

Aus den Arbeitskreisen

Bericht über die 23. Tagung des Arbeitskreises „Zikaden Mitteleuropas e. V.“ vom 2. bis 4. September 2016 in Jarnołtówek im Góry Opawskie (Zuckmanteler Bergland), Republik Polen

Die 23. Tagung des Arbeitskreises „Mitteleuropäische Zikaden“ fand als Vortrag- und Exkursionstagung in Jarnołtówek im Góry Opawskie (Zuckmanteler Bergland), dem malerischen Hügelland im Südwesten Polens in der Provinz Opolskie, statt.

Organisiert wurde die Tagung durch Dariusz Świerczewski von der Jan Długosz Universität in Częstochowa (Abteilung für Biologie und Umweltwissenschaften) und seinen Mitarbeitern.

Insgesamt kamen die 33 Tagungsteilnehmer aus neun Ländern (Deutschland, Polen, Österreich, Italien, Niederlande, Schweiz, Weißrussland, Großbritannien) zusammen.

Die Tagung begann am Freitag, 2. September 2016, mit einem gemeinsamen Abendessen, fachlichen Diskussionen und Erfahrungsaustausch.

Am Samstag wurden am Vormittag nach Begrüßung und Einführung folgende Vorträge und Poster präsentiert:

Vorträge:

- Szwedło J.: Mesozoic Fulgoromorpha and Cicadomorpha of Europe
- Brożek J.: A comparison of the external morphology and functions of labial tip sensilla in planthoppers and leafhoppers (Hemiptera: Fulgoromorpha et Cicadomorpha)
- Świerczewski D.: Karol de Perthées (1739–1815) – the royal cartographer and an amateur entomologist
- Malenovský I.: Fauna of cicadas (Cicadidae) in the Czech Republic
- Borodin O.: Fulgoromorpha and Cicadomorpha (Hemiptera) of Belarus
- Klink van Roel: The Auchenorrhyncha and psyllid fauna of Iceland
- Trivellone V.: Biodiversity of Auchenorrhyncha collected in vineyard agroecosystems and their surroundings in Southern Switzerland
- Nickel H.: The lost paradise – how modern conservation management eradicates our biodiversity

Posterpräsentation:

- Achtziger R.: Zikaden von Restmoor- und Vernässungsstellen im Freiburger Stadtwald
- Błaszczyk J., Świerczewski D., Stroiński A.: Planthoppers and leafhoppers (Hemiptera: Fulgoromorpha et Cicadomorpha) of selected ecological sites of „Lasy nad Górną Liswartą“ Landscape Park
- Klejdysz T.: *Hardya tenuis* (GERMAR, 1821) – a new threat to crops of winter cereals in Poland?
- Szwedło J.: Eocene Achilidae from European deposits

- Szwedło J.: Eocene Cixiidae of Europe,
- Trivellone V.: Occurrences of leafhoppers and planthoppers collected in vineyard, corn and potato fields in Switzerland and their potential role as vectors of stolbur phytoplasma
- Walczak M., Nowińska A., Brożek J.: Morphological identification of the antennal sensilla of the cicadellid species (Hemiptera:Cicadomorpha:Cicadellidae), with notice on their probable functions
- Walter S.: Wie weit ist die Büffelzikade in Sachsen inzwischen gekommen?

Im Anschluss an das Vortragsprogramm wurde ein einführender Film über die Fauna und Flora den Landschaftspark ‚Góry Opawskie‘ gezeigt.

Am Nachmittag haben die Teilnehmer der Tagung auf der Exkursion in den Landschaftspark ‚Góry Opawskie‘ zur Srebrna Kopa (785 m üNN) und Biskupia Kopa (889 m üNN) in den verschiedenen Habitaten (insbesondere Fichten- und Buchenwälder) sich mit der Erfassung der Zikadenfauna beschäftigt. Traditionsgemäß werden die Ergebnisse der Erfassungen in der Zeitschrift „Cicadina“ publiziert.

Der Abend wurde zum gemeinsamen Abendessen und für weitere Gespräche genutzt.

Am 4. September fand zunächst die Jahreshauptversammlung des Arbeitskreises Zikaden Mitteleuropas e.V. statt. Der Vorsitzende des Vereins, Dr. W. Witsack, erstattete den Jahresbericht über die Vereinsarbeit u. a. mit folgenden inhaltlichen Schwerpunkten:

- Die Mitgliederzahl des Vereins blieb bei über 62 Mitgliedern (mehrere weitere Mitglieder wurden zur Tagung aufgenommen). Der Band 15 der Zeitschrift CICADINA ist als online-Zeitschrift erschienen und kostenfrei weltweit im Internet verfügbar. In geringer Auflage liegt auch der gedruckte Band vor.
- Der Ergänzungsband des Bestimmungsschlüssels (BIEDERMANN & NIEDRINGHAUS 2004) für Großbritannien liegt inzwischen vor, für Tschechien (gleichzeitig Supplementband „CICADINA“) ist das Manuskript fast fertiggestellt. Auch die Arbeiten zum Ergänzungsband des Bestimmungsschlüssels für die polnischen Zikaden sind weit fortgeschritten.
- Nach der Jahreshauptversammlung unternahm zum Abschluss der Tagung die Teilnehmer eine weitere Exkursion in das Gebiet südlich von Głuchołazy. Dort gab es Gelegenheit, Zikaden verschiedener Bergwiesen nachzuweisen.

