New Monoctenus Dahlbom, 1835 (Hymenoptera: Symphyta) species from Georgia.*
Abstract: *Monoctenus lechkhumensis* **sp.n.** is described from Georgia, Dogurashi and compared to *Monoctenus nipponicus* Takeuchi, 1940.

Keywords: Hymenoptera, Symphyta, Diprionidae, Monoctenus, new species, Georgia, Caucasus

Introduction

This paper is part of a project on the investigation of the insects of Georgia (Sakartvelo – name of Country of Georgia in the native language) with special focus on the fauna of the Caucasus Mountains, conducted by the Institute of Entomology, Agricultural University of Georgia in Tbilisi, under the ptoject Caucasus Barcode of Life (CaBOL).

Monoctenus Dahlbom, 1835 is a small genus of family Diprionidae consisting 14 species worldwide, from which 3 species occur in Europe, 5 in Japan and 6 in the new world. No *Monoctenus* species have been reported from Georgia or in the Caucasus so far. Their host plants are: *Juniperus communis, Juniperus flaccida, Juniperus* spp., *Cryptomeriae japonica, Chamaecyparis pisifera, Chamaecyparis* spp. and *Thuja* spp. (Okutani 1958, Smith et al. 2010, Macek et al. 2020). *Monoctenus* species have free living larvae feeding on young, still soft needles of various Conifers (listed above); pupae are in the upper layers of the soil in a solid cocoon. Adults lay eggs in young buds of the host-plants (Macek et al. 2020).

Material and methods

The applied method was Malaise trapping from 17th till 24 of May in the Tsageri municipality, altitudes in the mountains of Northwestern Caucasus of Sakartvelo. Later, material was placed in 96% ethanol for further sorting and studies. The sawfly material was mounted in March of 2022.

For the identification and differential diagnosis of *Monoctenus lechkhumensis* Haris and Japoshvili sp. nov. the following papers and monographs were consulted: mono-

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graphs and identification keys of GUSSAKOVSKIJ (1947), LACOURT (2020), MACEK et al. (2020) and SMITH (1975) species descriptions of CRESSON (1880), DE LIRA-RAMOS et al. (2022), NORTON (1872), ROHWER (1918), SMITH et al. (2010), TAKEUCHI (1940) and TOGASHI (2001).

Description

Monoctenus lechkhumensis sp. nov.
(Figs. 1-4)

Holotype: female, Dogurashi, 17-24. 05. 2021, alt. 1 070 m, 42.669761° N, 42.785362° E. Deposited in the collection of Institute of Entomology, Agricultural University of Georgia.

Female. Head black, labrum yellowish brown, apex of mandible reddish brown. Thorax black, wide hind margin of pronotum and tegula yellow, cenchri brownish white. Coxae black with yellow apices. Trochanters yellow. Basal half of anterior femur black, apical half yellow. Middle and hind femora black with yellow apical quarter. All tibiae entirely yellow. Tarsi brown, basal halves of basitarsi brownish white. Abdomen with broad yellow band: first abdominal segment (propodeum) and anterior margin of tergite 2 black, segments 2-6 yellow, segment 7 yellow with black tergite. Black colour of body without any metallic luster. Apical segments black with narrow white hind margin. Ovipositor black with narrow white margin on apical part, cerci brown. Wings hyaline.

Fig. 1: *Monoctenus lechkhumensis* sp. nov. holotype

Fig. 2: Antennae of *Monoctenus lechkhumensis* sp. nov.

Stigma and veins dark brown. Basal upper quarter of stigma with large white spot.

Temple and vertex shiny with minute sporadic punctures. Head behind eyes parallel. Inner margins of eyes parallel. Head behind eyes smooth without postoccipital carina. OOL : POL : OCL: 11 : 9 : 12. Postocellar furrows deep and divergent. Vertex with deep longitudinal middle furrow. Genae about as long as diameter of median ocellus. Clypeus roundly emarginated in middle, clypeal emargination 0.2x as deep as median length of clypeus. Frontal area not bordered and not elevated. Head with one deep supraantennal rounded spit with short deep furrow towards to anterior ocellus. Clypeus and facial area with minute, modaretely dense punctures, shiny. Clypeus additionally with some deep wrinkles. Ratio of last 3 palpar segments: 6 : 7 : 9. Projections of antennal segments 5-8 well developed and about as long as length of the next antennal segment. Apices of projections rounded, not acute. Antenna with 17 or 18 joints (apical 2 joints of one antenna fused in holotype). Antenna about as long as head and thorax till the mesoscutellar appendage together.

Mesonotum and mesoscutellum nearly smooth and shiny with very sporadic minute punctures. Mesoscutellar appendage with sporadic, small punctures, shiny. Metascutellum smooth and shiny. Mesoscutellum flat. Mesepisternum with moderately dense, minute punctures, shiny. Cenchri long and elongated. Length of a cencher : distance between two cenchri: 11 : 6. Intercostal cross vein present. Number of cubital cells: 4. Basalis and first recurrent vein convergent. Anal cell constricted in middle and divided into 2 closed loops. Hind wing with closed cubital and middle cell. Anal cell with long petiole. Transverso-cubito-anal vein (Cu-a) positioned far from apex of anal cell. Claws with minute inner tooth. Inner hind tibial spur : length of basitarsus: 13 : 20. Tarsal segments with well developed white pulvilli. Head and thorax covered with white, sparse pubescence, about 0.7x as long as diameter of anterior ocellus.

First abdominal tergite smooth and shiny, with triangular membranous incision in middle. Other tergites shiny with shallow, transversal surface sculpture. Sawsheath short and emarginated apically with gently curved light brown long setae in dorsal view. Cerci over projecting apex of sawsheath. Length: 5.0 mm.

Fig. 3: Wings of *Monoctenus lechkhumensis* sp. nov.

Male and host-plants are unknown.

Etymology: The specific name refers to the name of region in Northwestern Georgia, Lechkhumi.

The new species has unique position in genus *Monoctenus* Dahlbom, 1835, since no other *Monoctenus* species has yellow transversely banded abdomen. Similar color pattern has the Nearctic *Augomonoctenus libocedrii* Rohwer, 1918. However, between many other morphological differences, *A. libocedrii* has pronotum and tegula black, the black color has bluish metallic luster and subcostal area without any crossvein. In the new species, pronotum and tegulae yellow, the black color without any bluish or metallic luster and subcostal crossvein is present. In the key of TOGASHI (2001) the new spe-

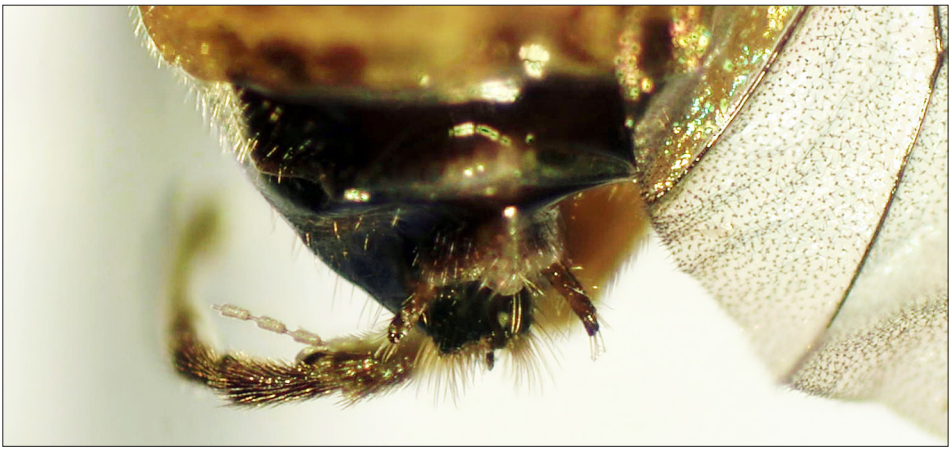

Fig. 4: Sawsheath of *Monoctenus lechkhumensis* sp. nov. in dorsal view

cies runs to *Monoctenus nipponicus* Takeuchi, 1940. *M. nipponicus* has entirely black body and largest projections of antennae are acute. In the new species, abdomen with wide yellow transversal band, pronotum mostly and tegula is entirely yellow; projections of antennae are bluntly rounded.

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Contribution to the knowledge of the aquatic macroinvertebrate fauna of Bükkösdi-víz (Mecsek Mountain, SW Hungary)

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Bozóki, T., Móra, A., Berta J. B., Pernecker B., Deák Cs., Málnás, K. & Boda, P.: *Contribution to the knowledge of the aquatic macroinvertebrate fauna of Bükkösdi-víz (Mecsek Mountain, SW Hungary).*
Abstract: In 2018 and 2019, quantitative aquatic macroinvertebrate samplings were carried out in the river network of the Bükkösdi-víz (Mecsek Mountain). The identification of 325,865 macroinvertebrate specimens originated from 40 sampling sites resulted in the occurrences of 125 different species belonging to 12 higher taxa (Gastropoda – 9, Bivalvia – 1, Hirudinea – 4, Malacostraca – 6, Ephemeroptera – 16, Odonata – 12, Plecoptera – 3, Heteroptera – 19, Coleoptera – 23, Megaloptera – 3, Neuroptera – 1, Trichoptera – 28), including 8 protected (Bivalvia: *Unio crassus*, Odonata: *Calopteryx virgo, Coenagrion ornatum, Gomphus vulgatissimus, Onychogomphus forcipatus, Orthetrum brunneum*, Heteroptera: *Aquarius najas*, Neuroptera: *Osmylus fulvicephalus*) and 1 strictly protected species (Odonata: *Cordulegaster heros*).

