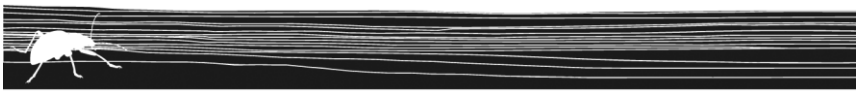
16th December 2019
edition

Quaternary Entomology Dispatch



Editorial

Dear colleagues,

I am pleased to present the latest edition of our newsletter!

In this edition, Svetlana Kuzmina and Phil Buckland are joining me in providing news about our respective insect-related activities in Russia, Sweden and Canada. You will also find an overview of the 3rd Conference in Funerary Archaeoentomology, which took place last June in Bordeaux, and where several members of our community presented papers and posters. Thanks to Jean-Bernard Huchet for preparing this! The abstract of a recently completed MA dissertation by Solène Mallet Gauthier from Université Laval in Quebec City is also included – félicitations Solène!

There is also some sad news: we have recently lost Alice Telka, founder of Paleotec services and former staff of the Geological Survey of Canada, to a battle with lung cancer. Heartfelt thanks to Svetlana for having written a short obituary in honour of Alice.

In addition to the above, you will find the usual list of recent publications in Quaternary Entomology. Many thanks to all participants to this edition of the newsletter!

I will be back in touch in the spring to "bug you" with the next call for contributions. In the meantime, happy reading and merry holidays! ☺

Véronique Forbes (veroforbes@gmail.com)

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Quaternary Entomology Dispatch

In memoriam, Alice Mary Telka, 1956-2019

By **Svetlana Kuzmina** (kuzmina@ualberta.ca)

Alice graduated at Carleton University, Ottawa (Bachelor of Sciences) in 1980. She started her career as a technician in the Radiocarbon Dating Laboratory of the Geological survey of Canada in Ottawa, before becoming a research assistant in the Paleoecology Laboratory of Geography and Environmental Studies (GSC) where she worked with John Matthews until 1995. Due to problems in GSC, John and Alice had to finish their federal public service and became independent scientists.

Alice founded PALEOTEC Services in 1998 for Quaternary and Neogene plant and insect identifications. Her only one employee was her husband Steve Byrne. Steve, being a talented artist, designed the PALEOTEC logo: an image which combined insect and flower. The couple worked mostly at home, where Alice kept books, reference collections and samples in one of their bedrooms, while their processing lab was in the basement.

The main production of Alice was reports for short contracts with different institutions across Canada, but she also continued to be involved in scientific publications. She loved the Canadian North – where Alice and John worked together in the field in the Old Crow River basin in 1988 – and therefore arranged for an international field trip of American, Canadian and Russian scientists. In 2009 Alice, Steve and myself spent a wonderful time during a "big bug trip" that took us from Edmonton to the Yukon (Figure 1). We collected modern insects from sites close to weather stations to make a base for paleoclimate reconstructions. The volume of collection is so big that it is still under research.

Figure 1. (Left) Alice wild camping near Kultus Bay of Kluane Lake, Yukon where we studied relict steppe insects, (middle) Alice checking insect net near Fort Nelson, BC, (right) Alice digging a pit trap near Edson, Alberta.

In the summer of 2004, Alice worked in Nova Scotia with Elena Ponomarenko on research projects in forestry, which allowed them to excavate fossil moth feces to trace the history of invasive pests. These works and many others have to be completed and published by colleagues.

Paleotec had worked successfully until Alice passed away in her home at the age of 62 after a courageous battle with lung cancer over the past year.

Below you will find a list of Alice's many contributions to palaeoecology and insect subfossil research, ordered by year of publication.

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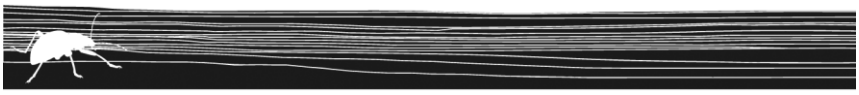

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News from our colleagues

News from Russia/Canada

From **Svetlana Kuzmina** (kuzmina@ualberta.ca)

Although I am still living in Canada, I returned to work part-time in Russia, where I got a position in the Laboratory of Arthropods at the Palaeontological Institute in Moscow, where I had worked before emigrating. This new lifestyle is busy and includes crossing half of the Earth twice in a year.

Figure 2. Fieldwork in northern Yakutia during the forest fire season: on the left, a smoky day, an average day and a good one. On the right, some of our finds, including a fossil caddis-fly, a weevil and a snakefly.

Recently, our research group published a special volume in a Russian journal "Invertebrate Zoology" (a new and fast growing journal with papers in English that are open access) in honour of my dear colleague and mentor Andrei Sher (1939-2008). I would like to thank the Severtsov Institute of Ecology and Evolution and Alexey Kotov who worked hard to edit this volume. You will find in the recent publications section the list of papers included in the volume.