Herzlich danken möchten die Tagungsteilnehmer Herrn Dariusz Świerczewski und unserem Sponsor – Wkręt-met KLIMAS für die gute Vorbereitung, Betreuung sowie Unterstützung unserer Tagung.

Werner Witsack & Dariusz Świerczewski



Teilnehmer der Zikaden-Tagung 2016 (v.l.n.r.)

1. Reihe (vorn): Herbert Nickel, Brigitte Komposch, Werner Witsack, Dariusz Świerczewski, Jacek Szwedo, Adam Stroiński, Roland Mühlethaler, Ping-Ping Chen
2. Reihe (z.T. versetzt): Klink van Roel, Nico Nieser, Eckart Fründ, Elizabeth Huber, Ingmar Landeck, Oleg Borodin, Igor Malenovský, Roland Achtziger, Agnieszka Nowińska, Bernd Panassiti, Jolanta Brożek, Sabine Walter, Jakub Blaszczyk, Rolf Niedringhaus, Christoph Bückle, Adalgisa Guglielmino
3. Reihe (hinten): Victor Hartung, Alex Ramsay, Werner Holzinger, Lydia Schlosser

Nicht am Foto sind Valeria Trivellone, Marcin Walczak und Tomasz Klejdysz.

Foto: Werner Holzinger

Planthoppers and leafhoppers (Hemiptera: Fulgoromorpha et Cicadomorpha) of selected ecological sites of “Lasy nad Górną Liswartą” Landscape Park (southern Poland)

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“Lasy nad Górną Liswartą” Landscape Park stretches in the southern part of Woźniki-Wieluń Upland, within the Upper Liswarta River catchment, with the area 38701 ha. The geomorphology of the area is characterized by ridges (Próg Woźnicki, Próg

common reservoirs of pathogens causing plant diseases, but their infections are usually asymptomatic (PHYLLIS & al. 2010). *H. tenuis* might potentially transmit virus or phytoplasmas from wild grasses (on which it develops) to the seedlings of winter cereals (on which it feeds later).

Summarizing, it is necessary to monitor the situation closely and to conduct thorough research into the possibility of the transmission of plants pathogens by this leafhopper.

References

KLEJDYSZ T. (2013): Leafhoppers and planthoppers (Hemiptera: Cicadomorpha et Fulgoromorpha) as an ingredient harmful entomofauna on most important crops in Poland. PhD thesis. Institute of Plant Protection – National Research Institute, Poznań, 250 pp.

NICKEL H. (2003): The Leafhoppers and Planthoppers of Germany (Hemiptera: Auchenorrhyncha). – Pensoft Publishers, Sofia-Moscow, 460 pp.

NOWACKA W. (1982): Leafhoppers and planthoppers (Homoptera, Auchenorrhyncha) occurring in cereal crops and grass seed in Poland. – University of Life Sciences, Poznań, 82 pp.

PHYLLIS G., WEINTRAUB G. & JONES P. (Eds., 2010): Phytoplasmas: genomes, plant hosts and vectors. – CABI, Wallingford, 331 pp.

KAROL DE PERTHÉES – the royal cartographer and an amateur entomologist

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KAROL DE PERTHÉES (December 1739, Dresden – 2 December 1815, Vilnius) was born into a family of French Huguenots, who had settled in Germany. At the age of 15 he was sent to a military academy in Berlin, and afterwards, in October 1763, having been recommended to STANISLAUS AUGUST PONIATOWSKI and started to work for the future king as a cartographer. After his coronation, King Stanislaus August appointed KAROL PERTHÉES as a royal cartographer and offered him a tied dwelling in Warsaw castle. PERTHÉES’ main cartographic works were a map of the Kingdom of Poland and the Grand Duchy of Lithuania entitled *Polonia secundum legitimam projectionis stereographicæ regulas* (1770) and an Atlas of Poland (started in 1781) comprising maps presenting particular provinces. After the abdication and death of the King, PERTHÉES moved with his family to Vilnius, where he undertook work for the Russian army as the Emperor’s geographer (BUCZEK 2003).

PERTHÉES was also an amateur entomologist who provided the earliest known data on the entomofauna of Poland. He surveyed mainly Warsaw and its vicinity within a radius of 20-30 km. Other material collected in the surroundings of

Cracow and from many other distant villages was obtained by exchange with local entomologists or was provided by the cartographer's friends (PAWŁOWSKI 2003).

The main techniques for collecting insects employed by PERTHÉES were catching them with an entomological net and shaking down or direct collection from plants. He must also have possessed an appropriate set of preparation instruments, probably similar to those described in a manual by SCHÄFFER (*Elementa Entomologica*, 1766).