Keywords: faunistical data, new records, freshwater streams, intermittent streams

Introduction

As a result of global climate change, more frequent and intense weather events were observed all over the globe, causing extreme hydrological regimes in freshwater ecosystems (Pachauri 2014). Increasing flow intermittence and climate-related drought periods might have huge effects on stream-macroinvertebrate assemblages (Smith et al. 2003). Hilly and mountainous streams are even more threatened by flow cessation due to their geographical location and slope exposure. These changes are happening right before our eyes. In order to properly understand near future community responses to these increasing impacts, detailed baseline data are strongly needed on past and present conditions.

The effects of climate change appeared first in the streams of Mecsek Mountains, in the southern part of Hungary. The amount of information (i.e. biodiversity data) about the aquatic macroinvertebrate fauna of the Mecsek Mountains, apart from some general

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studies (e.g. GEBHARDT 1960, MAUCHART et al. 2010, SZIVÁK et al. 2010), is taxon-specific. The knowledge on the Odonata (AMBRUS et al. 1993, 1996, BENEDEK 1973, KOVÁCS et al. 2004, TÓTH 2006, MÜLLER et al. 2006), Coleoptera (CSABAI et al. 2009, HORVATOVICH 1979, 1980, 1981, 1982, KÁLMÁN et al. 2009, KOVÁCS and MERKL 2005, KÖDÖBÖCZ et al. 2006, MERKL et al. 2006) and Trichoptera (NÓGRÁDI 1984, 1987, NÓGRÁDI and UHERKOVICH 1991, UHERKOVICH and NÓGRÁDI 2005, 2006, MÓRA 2006) fauna of the Mecsek Mountains are relatively well documented, but only sporadic information are available about the other macroinvertebrate groups, e.g. Megaloptera and Neuroptera (ÁBRAHÁM 1991, 1998, 2009, ÁBRAHÁM and KOVÁCS 1999). As a pilot study for a 4-year long research initiation, we had 4 sampling campaigns in 2018-2019 to reveal the quantitative characteristics of the stream macroinvertebrate assemblages. In this paper we provide all the species level records turned out from these samplings, in order to contribute to the baseline knowledge about the macroinvertebrate biodiversity of the Mecsek Mountains.

Material and methods

The study was conducted in the Bükkösdi-víz river network, which is situated in the southern part of the Mecsek Mountains and somewhat includes the southern part of the Zselic hills. The catchment of the Bükkösdi-víz belongs to the Fekete-víz network, which flows into the Dráva River. From 2018 to 2019 (4 times: 2018 autumn, 2019 winter, spring and summer) aquatic macroinvertebrates were collected in 40 sampling sites (Table 1) in the Bükkösdi-víz network. During the samplings, stratified random multihabitat (10 subsamples per site) sampling method and "kick and sweep" technique was applied using a hand net with 1 mm mesh size (AQEM Consortium 2002). All samples were taken by Pál Boda, Péter Mauchart, Arnold Móra, Bálint Pernecker and Balázs J. Berta. Protected and large body-sized species that can be easily identified were sorted and released during the field work. Samples were preserved in 70% ethanol in the field and the samples were sorted later in the laboratory.

Individuals of macroinvertebrates from 12 taxonomic groups (Gastropoda, Bivalvia, Hirudinea, Crustacea, Ephemeroptera, Odonata, Plecoptera, Heteroptera, Coleoptera, Megaloptera, Neuroptera and Trichoptera) were identified under stereomicroscopes to the possible lowest taxonomic level by experts using relevant identification keys (AMBRUS et al. 2018, ANDRIKOVICS and MURÁNYI 2002, BAUERNFEIND and HUMPESCH 2001, BAUERNFEIND and SOLDÁN 2012, CSABAI 2000, CSABAI et al. 2002, EGGERS 2001, EISELER 2005, DOBSON 2012, HAYBACH 1999, KLONOWSKA-OLEJNIK 2004, KONTSCHÁN et al. 2002, KRNO 2004, LILLEHAMMER 1988, NESEMANN 1997, SAVAGE 1989, WARINGER and GRAF 2011, ZWICK 2004).

Table 1: List of sampling sites with date codes and geographical coordinates (D – drought period in that season, AU – Autumn, W – Winter, SP – Spring, SU – Summer)

Code	Sampling site	Date				Settlement	wgs 84 N	wgs 84 E
		AU	W	SP	SU			
1	Bükkösdi-víz 01	2018.09.06	2019.02.13	2019.04.18	2019.07.30	Szentkőrinc	46,043441	17,977890
2	Bükkösdi-víz 02	2018.09.06	2019.02.14	2019.04.18	2019.07.30	Bükkösd	46,110713	17,995077
3	Bükkösdi-víz 03	2018.09.06	2019.02.14	2019.04.18	2019.07.30	Bükkösd	46,118799	17,999791
4	Bükkösdi-víz 04	2018.09.06	2019.02.14	2019.04.23	2019.07.30	Hetvehely	46,132529	18,044578
5	Bükkösdi-víz 05	2018.09.06	2019.02.14	2019.04.23	2019.07.30	Hetvehely	46,133351	18,045596
6	Bükkösdi-víz 06	2018.09.04	2019.02.13	2019.04.23	2019.07.29	Abaliget	46,149770	18,103767
7	Megyefai-árok 01	2018.09.04	2019.02.12	2019.04.15	2019.07.29	Bükkösd	46,105024	18,018026
8	Megyefai-árok 02	2018.09.03	2019.02.12	2019.04.15	2019.07.29	Bükkösd	46,106363	18,029162
9	Megyefai-árok 03	2018.09.03	2019.02.12	2019.04.12	2019.07.29	Boda	46,105759	18,039995
10	Megyefai-árok 04	2018.09.03	2019.02.12	2019.04.15	2019.07.29	Bükkösd	46,100624	18,001500
11	Megyefai-árok 05	2018.09.03	2019.02.12	2019.04.15	2019.07.29	Bükkösd	46,104288	18,018673
12	Megyefai-árok 06	2018.09.03	2019.02.12	2019.04.16	-	Boda	46,105180	18,039250
13	Korpádi-árok 01	2018.09.04	2019.02.15	2019.04.25	2019.07.31	Ibafa	46,129805	17,975259
14	Sormás-patak 01	2018.09.04	2019.02.12	2019.04.17	2019.07.29	Bükkösd	46,132015	18,003319
15	Sormás-patak 02	2018.09.04	2019.02.11	2019.04.17	2019.07.29	Bükkösd	46,135402	17,998996
16	Sormás-patak 03	2018.09.04	2019.02.11	2019.04.16	2019.07.29	Ibafa	46,148937	17,963461
17	Sormás-patak 04	2018.09.04	2019.02.11	2019.04.17	2019.07.29	Bükkösd	46,136646	18,003126
18	Névtelen 4434 01	2018.09.04	2019.02.12	2019.04.18	2019.07.31	Bükkösd	46,120510	18,031784
19	Káni-patak 01	2019.02.11	2019.04.15	-	2019.07.29	Hetvehely	46,128978	18,031249
20	Petőczi-árok 01	2018.09.03	2019.02.08	2019.04.15	2019.07.29	Hetvehely	46,122023	18,055461
21	Petőczi-árok 02	2018.09.03	2019.02.08	2019.04.15	2019.07.29	Hetvehely	46,122010	18,060752
22	Petőczi-árok 03	2018.09.03	2019.02.11	2019.04.16	2019.07.29	Bakonya	46,120071	18,068197
23	Petőczi-árok 04	2018.09.04	2019.02.11	2019.04.16	2019.07.29	Bakonya	46,119512	18,073112
24	Petőczi-árok 05	2018.09.04	2019.04.16	2019.04.17	2019.07.30	Bakonya	46,116767	18,079893
25	Petőczi-árok 06	2018.09.04	-	-	-	Bakonya	46,116170	18,090365
26	Petőczi-árok 07	2018.09.03	2019.02.08	2019.04.15	2019.07.29	Hetvehely	46,121236	18,058518
27	Petőczi-árok 08	2018.09.03	2019.02.08	-	2019.07.29	Hetvehely	46,122138	18,066767
28	Petőczi-árok 09	2018.09.03	2019.02.11	2019.04.16	2019.07.29	Bakonya	46,117250	18,072139
29	Petőczi-árok 10	2018.09.04	2019.02.11	2019.04.16	2019.07.30	Kővágótöttös	46,116823	18,099123
30	Héménvölgyi-patak 01	2018.09.03	2019.02.11	2019.04.18	2019.07.30	Hetvehely	46,138320	18,039610
31	Héménvölgyi-patak 02	2018.09.03	2019.02.11	2019.04.18	2019.07.30	Hetvehely	46,140841	18,039866
32	Héménvölgyi-patak 03	2018.09.03	2019.02.11	2019.04.18	2019.07.30	Hetvehely	46,141282	18,035872
33	Nyáras-patak 01	2018.09.03	2019.02.12	2019.04.17	2019.07.30	Hetvehely	46,135073	18,062969
34	Nyáras-patak 02	-	2019.02.13	2019.04.17	-	Abaliget	46,138077	18,087565
35	Nyáras-patak 03	2018.09.03	2019.02.13	2019.04.17	2019.07.30	Abaliget	46,135290	18,082516
36	Okorvölgyi-vízfolyás 01	2018.09.04	2019.02.12	2019.04.18	2019.07.30	Okorvölgy	46,144245	18,059752
37	Okorvölgyi-vízfolyás 02	2018.09.04	2019.02.12	2019.04.18	2019.07.30	Okorvölgy	46,145348	18,059274
38	Okorvölgyi-vízfolyás 03	2018.09.04	2019.02.12	2019.04.17	-	Szentkatalin	46,182824	18,049638
39	Okorvölgyi-vízfolyás 04	-	2019.02.12	-	-	Okorvölgy	46,144807	18,058151
40	Okorvölgyi-vízfolyás 05	-	2019.02.12	2019.04.17	-	Szentkatalin	46,171053	18,051824