In august 2019, we worked in the field in the northern Yakutia, not far from the small town of Batagay. The team included vertebrate paleontologists and geologists P. Nikolsky, A. Basilyan, V. Ivanova; myself and E. Izumova. Ekaterina (Katya) Izumova is a PhD student from the Severtsov Institute; she is going to study Quaternary insects and their isotopic composition. The main goal of the expedition was to collect crustacean and insect remains from Pleistocene deposits at Adycha River, from the Ulakhan-Sullar section (Figure 2). Although the section is well known among Russian paleontologists for its interesting large vertebrate finds, it has rarely been mentioned in publications. We tested the sediment in two ways: (1) by sieving over a 0.4mm mesh for insects and (2) using a smaller 0.1mm-mesh sieve for

crustaceans. The method worked well, we collected c. 50 fossil-rich assemblages. I was surprised to find a fossil snakefly (Raphidiidae) in this northern location – near the polar circle! (see Figure 2). The fieldwork went well except for almost permanent smoke from nearby forest fires.

Quaternary entomology in Russia is developing better than ever before. In Moscow: I returned to undertake active research in Moscow after many unsuccessful job hunting years in Canada, Katya Izumova started her PhD dissertation, the head of the lab where Katya works – Alexey Kotov – started the study of Quaternary freshwater crustaceans, and another PhD student from the same lab – Anton Zharov – is collecting fossil daphnia for his dissertation. In Novosibirsk: Anna Gurina finished her dissertation in 2019 – "Late Quaternary coleopterans from south-east of the West Siberian Plain", her supervisor Andrei Legalov, colleagues Roman Dudko, and Sergey Chernyshov also worked with Quaternary beetles. The team from Novosibirsk worked together with Evgeny Zinoviev from Ekaterinburg, which means that the east of Russia has now become a new center of QI study.

The Severtsov Institute arranged an all-Russia Holocene conference this November. Alexey Kotov, Katya Izumova and Anna Gurina presented their reports about Quaternary freshwater invertebrates and insects at this venue. Talks included:

A.A. Kotov. Features of existing non-analogues communities in the terrestrial waters of the Pleistocene Beringia and their collapse in the late Pleistocene-early Holocene.

E.A. Izumova. Changes of the stable carbon and nitrogen isotope composition of the beetle elytra from two Holocene – Pleistocene sections in the northern-east Russia.

A.A. Gurina, R.Yu. Dudko, A.A. Legalov & E.V. Zinovyev. Evolution of entomocomplexes of the south-east of the West Siberian Plain as reflection of the climate change at the Late Pleistocene – Holocene border.

News from Sweden

From **Philip Buckland** (philip.buckland@umu.se)

Some belated news from Umeå!

BugsCEP and SEAD

Paul continues to update data in BugsCEP, which will for now continue be the most up to date version of the database. Work on uploading data from BugsCEP to SEAD continues, and there will be an updated release on http://supersead.humlab.umu.se/ by the end of the year (hopefully on December 20th, but there are often bugs to iron out). This will include our fancy new data exploration interface, so please play around with it and let us know what you think. Once these data are uploaded we will try to connect them to Neotoma (www.neotomadb.org) so that the Bugs fossil insect data will be visible through that resource as well. Similar plans are in the pipeline for connecting to ARIADNE+ (https://ariadne-infrastructure.eu/).

QBIB

Please remember that the latest version of The BIBLIOGRAPHY OF QUATERNARY ENTOMOLOGY can always be downloaded from http://bugscep.com/downloads/qbib.pdf. Copies will also be available through ResearchGate and Academia.

Swedish LifeWatch and the Swedish Biodiversity Data Infrastructure (SBDI)

Work continues on connecting the palaeobiodiversity data to modern data through the Swedish LifeWatch (https://www.slu.se/en/subweb/swedish-lifewatch/) infrastructure. This has been stalled by some compatibility issues, but Francesca Pilotto in Umeå has now sorted out most of the taxonomic links and has moved on to sorting out the dating (not only from the beetle sites, but everything in SEAD). This is a long term project and will join forces with Bioatlas Sweden to form SBDI (https://bioatlas.se/about/) next year.

Ongoing research

- Sown flower strips in agricultural fields, with Geoffrey Lemdahl.
- Geoffrey and I are also trying to tidy up a number of unfinished projects from Swedish sites.
- Conservation palaeobiology work with Francesca Pilotto and others, looking at long-term trends in biodiversity.
- Network analysis of palaeoentomological data with Alexis Rojas-Briceno in Umeå.
- Various things with Paul Buckland.