Perthées' entomological collection comprised more than 2600 species from 18 present insect orders. Perthées was, first of all, an expert on butterflies (Lepidoptera). This part of his collection, comprising more than 600 species, was kept in a large cabinet ('grande armoire') and was the best documented. The second largest collection made by Perthées (in terms of the number of species) is that dedicated to beetles (Coleoptera), supplemented by a large number of field observations and drawings.

As the PERTHÉES collection was completely destroyed, his entomological legacy can only be known from surviving manuscripts, housed in the library of the Institute of Systematics and Evolution of Animals (Polish Academy of Sciences, Cracow, Poland).

The basis of the presented taxonomical diagnostics and systematical analyses of Auchenorrhyncha were the drawings made by KAROL DE PERTHÉES, supplemented by his descriptions in French from his manuscript entitled Volume I (pages 149-158, 181). The drawings prepared in ink, with the same quill pen as for the manuscript, are characterized by plenty of detail, important for the identification of the species. In addition to the general body shape and proportions, they show the colour pattern of the head, pronotum and fore wings, and sometimes the characteristic shape of the frons. Parts of the body important for identification, such as the fore wings and hind legs, are often depicted in separate drawings. Particular drawings or groups of drawings are labelled with numbers or letters (in frames), which refer to the particular specimens in the collection.

The Auchenorrhyncha in the collection were mostly ascribed by Perthées to two genera – "*Fulgora*" and "*Cicada*". Only a few specimens were identified at the species level and in some cases the names and descriptions are not provided with the drawings. This particularly relates to large, easily identified species such as *Ledra aurita* (L.) or *Dictyophara europea* (L.). During the identification, PERTHÉES used books and papers available at that time and followed known systematics established by Linnaeus and Fabricius.

The analysis of the drawings and descriptions undertaken by the authors revealed 34 species and these records can be regarded as the first information on Auchenorrhyncha fauna of Poland. Regrettably, PERTHÉES' work cannot be treated as a source of scientific information as the author, despite the literature and material being available at the time, did not make any attempt to describe species in a scientific manner.

References

- BUCZEK K. (2003): Kartograf króla Stanisława Augusta. Życie i dzieła. – In: PAWŁOWSKI J. (Ed.) Karol Perthées (1739-1815). Kartograf Pierwszej Rzeczypospolitej i entomolog. – Komitet Historii Nauki i Techniki Polskiej Akademii Nauk. Rozprawy z Dziejów Nauki i Techniki. Vol. 14, 21-134.
- PAWŁOWSKI J. (2003): Wstępna ocena działalności entomologicznej Karola Perthéesa – In: PAWŁOWSKI J. (Ed.) Karol Perthées (1739–1815). Kartograf Pierwszej Rzeczypospolitej i entomolog. – Komitet Historii Nauki i Techniki Polskiej Akademii Nauk. Rozprawy z Dziejów Nauki i Techniki. Vol. 14, 193-260.

Auchenorrhyncha collected in vineyard, corn and potato fields in Switzerland and their potential role as vectors of Stolbur phytoplasma

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Stolbur phytoplasmas are phloem-limited, plant pathogenic bacteria mainly transmitted by leafhoppers and are responsible for hundreds of plant diseases worldwide. They have a broad range of plant and insect hosts with several independent epidemiological cycles in diverse agroecosystems. Stolbur phytoplasma can cause disease outbreaks on grapevine, potato and corn crops. In Switzerland, data on insect-vectors and epidemiology of these diseases are still limited or completely unknown. In the frame of an international joint research project (SCOPES project 2014–2017), sampling campaigns were carried out in 2014–2015 with the aim to provide faunistic basic information on Auchenorrhyncha assemblages and identify known and potential vectors in vineyards, potato and corn fields and their surroundings landscape. As a total, 80 sites in Southern and North-Western Switzerland were inspected (34 vineyards, 34 corn and 12 potato fields). Auchenorrhyncha specimens were collected on June or July, using sweep net and mouth-aspirator. Specimens were identified and DNA was isolated from insect individually to detect presence of stolbur phytoplasma. Overall, 97 species and 2'387 specimens were identified: In vineyard: 63 species were recorded, the most widespread and abundant species was *Euscelis incisus*. Six species were found infected by stolbur phytoplasma (stol. phy.): *H. obsoletus*, *R. cuspidatus*, *E. incisus*, *A. ribauti*, *P. alienus* and *D. europaea*. In corn: 63 species were recorded; 3 species widespread and abundant, *Zyginidia pullula*, *Laodelphax striatella* and *Philaenus spumarius*. Only *H. obsoletus* was found infected by stol. phy. In potato: 33 species were recorded; *Empoasca* sp. was the most widespread and abundant. *A. ribauti* was found infected by stol. phy.

Auchenorrhyncha species associated with vineyard, corn and potato crops differ according to landscape in their surroundings and biogeographical region. Overall, 6