Results

Altogether, 325,865 macroinvertebrate specimens were collected during sampling campaigns. The specimens are belonging to 125 species of 12 taxonomic groups (Gastropoda – 9, Bivalvia – 1, Hirudinea – 4, Malacostraca – 6, Ephemeroptera – 16, Odonata – 12, Plecoptera – 3, Heteroptera – 19, Coleoptera – 23, Megaloptera – 3, Neuroptera – 1, Trichoptera – 28).

Eight protected species (Bivalvia: *Unio crassus*, Odonata: *Calopteryx virgo, Coenagrion ornatum, Gomphus vulgatissimus, Onychogomphus forcipatus, Orthetrum brunneum,* Heteroptera: *Aquarius najas*, Neuroptera: *Osmylus fulvicephalus*) and one strictly protected species (Odonata: *Cordulegaster heros*) were found.

Three Mediterranean or/and southern distributed species were found (Odonata: *Somatochlora meridionalis*, Heteroptera: *Notonecta meridionalis*, Coleoptera: *Limnius* cf. *opacus*) during the sampling. These species are rare all over Hungary and in the Mecsek Mountains. *Chaetopteryx* cf. *major* (Trichoptera) was found in many sampling sites (31). *Chaetopteryx major* is a common species in the studied area (see UHERKOVICH and NÓGRÁDI 2006), but the revision of this taxon is necessary because of the larva of the *Chaetopteryx* an endemic species in Mecsek Mts., is not known (see WARINGER and GRAF 2011).

In the list of taxa, the locality code, the date code of the sampling (Table 1) and the total number of individuals were given.

Gastropoda

Identified by Bálint Pernecker

ACROLOXIDAE

Acroloxus lacustris (Linnaeus, 1758) – **1**: AU 4, W 25, SP 7, SU 1.

HYDROBIIDAE

Potamopyrgus antipodarum (Gray, 1843) – **1**: SU 3; *3*: AU 2, SU 3; **4**: AU 121, W 169, SP 336, SU 860; **5**: AU 3780, W 362, SP 778, SU 1374.

LYMNAEIDAE

Galba truncatula (O. F. Müller, 1774) – **6**: SU 1; **10**: W 2; **11**: AU 1, W 2; **19**: SU 1; **23**: W 3, SP 1; **32**: AU 1; **33**: W 4; **34**: W 5; **37**: W 1; **40**: SP 2.

PHYSIDAE

Physella acuta (Draparnaud, 1805) – **1**: AU 26, W 35, SP 9, SU 3.

PLANORBIDAE

Anisus spirorbis (Linnaeus, 1758) – **37**: SU 2.

Ferrissia californica (Rowell, 1863) – **1**: AU 10; **4**: SP 3; **5**: AU 1, SP 4.

SUCCINEIDAE

Oxyloma elegans (Risso, 1826) – **2**: AU 1; **6**: SU 1; **17**: SU 1; **38**: SP 1.

Succinella oblonga (Draparnaud, 1801) – **22**: AU 1; **26**: AU 1.

Succinea putris (Linnaeus, 1758) – **1**: AU 17, W 6, SP 1; **3**: SU 2; **5**: AU 2; **40**: SP 2.

Bivalvia

Identified by Bálint Pernecker

UNIONIDAE

Unio crassus Philipsson, 1788 – **1**: SU 1; **3**: AU 6, W 1, SU 2.

Hirudinea
Identified by Kristóf Málnás

ERPOBDELLIDAE
Erpobdella vilnensis (Liskiewicz, 1925) – **37**: SU 7; **38**: SP 10; **40**: SP 1.
GLOSSIPHONIIDAE
Glossiphonia complanata (Linnaeus, 1758) – **15**: SP 9, SU 10; **33**: SP 1; **38**: SP 8; **40**: SP 1.
Helobdella stagnalis (Linnaeus, 1758) – **1**: SU 2.
HAEMOPIDAE
Haemopis sanguisuga (Linnaeus, 1758) – **15**: SP 1; **16**: SU 1; **19**: SU 1; **32**: SP 1; **33**: SP 1.

Malacostra
Identified by J. Balázs Berta

ASELLIDAE
Asellus aquaticus (Linnaeus, 1758) – **1**: W 8, SP 4, SU 1; **2**: W 1; **3**: AU 4; **4**: SU 1; **5**: SU 5; **7**: AU 3, W 43, SP 3; **10**: AU 5; **11**: W 3; **14**: AU 1, W 5; **15**: AU 22, W 161, SP 132; **17**: AU 2, W 1, SU 1; **19**: W 1; **22**: W 3; **23**: AU 2; **24**: SU 3; **26**: AU 365; **33**: AU 8, W 8, SP 1, SU 92; **35**: SU 1; **36**: W 4; **37**: W 9; SP 4; **38**: AU 160, W 26, SP 9; **40**: W 170, SP 121.
ASTACIDAE
Astacus astacus (Linnaeus, 1758) – **3**: SU 1; **4**: AU 1; **5**: AU 1; **6**: SU 1; **7**: AU 2; **8**: SU 10; **11**: AU 1; **14**: SU 6; **15**: SU 143; **16**: SU 1; **17**: SU 1; **30**: AU 1; **36**: SU 4.
CRANGONYCTIDAE
Synurella ambulans Mueller, 1846 – **1**: W 11; **15**: SU 2; **19**: W 1; **40**: W 66, SP 14.
GAMMARIDAE
Gammarus fossarum Koch in Panzer, 1836 – **1**: AU 35, W 40, SP 61, SU 7; **2**: AU 178, W 173, SP 504, SU 23; **3**: AU 380, W 228, SU 120; **4**: AU 520, W 358, SP 122, SU 145; **5**: AU 84, SP 27, SU 200; **6**: AU 402, W 1410, SP 162, SU 836; **7**: AU 310, W 2540, SP 575, SU 1280; **8**: AU 792, W 1756, SP 338, SU 9895; **9**: AU 412, W 1256, SP 472, SU 22200; **10**: AU 366, W 1895, SP 289, SU 3870; **11**: AU 1325, W 726, SP 95, SU 1758; **12**: AU 1685, W 361, SP 369; **13**: AU 7, W 155, SP 61, SU 666; **14**: AU 260, W 1125, SP 1830, SU 420; **15**: AU 28, W 17, SP 62, SU 64; **16**: AU 2076, W 197, SP 1735, SU 734; **17**: AU 300, W 444, SP 360, SU 2275; **18**: AU 302, W 411, SP 656, SU 9050; **19**: SU 3; **20**: AU 3200, W 416, SP 105, SU 559; **21**: AU 794, W 361, SP 194, SU 1139; **22**: AU 1625, W 102, SP 314, SU 786; **23**: AU 574, W 1, SP 42, SU 69; **24**: AU 384, SP 51, SU 344; **25**: AU 474; **26**: AU 1144, W 595, SP 300, SU 4200; **27**: AU 586, W 1588, SU 404; **28**: AU 694, W 1225, SP 503, SU 5095; **29**: AU 3060, W 712, SP 566, SU 1426; **30**: AU 660, W 195, SP 725, SU 2685; **31**: AU 1456, W 55, SP 258, SU 340; **32**: AU 340, W 970, SP 19, SU 42; **33**: AU 162, W 17, SP 49, SU 172; **34**: W 2; **35**: AU 930, W 795, SP 907, SU 40; **36**: AU 226, W 628, SP 514; **37**: AU 2280, W 614, SP 514; **38**: AU 10500, W 3360, SP 4810; **39**: W 1; **40**: W 5, SP 13.
Gammarus roeselii (Gervais, 1835) – **1**: AU 113, W 283, SP 150, SU 330; **2**: AU 70, W 30, SP 282, SU 533; **3**: AU 96, W 106, SU 2525; **4**: AU 50, W 354, SP 174, SU 2610; **5**: AU 18, W 28, SP 92, SU 1545; **6**: AU 166, W 465, SP 654, SU 872; **7**: AU 20, W 760, SP 33, SU 200; **11**: AU 85, W 91, SP 15, SU 83; **13**: AU 9, W 110, SP 27, SU 82; **14**: AU 140, W 1050, SP 1710, SU 1080; **15**: AU 312, W 135, SP 167, SU 392; **16**: AU 72, W 7, SP 45, SU 44; **17**: AU 52, W 174, SP 262, SU 875; **19**: SP 5; **20**: AU 80, W 48, SP 50, SU 20; **21**: AU 22, W 33, SP 46, SU 29; **22**: AU 35, W 3, SP 29, SU 11; **23**: AU 88, SP 48, SU 12; **24**: AU 20, SU 2; **25**: AU 34; **26**: SU 1; **27**: W 32; **30**: AU 40, W 575, SP 430, SU 435; **31**: AU 60, W 735, SP 308, SU 183; **32**: AU 330, W 865, SP 53, SU 169; **33**: AU 142, W 162, SP 37, SU 637; **34**: SP 3; **35**: W 18, SP 7, SU 4; **36**: AU 204, W 273, SP 778, SU 3830; **37**: AU 730, W 125, SP 1690, SU 8180; **38**: AU 100, W 65, SP 80; **40**: W 1, SP 6.
NIPHARGIDAE
Niphargus hrabei S. Karaman, 1932 – **23**: SP 14, **33**: W 8.