Teaching:

Unfortunately I have very little time for this, but am at least managing to give 2nd year undergrads an introduction to beetles, and a bit more time with the Masters' students in Umeå.

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News from Canada

From **Véro Forbes** (veroforbes@gmail.com)

The PEAT lab

A little over a year ago, I worked with graduate students to establish a name for our laboratory and research group at Memorial University (in a similar fashion to the FLEA lab at Huddersfield, which was presented in the last edition of QED). We have settled on "the PEAT lab", acronym for Palaeoecology, Environmental Archaeology and Timescales. This represents well our research expertise in the analysis and interpretation of insect and plant subfossils and chronology, as well as our favorite fieldwork and sampling medium in the Canadian province of Newfoundland and Labrador: peat bogs!

The Palaeoecology, Environmental Archaeology & Timescales Laboratory at Memorial University

I am currently supervising two MA students: Ivan Carlson who currently works on samples from Kivalekh, an Inuit site in northern Labrador (who has just been finding his first beetle subfossils!) and Jeff Speller, who I am co-supervising with Karen Milek for his project aiming to conduct micro-morphological analyses on samples from L'Anse aux Meadows. The lab has recently welcomed two undergraduate Honours students as well: Juliet Lanphear and Jared Hogan. We were also lucky to receive the visit of Thiéfaine Terrier this fall. Thiéfaine is supervised by Allison Bain at Université Laval and has now almost completed his MA on archaeoentomological samples from Nunalleq!

All of this to say I am very happy to see the "PEAT clan" growing and to have the opportunity to initiate and train students in the analysis of insect remains! If you are interested to find out more about what we are up to, I invite you to look at our web page by clicking here.

Teaching:

Since I began teaching at MUN, I have developed two courses that include a large environmental archaeology component, including the analysis of insect subfossils:

- An undergraduate course, "**Archaeology of Iceland**", which uses Iceland as a large case study to showcase the interdisciplinary nature of modern archaeology and introduce students to various analytical and theoretical approaches. I taught it for the first time this fall and this is schedule to be offered again in fall 2021.
- A graduate course, "**Advances in Environmental Archaeology**", which is a seminar course where we review and discuss recent papers in Environmental Archaeology and related sub-disciplines to explore themes such as the Pristine Myth, the Anthropocene and the origins of domestication and commensalism. This will be the second time I teach this course this coming Winter semester!

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Return on the 3rd International Conference in Funerary Archaeoentomology

By **Jean-Bernard Huchet** (jean-bernard.huchet@mnhn.fr)

After Huddersfield (UK) in 2015 and Treviso (Italy) in 2017, the **3rd International Conference in Funerary Archaeoentomology** was hosted in Bordeaux on June 5th 2019. The conference was organized by Jean-Bernard Huchet and the Laboratory PACEA (From Prehistory to the Present: Culture, Environment and Anthropology), University of Bordeaux and sponsored by the CNRS (National Center for Scientific Research), the Archaeological Sciences Federation of Bordeaux and by the LaScArBx (Bordeaux Archaeological Sciences LabEx).

The **ICFAE Scientific Commitee** members included Martin Hall (NHM, London, UK), Jean-Bernard Huchet (Bordeaux University & MNHN, Paris), Daniel Martín-Vega (University of Alcalá, Spain) and Stefano Vanin (Huddersfield, UK). For this third edition, around thirty participants from 11 different countries were present. This meeting was an opportunity to attend fascinating talks, to discuss the latest advances in funerary archaeoentomology and to participate in rich and fruitful exchanges between archaeoentomologists and forensic entomologists.

Figure 3. The Legal and Judicial dpt building, University of Bordeaux, were both the ICFAE and EAFE meetings were held.

Figure 4. The ICFAE meeting participants.

On the next page, you will find the program of the conference, which lists the name of speakers and titles of talks that were presented on the day.