Ephemeroptera
Identified by Csaba Deák

AMELETIDAE
Metreletus balcanicus (Ulmer, 1920) – **33**: SP 21; **34**: SP 161; **40**: SP 82.

BAETIDAE

Baetis buceratus Eaton, 1870 – **1**: SP 4; **3**: AU 24; **12**: SP 1; **13**: SP 4; **36**: SP 6.

Baetis nexus Navás, 1918 – **1**: SU 1.

Baetis rhodani (Pictet, 1843) – **1**: AU 3; **2**: AU 1, W 18, SP 40; **3**: W 9; **4**: AU 9, W 7; **6**: W 41; **7**: W 57, SP 29; **8**: W 18, SP 9, SU 2; **10**: W 118, SP 14; **10**: SP 1, **11**: W 39, SP 13; **13**: W 2; **14**: AU 4, W 147, SP 102, SU 7; **15**: W 8, SP 30; **16**: W 85, SP 17; **17**: AU 366, W 682, SP 79, SU 63; **18**: SP 28; **20**: AU 18; **21**: AU 28; W 117, SP 3, SU 13; **22**: W 50, SP 6, SU 1; **24**: SP 12, SU 14; **26**: AU 16, W 34, SP 3, SU 1; **27**: AU 17, W 42; **28**: AU 6, W 171, SP 14, SU 14; **30**: AU 24, W 41, SP 38; **31**: AU 14, SP 25; **32**: W 5, SP 8; **35**: AU 5, W 62.

Baetis vernus Curtis, 1834 – **1**: AU 11, W 12, SP 6; **2**: AU 1, W 7, SP 83, SU 6; **3**: AU 24, SU 4; **4**: AU 33, SP 48, SU 18; **5**: AU 3, SP 2, SU 4; **6**: AU 20, SP 14, SU 31; **7**: AU 4; **11**: AU 2; **13**: AU 1, SP 8, SU 1; **14**: AU 4, SU 4; **24**: SU 6; **30**: AU 4; **36**: AU 22, SU 4; **37**: AU 16.

Centroptilum luteolum (Müller, 1776) – **1**: AU 1; **3**: SU 1; **6**: SP 14; **7**: W 10, SU 18; **11**: W 30, SP 54, SU 3; **12**: W 2; **13**: AU 3, W 25, SP 5, SU 4; **14**: W 9, SP 12, SU 1; **15**: SP 46; **16**: AU 11, W 38, SP 77; **17**: W 13, SP 23; **20**: W 8, SP 9; **21**: AU 7, W 63, SP 7, SU 4; **22**: AU 3, SP 41, SU 4; **23**: AU 69, SP 4, SU 1; **24**: AU 7, SU 7; **25**: AU 8; **29**. SP 22, SU 4; **29**: SP 6, SU 3; **30**: AU 251, SP 7, SU 3; **31**: W 245, SP 31, SU 191; **32**: SP 130; **33**: SU 6; **35**: AU 19, W 10, SP 13; **36**: SP 1; **40**: W 37, SP 231.

Cloeon dipterum (Linnaeus, 1761) – **1**: AU 1, W 4, SU 2; **2**: SU 2; **5**: SP 1, SU 1; **13**: SP 3; **15**: AU 3, W 1; **38**: AU 1, SP 1; **40**: W 2.

Procloeon bifidum (Bengtsson, 1912) – **2**: AU 2, SU 3; **3**: AU 1, SU 2.

EPHEMERIDAE

Ephemera danica Müller, 1764 – **2**: AU 6; **3**: AU 3, W 1; **7**: AU 31, W 18, SP 21, SU 71; **8**: AU 1, W 5, SP 8, SU 9; **9**: W 14, SP 2, SU 2; **11**: AU 12, W 23, SP 13, SU 13; **14**: AU 21, W 18, SP 31, SU 26; **15**: SP 3, SU 1; **16**: AU 33, W 61, SP 12, SU 58; **17**: AU 4, W 77, SP 46, SU 29; **18**: AU 89, W 232, SP 292, SU 148; **20**: AU 23, W 48, SP 54, SU 14; **21**: AU 23, W 64, SP 73, SU 23; **22**: AU 17, W 28, SP 74, SU 44; **23**: AU 19; **24**: AU 10, SP 16, SU 12; **25**: AU 28; **26**: AU 30, W 182, SP 132, SU 23; **27**: AU 3, W 38, SU 6; **28**: AU 23, SP 7, SU 1; **30**: AU 33, W 74, SP 31, SU 2; **30**: W 16, SP 11, SU 3; **31**: AU 1, W 3; **33**: AU 55, SU 2; **35**: W 97, SP 14, SU 4; **36**: AU 1, W 1; **37**: SP 1.

HEPTAGENIIDAE

Ecdyonurus submontanus Landa, 1969 – **1**: AU 3, SP 1; **2**: AU 3, SP 5, SU 3; **3**: AU 8, W 4, SU 3; **4**: AU 8, W 17, SP 13; **7**: W 13, SP 14, SU 2; **11**: SP 4; **14**: AU 1, W 27, SP 4, SU 12; **15**: W 3, SP 6; **16**: SP 10, **17**: AU 37, W 313, SP 54, SU 16; **20**: W 3; **21**: AU 8, W 8, SP 17, SU 2; **22**: W 24, SP 4; **23**: SP 1; **24**: SU 2; **30**: W 8, SP 20; **31**: AU 2.

Electrogena ujhelyii (Sowa, 1981) – **2**: SP 1, SU 3; **3**: AU 4; **4**: AU 59, W 36, SP 18, SU 19; **5**: AU 1, SU 2; **6**: AU 34, W 39, SP 22, SU 2; **7**: AU 20, W 178, SP 39, SU 44; **8**: AU 157, W 267, SP 127, SU 32; **9**: AU 78, W 2249, SP 324, SU 63; **10**: AU 43, W 108, SP 48, SU 27; **11**: AU 8, W 599, SP 27, SU 4; **12**: AU 17, W 34, SP 4; **13**: AU 2, W 31, SP 16, SU 13; **14**: AU 31, W 136, SP 67, SU 56; **15**: W 47, SP 71; **16**: AU 181, W 343, SP 63, SU 14; **17**: AU 693, W 208, SP 74, SU 17; **18**: AU 46, W 422, SP 514, SU 4; **20**: AU 87, W 408, SP 39, SU 14; **21**: AU 146, W 237, SP 19, SU 90; **22**: AU 36, W 193, SP 92, SU 58; **23**: AU 71, SU 2; **24**: AU 42, SP 110, SU 7; **25**: AU 32; **26**: AU 54, W 326, SP 64, SU 2; **27**: AU 34, W 51, SU 4; **28**: AU 78, W 486, SP 57, SU 38; **29**: AU 60, W 431, SP 98, SU 34; **30**: AU 425, W 291, SP 86, SU 37; **31**: AU 85, W 376, SP 53, SU 10; **32**: W 291, SP 187, SU 1; **33**: AU 75, W 29, SP 2, SU 9; **35**: AU 115, W 571, SP 212, SU 2; **36**: AU 51, W 14, SP 12, SU 4; **37**: AU 14, SP 11, SU 4; **38**: AU 1.