Bordeaux
June 5
2019

PROGRAMME

3rd International Conference in Funerary Archaeoentomology ICFAE 2019

	5th May 2019 Legal and Judicial dpt building
8.30-9.15	*Registration* (entry hall)
9.15-9.30	Welcome Speech (room 1K / 1st floor)
9.30	Keynote Speaker
9.30-10.30	**Philippe Ponel** Quaternary Entomology, archaeoentomology: how subfossil beetles help to reconstruct past environments and human activities
10.30	Oral Communications Section I Chairman S. Vanin
10.30-11.00	**V. Forbes, J.-B. Huchet, R. Knecht** The Archaeoentomology of a Conflict Scene: Blowflies and Ectoparasites from Pre-Contact (16-17th c. AD) Yup'ik Nunalleq, Alaska
11.00-11.30	**Coffee break**
11.30-12.00	**A. Napias, L. Rozada, M. Matu, J.-B. Huchet, A. Souron** Towards quantitative identification of insect-induced bone surface modifications? Geometric morphometrics-based shape analysis of 3D topographic models applied to insect-induced traces
12.00-12.30	**P. Kirgis, C. Bou, S. Lemaitre, A. Thomas, J.-B. Huchet** Contribution of Archaeoentomology, Archaeoparasitology and 3D reconstruction to the study of Prehispanic human mummies
12.30-14.00	**Lunch Time**
14.00-14.30	Poster session (room RE, ground floor)
14.30	Oral Communications Section II Chairman M. Hall
14.30-15-00	**F. Tuccia, G. Giordani, S. Vanin** Taphonomic processes of Diptera puparia in archaeological contexts
15.00-15.30	**P. Henríquez, N. López Dos Santos, P. Vidal Matutano, T. Delgado Darias, V. Alberto Barroso, F.o Javier Velasco Vázquez** Archaeoentomology of the funerary spaces of the ancient Canaries
15.30-16.00	**J. Pradelli, G. Giordani, F. Tuccia, S. Vanin** Is the minimum number of individual fundamental during entomological analyses in archaeological contexts? The Castelsardo (Sardinia, Italy) case
16.00-16.30	**Coffee break**
16.30-17.00	**S. Vanin** Archaeo-entomology: funerary, funéraire, funerario/a, *funebris*, *fumus*, *funus*, φόνος, dhûmu, dhû
17.00-18.00	Discussion and conclusions
18.00	**3rd ICFAE conference Closing Cocktail and EAFE Welcome reception**

JUNE 6-7 2019 BORDEAUX | FRANCE

EAFE

EUROPEAN ASSOCIATION FOR FORENSIC ENTOMOLOGY

The ICFAE meeting was followed by the 16th meeting of the **European Association for Forensic Entomology (EAFE)**, beginning on the evening of the 5th and continuing until 7th June 2019. The latter involved more than 80 participants, with 21 countries represented. Both archaeoentomologist and Forensic entomologist communities attended the ICFAE and EAFE meetings in Bordeaux in June 2019.

Figure 5. The EFAE meeting participants.

The **4th ICFAE meeting will be held in 2021 in the University of Alcalá in Spain** and will be organized by Daniel Martín-Vega. We hope to see you there!

Recently completed dissertation

Analyses archéobotanique et archéoentomologique d'une structure datant du tournant du XIXe siècle, au site de l'îlot des Palais (CeEt-30), à Québec

[Thesis in French, English title and abstract below]

Archaeobotanical and archaeoentomological analyses of a c. 19th century structure from the îlot des Palais site (CeEt-30), Quebec City

MA dissertation (2019, Université Laval, Département des sciences historiques), by **Solène Mallet Gauthier** (malletga@ualberta.ca)

Supervised by Dr **Allison Bain** and Dr **Réginald Auger** (Université Laval)

Résumé: Des analyses archéobotaniques et archéoentomologiques ont été réalisées sur des sédiments provenant d'une structure datée du tournant du XIXe siècle, retrouvée au site de l'îlot des Palais (CeEt-30), à Québec. Les macrorestes végétaux et les restes entomologiques retrouvés nous permettent d'en apprendre davantage sur les habitudes alimentaires et la vie quotidienne des habitants de Québec durant une période d'importants changements politiques, économiques et sociaux. En effet, le début du XIXe siècle est marqué par une augmentation de la population de la ville, l'arrivée d'un grand nombre d'immigrants anglophones et le développement accéléré de l'industrie navale. Nous soutenons la thèse voulant que, malgré la mise en place de nouveaux réseaux d'échanges et de nouvelles traditions culinaires, une partie des pratiques alimentaires des Canadiens

français de la Basse-Ville de Québec soient restées relativement inchangées. Grâce à cette recherche, nous sommes en mesure de mieux comprendre l'influence des premières décennies du Régime britannique sur l'ancienne capitale de la Nouvelle-France ainsi que sur la vie quotidienne de ses habitants.

Abstract: Archaeobotanical and archaeoentomological analyses were conducted on soil samples taken from an early 19th-century privy found at the îlot des Palais site (CeEt-30) in Quebec City. The insect and seed remains identified inform us about the consumption habits and daily lives of the city's inhabitants during a period of great political, economic and social change. Indeed, the early 1800s were marked by demographic growth, ann increase in the Anglophone immigrants population and the accelerated development of the shipbuilding industry. We argue that despite the implementation of new trade networks and culinary traditions, a part of the French Canadian foodways remained relatively unchanged. This research allows a better understanding of the impact that the first decades of British rule had over New France's old capital and on the daily lives of its inhabitants.

Recent publications

Buckland, P.I., Bateman, M.D., Bennike, O., et al. (2019) Mid-Devensian climate and landscape in England: new data from Finningley, South Yorkshire. *Royal Society Open Science* 6 (7).

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