LEPTOPHLEBIIDAE

Habroleptoides confusa Sartori & Jacob, 1986 – **3**: W 2; **7**: W 329, SP 13; **8**: W 32; **9**: W 12; **10**: W 4; **11**: W 489, SP 18; **12**: W 4; **14**: W 28; **16**: W 72; **17**: W 186, SP 6; **18**: W 20; **21**: W 64, SP 1; **22**: W 23; **24**: SP 9; **26**: W 23; **27**: W 4; **28**: W 38, SP 3; **29**: W 102, SP 7; **32**: W 5; **33**: W 3; **35**: W 188, SP 25; **36**: W 1.

Habrophlebia fusca (Curtis, 1834) – **1**: SP 6; **3**: W 2; **4**: SP 13, SU 9; **7**: SU 24; **11**: SU 3; **13**: SP 8; **15**: SP 192; **18**: SP 7; **20**: SP 1, SU 3; **21**: SU 8; **22**: SP 3; **30**: SP 8, SU 4; **31**: SP 3; **33**: SU 22; **36**: W 1, SP 4; **37**: SP 2.

Habrophlebia lauta Eaton, 1884 – **7**: SP 3; **11**: SP 4.

Paraleptophlebia submarginata (Stephens, 1836) – **1**: W 1; **3**: AU 3; **8**: AU 4, SU 4; **9**: AU 3; **10**: AU 3, SU 1; **14**: AU 8, W 1; **15**: AU 1, W 13; **16**: AU 4; **17**: AU 104, SP 11; **18**: AU 4; **20**: W 8; **21**: AU 48; **22**: AU 8, SP 3, SU 18; **23**: AU 117; **24**: AU 3; **25**: AU 24; **26**: AU 9; **28**: AU 24; **30**: AU 23; **30**: AU 28; **31**: W 8; **32**: W 1; **33**: AU 168; **35**: AU 1.

SIPHLONURIDAE

Siphlonurus aestivalis (Eaton, 1903) – **16**: SP 8; **19**: SP 374; **23**: SP 4; **24**: SP 6; **31**: SP 1; **33**: SP 2; **34**: SP 585; **35**: SP 8; **40**: SP 782.

Odonata

Identified by Arnold Móra

AESHNIDAE

Aeshna cyanea (Müller, 1764) – **31**: SU 1.

CALOPTERYGIDAE

Calopteryx splendens (Harris, 1782) – **1**: AU 12, W 15, SP 29, SU 17; **2**: AU 6; **3**: 2018. AU 2; **5**: SP 1; **11**: SP 1.

Calopteryx virgo (Linnaeus, 1758) – **1**: AU 4, W 3; **2**: AU 4, SU 2, **3**: AU 8, SU 7; **4**: AU 7, W 1; **5**: AU 2, SU 12; **6**: AU 2, SU 2; **7**: AU 1, SU 2; **8**: AU 1, SU 7; **11**: AU 1, W 1, SP 4, SU 11; **14**: AU 3, W 10, SP 1, SU 7; **15**: SP 1, SU 1; **16**: SU 1; **17**: SU 8; **20**: SU 1; **21**: W 1, SU 1; **22**: W 1, SP 6, SU 1; **28**: SP 1; **30**: AU 3; **31**: AU 1, W 1, SU 5; **32**: AU 3; **36**: AU 10, W 5, SU 15; **37**: AU 5, SP 2, SU 1.

COENAGRIONIDAE

Coenagrion ornatum (Selys, 1850) – **38**: AU 1.

Pyrrhosoma nymphula (Sulzer, 1776) – **38**: SP 1.

CORDULEGASTRIDAE

Cordulegaster heros Theischinger, 1979 – ***5***: AU 1, SU 1; **7**: AU 8, W 2, SP 4, SU 6; **8**: AU 9, W 9, SP 4, SU 38; **9**: AU 32, W 31, SP 16, SU 49; **10**: AU 10, W 8, SP 9, SU 87; **12**: AU 6, W 6, SP 4; **14**: W 1, SU 1; **15**: AU 1, W 1, SU 1; **16**: AU 18, W 9, SP 6, SU 12; **17**: W 1, SU 7; **18**: AU 35, W 16, SP 41, SU 82; **20**: AU 2, W 1, SP 1; **21**: AU 4, W 1, SU 2; **22**: AU 11, W 4, SP 1, SU 3; **23**: AU 6; **24**: AU 2, SP 5, SU 1; **25**: AU 3; **26**: AU 33, W 19, SP 21, SU 23; **27**: W 2; **28**: AU 28, W 34, SP 34, SU 10; **29**: AU 11, W 2, SP 6; **30**: SU 1; **31**: AU 1, SP 9; **32**: AU 5; **33**: AU 2; **35**: AU 6, SP 1, SU 1.

CORDULIIDAE

Somatochlora meridionalis Nielsen, 1935 – **1**: W 1; **3**: SU 1; **5**: AU 1; **15**: SU 1; **19**: W 1, SU 1; **31**: SU 2.

GOMPHIDAE

Gomphus vulgatissimus (Linnaeus, 1758) – **2**: AU 4; **3**: AU 7, SU 4; **10**: SU 1; **14**: SP 1.

Onychogomphus forcipatus (Linnaeus, 1758) – **3**: AU 3, W 3, SU 7; **4**: AU 1, W 2; **11**: SU 1; **14**: AU 1, SP 2, SU 1; **15**: SP 1, SU 2; **30**: SU 1; **32**: W 1.

LIBELLULIDAE

Orthetrum brunneum (Fonscolombe, 1837) – **11**: SU 2.

Orthetrum coerulescens (Fabricius, 1798) – **27**: AU 2.

PLATYCNEMIDIDAE

Platycnemis pennipes (Pallas, 1771) – **1**: AU 16, W 15, SP 14, SU 21; **2**: AU 3, SU 2; **3**: SU 8; **5**: AU 3, SP 3, SU 32; **11**: SP 3, SU 62; **14**: SU 1.

Plecoptera

Idenified by Csaba Deák

CAPNIIDAE

Zwicknia bifrons (Newman, 1838) – **2**: W 3; **3**: W 6; **4**: W 29; **6**: W 2; **9**: W 8; **11**: W 74; **13**: W 1; **14**: W 4; **16**: W 23; **18**: W 52; **20**: W 134; **21**: W 88; **22**: W 13; **23**: SP 2; **28**: W 92; **29**: W 4; **30**: W 29; **31**: W 43; **32**: W 67; **33**: W 172; **34**: W 1951; **35**: W 34; **36**: W 1.

NEMOURIDAE

Nemoura cinerea (Retzius, 1783) – **1**: W 1, SP 4; **5**: SP 2; **7**: W 271; **8**: W 66; **9**: W 98; **10**: W 126; **11**: W 537, SP 2; **12**: W 33; **13**: W 4; **14**: W 273; **15**: W 90, SP 57; **16**: W 211, SP 1; **17**: W 22; **18**: W 485; **19**: SP 58; **20**: W 98, SP 1; **23**: SP 62; **24**: SP 37; **26**: W 447; **27**: W 113; **28**: W 138; **29**: W 212; **30**: W 201; **31**: W 152; **32**: W 42; **33**: SP 53; **34**: SP 108; **35**: W 294; **36**: W 4; **37**: SP 2; **38**: W 67, SP 167; **40**: W 24, SP 393.

Nemoura marginata-Gr. – **7**: SU 1; **10**: SU 8; **11**: AU 1; **21**: AU 1; **23**: AU 8; **24**: AU 13; **26**: SU 1; **28**: SU 1.

Heteroptera
Identified by Pál Boda

APHELOCHEIRIDAE

Aphelocheirus aestivalis (Fabricius, 1794) – **1**: SP 2, SU 4.

CORIXIDAE

Hesperocorixa linnaei (Fieber, 1848) – **4**: SU 1.
Sigara limitata limitata (Fieber, 1848) – **5**: SU 1.
Sigara nigrolineata nigrolineata (Fieber, 1848) – **30**: SU 1; **31**: AU 2, W 13; **32**: AU 3.

GERRIDAE

Aquarius najas (De Geer, 1773) – **1**: AU 3; **3**: AU 1; **6**: AU 1; SP 2, SU 2; **7**: SP 4; **14**: AU 2; **15**: AU 1, SU 1; **16**: AU 15, SP 4, SU 6; **17**: AU 23, SP 4, SU 1; **20**: AU 3, SP 3; **21**: AU 7, SP 6; **22**: AU 3, SP 9; **23**: AU 3; **36**: SU 1; **37**: SU 4.
Aquarius paludum paludum Fabricius, 1794 – **15**: SP 1; **23**: SP 2; **32**: SP 1; **40**: SP 2.
Gerris argentatus Schummel, 1832 – **29**: SP 1.
Gerris asper (Fieber, 1860) – **31**: SP 1; **40**: SP 2.
Gerris lacustris (Linnaeus, 1758) – **1**: AU 2; **3**: SU 1; **5**: SP 2; **6**: SU 2; **8**: SP 1; **11**: SU 9; **14**: AU 2, SU 1; **15**: AU 1, SP 2, SU 2; **16**: SP 4, SU 1; **17**: SP 3; **19**: SP 1; **23**: SP 1; **25**: AU 1; **30**: AU 1, SU 1; **31**: AU 1, SP 1; **32**: AU 2, SP 8, SU 3; **36**: SP 1, SU 1; **40**: SP 2.
Gerris odontogaster (Zetterstedt, 1828) – **1**: SU 1.

HYDROMETRIDAE

Hydrometra gracilenta Horváth, 1899 – **33**: SU 1.
Hydrometra stagnorum (Linnaeus, 1758) – **19**: SU 1; **31**: SU 1.

NEPIDAE

Nepa cinerea Linnaeus, 1758 – **2**: SU 1; **3**: SU 1; **4**: SU 1; **5**: SU 2; **6**: W 1, SU 12; **10**: SU 5; **11**: SU 1; **13**: SU 1; **14**: SU 1; **15**: SP 1, SU 8; **17**: SU 2; ***19***: SU 3; **23**: SP 2, SU 1; **24**: AU 1, SP 1; **25**: AU 1; **26**: AU 2; **30**: SU 2, **31**: W 2, SU 5; **32**: AU 7, SU 4; **33**: AU 1, SU 18; **35**: SP 1; **36**: SU 2; **37**: AU 2, SP 1, SU 1; **38**: AU 2, SP 1; **40**: SP 1.
Ranatra linearis (Linnaeus, 1758) – **2**: SU 1.

NOTONECTIDAE

Notonecta glauca glauca Linnaeus, 1758 – **1**: W 1, SP 3, SU 3; **4**: SU 2; ***5***: SU 7; **6**: AU 1, W 2, SU 3; **8**: W 1, SU 7; **9**: AU 1, SU 3; **11**: AU 1, W 1, SU 1; **13**: W 1, SU 1; **14**: SU 12; **16**: AU 4, SU 11; **17**: SU 9; **23**: SU 2; **24**: AU 1, SU 7; **25**: AU 3; **29**: SU 10; **30**: AU 6, SU 1; **31**: AU 3, W 2, SU 10; **32**: AU 7, SU 4; **33**: SU 6; **35**: AU 1, W 1, SU 4; **36**: AU 1, SU 1; **37**: AU 1, SU 7.
Notonecta meridionalis Poisson, 1926 – **25**: AU 1.
Notonecta viridis Delcourt, 1909 – **1**: SU 1; **5**: SU 1; **14**: SU 1; **16**: AU 1; SU 1; **17**: SU 1; **24**: SU 1; **30**: AU 1; W 1, SU 2; **31**: W 1, SU 1; **32**: AU 1, W 1; **33**: SU 2.

VELIIDAE

Velia caprai caprai Tamanini, 1947 – **7**: SP 1; **8**: SU 8; **9**: SU 1; **10**: SU 1; **11**: AU 3, SU 2; **13**: SU 4; **15**: SU 1; **17**: SU 4; **23**: SP 1, SU 3; **24**: SP 3; **31**: SU 2; **32**: SP 4; **35**: AU 3, SP 6; **37**: SP 1.
Velia saulii Tamanini, 1947 – **32**: SU 1.

Coleoptera
Identified by Zoltán Csabai

DRYOPIDAE

Pomatinus substriatus (Müller, 1806) – **3**: AU 1; **4**: SU 1; **12**: AU 1; **14**: W 3; **15**: SU 3; **16**: AU 9; **22**: SU 1; **23**: AU 2; **28**: AU 2; **30**: SU 2.

DYTISCIDAE

Agabus bipustulatus (Linnaeus, 1767) – **13**: SP 1; **23**: SU 3; **33**: AU 3, SU 1.
Agabus striolatus (Gyllenhaal, 1808) – **31**: SP 1.
Dytiscus marginalis Linnaeus, 1759 – **37**: SU 1.
Hydroporus planus (Fabricius, 1781) – **11**: W 1; **13**: SP 2; **18**: AU 1; **23**: SP 3; **24**: AU 1; **25**: AU 3.
Laccophilus minutus (Linnaeus, 1758) – **35**: SP 1.
Platambus maculatus (Linnaeus, 1758) – **1**: AU 2, W 30, SU 3; **2**: AU 3; **3**: W 3, SU 2; **5**: W 1; **14**: W 3, SU

1; **15**: AU 5, W 1, SU 2; **17**: W 4; **20**: W 1; **21**: W 1, SU 2; **23**: AU 2; **30**: W 2; **32**: W 11; **33**: SU 1; **37**: AU 1; **34**: SP 1; **35**: W 2; **39**: W 1.

ELMIDAE

Limnius cf. opacus Müller, 1806 – **8**: W 1; **14**: AU 2, SU 1; **20**: AU 7; **31**: SP 1.
Limnius volckmari (Panzer, 1793) – **1**: SU 1; **2**: SP 1; **3**: AU 3, SU 1; **4**: AU 7, SU 1; **7**: SP 2, SU 3; **8**: SP 2, SU 1; **9**: SP 1, SU 1; **16**: SP 3, SU 1; **17**: AU 1, SP 1; **18**: SP 3; **20**: SU 1; **21**: AU 9, W 3, SP 1, SU 1; **22**: AU 1, W 3, SP 3; **23**: AU 1; **24**: AU 1; **28**: AU 12, W 1; **30**: AU 1.

GYRINIDAE

Gyrinus colymbus Erichson, 1837 – **8**: W 13, SU 9; **9**: W 11, SP 24, SU 39; **13**: SU 1; **14**: SU 1; **16**: AU 2, SU 7; **17**: W 4, SU 6; **18**: AU 1, SU 1; **22**: AU 2, SU 6; **23**: AU 2, SP 4; **24**: AU 3, SU 3; **28**: W 6, SU 5; **29**: SU 3; **30**: SU 14; **31**: W 7; **32**: AU 1; **33**: SU 3; **35**: SU 2; **37**: SU 18.
Gyrinus distinctus Aubé, 1838 – **16**: AU 4; **17**: AU 2; **22**: AU 3; **23**: AU 1; **28**: AU 5; **30**: AU 4; **35**: AU 2.
Gyrinus substriatus Stephens, 1828 – **17**: AU 1; **30**: AU 3; **32**: AU 1; **37**: AU 1.
Orectochilus villosus (Müller, 1776) – **1**: SU 2.

HELOPHORIDAE

Helophorus minutus Fabricius, 1775 – **7**: W 1; **15**: SP 1.
Helophorus montenegrinus Kuwert, 1885 – **4**: SP 1.

HYDROPHILIDAE

Anacaena globulus (Paykull, 1798) – **38**: SP 1.
Anacaena limbata (Fabricius, 1792) – **1**: SU 5; **4**: SU 2; **5**: SU 3; **6**: SU 1; **12**: SP 1; **15**: SU 1; **18**: SP 1; **37**: SU 2; **38**: AU 1, SP 1.
Anacaena lutescens (Stephens, 1829) – **15**: SP 1; **27**: AU 1; **32**: SP 1.
Berosus signaticollis (Charpentier, 1825) – **5**: SP 1.
Coelostoma orbiculare (Fabricius, 1775) – **3**: SU 3.
Enochrus affinis (Thunberg, 1794) – **4**: SP 1.
Laccobius bipunctatus (Fabricius, 1775) – **1**: SU 1.
Laccobius minutus (Linnaeus, 1758) – **1**: AU 1; **38**: AU 1.

PSEPHENIDAE

Eubria palustris Germar, 1818 – **3**: AU 3; **4**: AU 6, W 3; **20**: AU 1; **31**: AU 1.

Megaloptera
Identified by Arnold Móra

SIALIDAE

Sialis fuliginosa Pictet, 1836 – **4**: AU 2, W 1; **5**: SU 2; **6**: W 2, SP 1, SU 10; **7**: AU 6, W 5, SU 4; **8**: SU 2; **10**: SU 2; **11**: AU 5, W 7, SP 4, SU 13; **13**: SU 4; **14**: AU 2, W 5, SP 2, SU 1; **15**: AU 4, W 2, SP 11, SU 4; **16**: AU 1; **17**: W 3, SU 1; **20**: AU 2, W 1, SU 1; **21**: AU 1, SP 1; **22**: AU 13, W 5, SP 3, SU 1; **23**: AU 32, W 4, SP 4; **24**: AU 14, SU 1; **25**: AU 9; **26**: AU 1; **27**: AU 5, W 18, SU 2; **29**: AU 12, W 3; **30**: AU 11, W 14, SP 4, SU 14; **31**: AU 11, W 10, SP 5, SU 20; **32**: AU 17, W 23, SU 5; **33**: AU 42, W 1, SU 5; **35**: AU 9, W 6, SP 1; **36**: AU 1; **37**: AU 1, SP 1; **38**: AU 8, W 1, SP 1.
Sialis lutaria-Gr. – **7**: W 1; **14**: AU 2; **15**: AU 8; **21**: AU 1; **23**: AU 1; **33**: AU 1; **38**: AU 13.
Sialis morio Klingstedt, 1931 – **5**: W 1; **14**: W 3; **15**: W 3, SP 1, SU 4; **19**: SU 4; **38**: W 2.

Neuroptera
Identified by Arnold Móra

OSMYLIDAE

Osmylus fulvicephalus (Scopoli, 1763) – **15**: AU 2; **20**: AU 1; **25**: AU 1; **31**: SU 1.

Trichoptera
Identified by Arnold Móra

GLOSSOSOMATIDAE

Synagapetus moselyi (Ulmer, 1938) – **8**: W 11, SP 35; **9**: W 5, SP 52.

GOERIDAE

Goera pilosa (Fabricius, 1775) – **3**: AU 1, W 1; **4**: AU 1; **5**: AU 2; **11**: SU 1.

Lithax obscurus (Hagen, 1859) – **3**: SU 4; **4**: AU 4, W 5; **6**: SU 1; **7**: AU 5, W 5, SP 26, SU 1; **8**: AU 1, W 2, SP 1; **9**: W 1, SP 1; **10**: AU 1; **11**: W 1, SU 3; **15**: SU 1; **17**: SU 1; **18**: W 3; **20**: AU 3, W 5, SP 3; **21**: AU 9, W 2, SU 1; **22**: AU 8, W 3; **23**: AU 7; **24**: AU 29; **28**: W 1, SP 2, SU 1; **29**: SP 1; **30**: AU 26, W 8, SU 2; **31**: AU 53, SP 1; **32**: W 44; **33**: AU 8, SP 1; **34**: W 1, SP 2; **36**: AU 1, W 4, SP 1; **37**: SU 5.

HYDROPSYCHIDAE

Hydropsyche angustipennis (Curtis, 1834) – **1**: SP 1, SU 1; **2**: SP 2; **3**: AU 6, SU 2; **4**: AU 27, W 45; **5**: AU 1; **11**: SP 17; **13**: AU 3, W 1, SP 2; **32**: W 1.

Hydropsyche fulvipes Curtis, 1834 – **2**: SU 12; **3**: SU 6; **6**: SU 1; **7**: W 1, SP 22; **8**: W 1; **10**: AU 2, SP 7; **11**: SP 4, SU 4; **13**: SP 1; **16**: SP 3; **18**: SP 20; **20**: SU 4; **21**: AU 3, SP 1; **22**: W 4; **23**: AU 5; **27**: W 1; **29**: AU 21, W 2, SP 1; **30**: SU 1; **31**: SU 3.

Hydropsyche saxonica McLachlan, 1884 – **2**: W 28, SP 34; **3**: AU 21, W 3; **4**: AU 78, W 52; **5**: AU 1; **6**: AU 7, W 2, SP 12; **7**: AU 2, W 12; **10**: W 1; **11**: SP 8; **13**: AU 3, W 3; **14**: AU 17, W 13, SP 23, SU 3; **17**: AU 5, SP 14, SU 1; **18**: AU 2, W 7, SP 17; **20**: AU 5, W 1, SP 4; **21**: AU 4, W 7; **22**: AU 1, SP 2; **23**: AU 1; **24**: AU 1; **30**: AU 4, W 2; **32**: W 7; **35**: W 2.

LEPTOCERIDAE

Mystacides niger (Linnaeus, 1758) – **1**: AU 2, SP 7, SU 16; **3**: AU 1; **4**: AU 1, W 1; **5**: SP 2, SU 1; **11**: SP 2, SU 2; **33**: SU 1.

LIMNEPHILIDAE

Anabolia furcata Brauer, 1857 – **1**: SP 6; **2**: SP 2; **3**: SU 1; **5**: SP 11, SU 2; **6**: SP 1; **15**: SP 10; **40**: SP 1.

Chaetopteryx cf. major McLachlan, 1876 – **5**: W 1; **6**: SP 6; **7**: AU 7, SP 24, SU 7; **8**: AU 2, W 4, SP 33, SU 12; **9**: W 7, SP 33, SU 8; **10**: AU 5, W 31, SP 44, SU 30; **11**: SP 14; **12**: AU 1, W 2, SP 12; **13**: SP 1; **14**: AU 1, SP 60; **15**: SP 25; **16**: SU 1; **17**: W 1, SP 18, SU 2; **18**: AU 2, SP 42, SU 23; **20**: AU 4, SP 44, SU 1; **21**: AU 5, SP 12, SU 5; **22**: AU 10, SP 11, SU 4; **23**: AU 19, SP 7; **24**: AU 26, SP 30, SU 6; **25**: AU 13; **26**: AU 1, SP 57, SU 26; **28**: SP 32, SU 6; **29**: AU 25, SP 28; **30**: AU 5, SP 34, SU 2; **31**: AU 2, SP 36, SU 1; **32**: AU 2, SP 4, SU 1; **33**: AU 4, W 3, SP 7; **34**: SP 3; **35**: AU 6, W 1, SP 113; **36**: SP 6; **37**: AU 1; **38**: SP 9.

Glyphotaelius pellucidus (Retzius, 1783) – **1**: W 3; **4**: W 1; **5**: W 1; **7**: W 5; **8**: W 1, SP 1; **11**: W 2; **13**: W 6; **14**: W 7; **15**: W 16, SP 4; **16**: W 4; **18**: SP 1; **19**: W 7, SP 8; **20**: W 1; **31**: W 13, SP 1; **33**: W 108, SP 25; **34**: W 50, SP 8; **35**: W 1; **37**: W 1; **38**: W 1; **40**: W 12, SP 7.

Halesus digitatus (Schrank, 1781) – **6**: SP 1; **17**: SP 4; **21**: SP 2; **3**6: SP 10; **40**: SP 1.

Halesus tesselatus (Rambur, 1842) – **1**: SP 1; **5**: SP 7, SU 1; **6**: SP 12, SU 1; **7**: SP 1; **11**: SU 1; **14**: SP 30; **15**: SP 22; **17**: SP 23; **21**: SP 1; **36**: SP 30, SU 1; **37**: SU 2; **40**: SP 1.

Ironoquia dubia (Stephens, 1837) – **19**: SP 11; **34**: SP 1; **40**: SP 72.

Limnephilus extricatus McLachlan, 1865 – **40**: W 2, SP 1.

Limnephilus lunatus Curtis, 1834 – **1**: W 1, SP 2; **5**: SP 12; **13**: SP 1; **15**: SP 1; **23**: SP 1; **34**: SP 3; **40**: SP 6.

Limnephilus rhombicus (Linnaeus, 1758) – **1**: W 1; **4**: W 1; **5**: W 1; **14**: W 1; **31**: W 4; **38**: SP 3; **40**: W 4, SP 20.

Potamophylax nigricornis (Pictet, 1834) – **27**: W 5; **29**: W 2; **35**: W 2, SP 10.

Potamophylax rotundipennis (Brauer, 1857) – **1**: W 10, SP 3; **2**: W 1; **3**: AU 4, W 4; **4**: AU 2, W 23; **5**: W 13, SP 1; **6**: W 15, SP 1, SU 1; **7**: AU 2, W 49, SP 14, SU 3; **8**: W 2, SP 4; **10**: W 3; **11**: W 24, SP 3; **13**: W 3; **14**: W 40, SP 9, SU 1; **15**: W 12, SP 2; **16**: W 5, SP 2, SU 1; **17**: W 5; **18**: W 3; **20**: W 70, SP 32, SU 1; **21**: W 16, SP 7; **22**: W 5, SP 3, SU 3; **24**: AU 2, SP 2; **26**: W 4, SP 4; **27**: W 1; **28**: W 16, SP 6; **30**: AU 3, W 19, SP 5, SU 16; **31**: W 21, SP 15; **32**: W 36; **33**: SP 1; **35**: W 7, SP 2; **36**: W 10, SP 4; **37**: W 30, SU 1; **38**: W 1; **40**: W 3, SP 3.

Stenophylax permistus McLachlan, 1895 – **9**: SP 1; **13**: W 3; **19**: W 7; **34**: W 14; **40**: W 1.

PHILOPOTAMIDAE

Wormaldia occipitalis (Pictet, 1834) – **9**: W 1; **12**: AU 2; **27**: W 5; **35**: W 6, SP 4.

PHRYGANEIDAE

Oligostomis reticulata (Linnaeus, 1761) – **19**: W 3; **38**: W 1; **40**: W 4.

POLYCENTROPODIDAE

Cyrnus trimaculatus (Curtis, 1834) – **1**: W 7, SP 14, SU 1; **2**: SP 4, SU 3; **3**: AU 1, SU 4; **11**: SP 2.

Plectrocnemia conspersa (Curtis, 1834) – **8**: W 1; **9**: W 1, SP 1, SU 1; **10**: W 1, SP 2, SU 3; **11**: W 1; **12**: W 1; **13**: W 5, SP 1, SU 3; **17**: W 1, SP 1; **19**: SP 1; **21**: W 1, SP 1, SU 1; **22**: AU 1, W 1, SP 3, SU 1; **23**: AU 13, SP 12; **24**: AU 2, SP 1; **25**: AU 1; **27**: AU 2, W 14; **29**: SU 2; **30**: W 18, SP 8, SU 1; **31**: AU 1, SP 13, SU 2; **32**: W 36; **33**: AU 24, W 10, SP 15, SU 3; **34**: W 1, SP 7; **35**: AU 7, W 6, SP 33; **38**: AU 1, W 1, SP 16; **40**: SP 1..

PSYCHOMYIIDAE

Lype reducta (Hagen, 1868) – **1**: SP 2; **3**: W 4; **5**: SP 1; **10**: AU 2, SU 1; **11**: AU 1; **12**: AU 1; **14**: AU 1, W 5, SP 6; **15**: SP 1; **16**: AU 1; **20**: SP 1; **21**: AU 1; **22**: AU 1, SP 1; **27**: AU 5; **31**: AU 1; **35**: AU 10, W 3, SP 1.
Tinodes unicolor (Pictet, 1834) – **4**: W 4; **11**: SP 1; **24**: AU 2; **27**: AU 3, W 1.

RHYACOPHILIDAE

Rhyacophila dorsalis-Gr. – **2**: W 1; **3**: W 2; **11**: SP 1; **14**: W 1; **17**: W 1; **21**: W 1; **30**: SP 1.
Rhyacophila fasciata Hagen, 1859 – **2**: W 1, SP 3, SU 1; **3**: AU 1; **4**: W 1; **30**: W 1.

SERICOSTOMATIDAE

Notidobia ciliaris (Linnaeus, 1761) – **38**: W 1.

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Sucinoptinus zahradniki sp. nov. (Coleoptera: Ptinidae: Ptininae), a new species of the Tertiary genus from the Baltic amber

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Háva, J.: *Sucinoptinus zahradniki sp. nov. (Coleoptera: Ptinidae: Ptininae), a new species of the Tertiary genus from the Baltic amber.*
Abstract: A new species *Sucinoptinus zahradniki* sp. nov. is described, illustrated and compared with similar amber species *Sucinoptinus sucini* Bellés et Vitali, 2007 and *Sucinoptinus bukejsi* Alekseev, 2012.

Keywords: Taxonomy, new species, Coleoptera, Ptinidae, Ptininae, Sucinoptinus, Eocene Baltic amber.

Introduction

The genus *Sucinoptinus* Bellés et Vitali, 2007 currently contains 4 fossil species, from Baltic amber (2 species) and from Rovno amber (2 species) (Alekseev 2012, 2013, Bellés & Vitali 2007, Bellés & Perkovsky 2016). In the present article, a third new species from Eocene Baltic amber is described and compared.

Material and methods

The type material is deposited in the following collection:

JHAC - Private Entomological Laboratory and Collection, Jiří Háva, Únětice u Prahy, Prague west, Czech Republic.

The holotype specimen of the new species described here is provided with a red, printed label showing the following text: Holotype *Sucinoptinus zahradniki* sp. nov. J. Háva det. 2022.

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Taxonomy

Ptinidae Latreille, 1802
Ptininae Latreille, 1802
Ptinini Latreille, 1802

Sucinoptinus Bellés et Vitali, 2007

Sucinoptinus zahradniki **sp. nov.**
(Figs. 1-3)

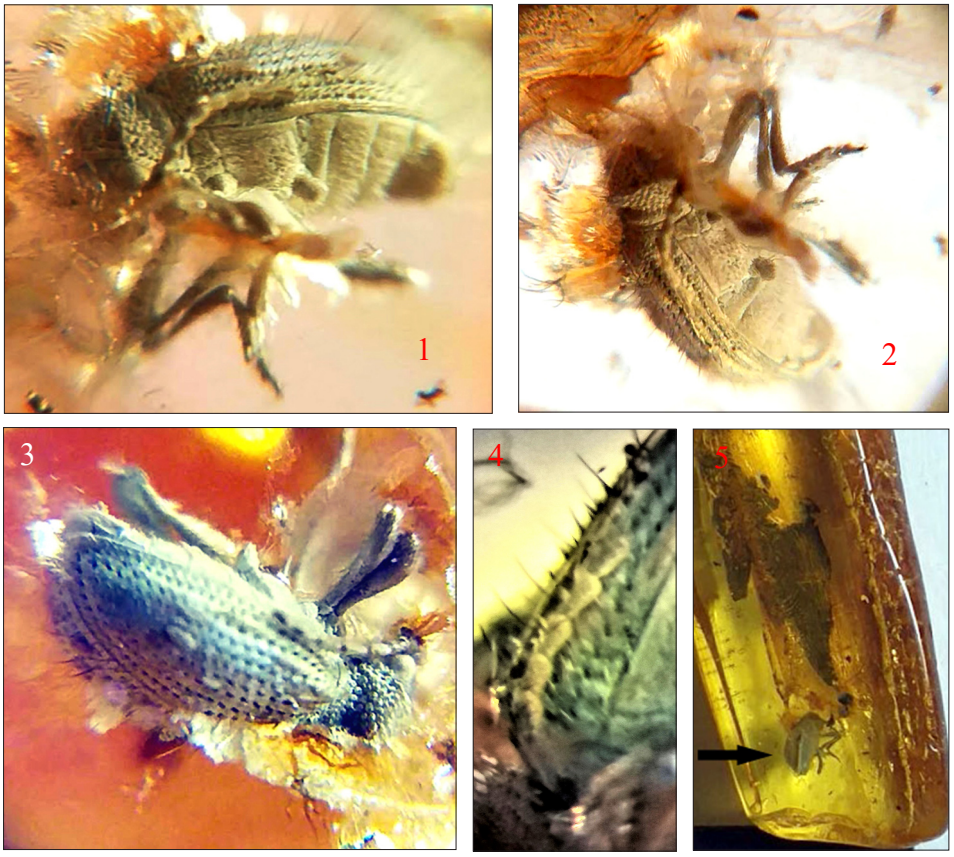
Type material: Holotype (unsexed): Amber inclusion No.S.JH1, Poland, Gdansk, wyspa Sobieszewska, (JHAC).

The complete beetle is included in a transparent amber piece 23x11 mm. Syninclusions consist of numerous organic particles.

Description: Body length (pronotum plus elytra): 2.7 mm. Relatively robust, roundedsided; color dark brown (Figs. 1-3). Antennae as in fig. 4. Pronotum slightly wider than long and neatly wider than a single elytron; apical margin widely convex anteriorly; sides only slightly rounded, practically not constricted near the base, moderately convex at the disk and showing a quite apparent semicircular depression in the posterior third; surface covered with dense tubercles, oval and large, specially within the semicircular depression, where they are almost as large as half the size of the scutellum; setation formed by short semi-recumbent setae inserted between the tubercles. Scutellum triangular, as long as wide. Elytra slightly roundsided and relatively short, but clearly longer than twice the length of the pronotum; humeri prominent; elytral surface serially punctuated by elongated strial punctures, leaving an interstriae interval about twice wider as the width of the striae; setation formed by recumbent short setae inserted in the punctures (with a length somewhat longer that the puncture), semirecumbent and moderately long (somewhat longer than those of the punctures) setae inserted in the intervals and evenly distributed, and erect and still longer setae sparsely distributed in the interstriae of the apical part. Legs robust, tarsomeres broad.

Differential diagnosis: The new species similar to *Sucinoptinus sucini* Bellés et Vitali, 2007 and *Sucinoptinus bukejsi* Alekseev, 2012 known from Baltic amber, but differs from them by the length of body size 2.7 mm (position in inclusion) (*S. bukejsi* body size 1.6 mm, *S. sucini* body size 1.8-2.1 mm) and very coarsely punctured lateral parts of pronotum and structure of antennae; from Rovno species *Sucinoptinus brevipennis* Bellés & Perkovsky, 2016 (body size 1.6 mm) and *Sucinoptinus rovnoensis* Bellés & Perkovsky, 2016 (body size 1.5 mm) are the same characters.

Etymology: Patronymic, dedicated to my very good friend and colleague Petr Zahradník (Prague, Czech Republic).



Figs. 1-5. *Sucinoptinus zahradniki* sp. nov., holotype: 1- body, lateral view; 2- body, latero-ventral view; 3- body lateral view; 4- antenna; 5- amber inclusion with holotype specimen

List of *Sucinoptinus* species

Genus *Sucinoptinus* Bellés et Vitali, 2007

Sucinoptinus brevipennis Bellés & Perkovsky, 2016	Rovno Amber: Ukraine
Sucinoptinus bukejsi Alekseev, 2012	Baltic Amber: Russia
Sucinoptinus rovnoensis Bellés & Perkovsky, 2016	Rovno Amber: Ukraine
Sucinoptinus sucini Bellés et Vitali, 2007	Baltic Amber: Russia
Sucinoptinus zahradniki sp. nov.	Baltic Amber: Poland

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