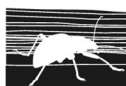


# Quaternary Entomology Dispatch



## Editorial

Dear colleagues,

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

In this newsletter, you will read about new and (hopefully) future research in Chile by Francesco Tello, Mike Monzon writes about his work and his internship at Umeå University, an interesting new publication co-authored by Allison Bain and Svetlana Kuzmina writes about the continuation of PALEOTEC.

It was also nice to find that many articles and book chapters were published in the second half of this year. The new publications come from all over the globe, and it shows me that also researchers (related to) Quaternary entomology are successfully collaborating with colleagues from other fields.

In the meantime, stay safe and in touch. And I wish everyone nice and warm holidays.

Yours sincerely,

Nick Schafstall ([quatentdispatch@gmail.com](mailto:quatentdispatch@gmail.com))

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# Quaternary Entomology Dispatch



## News from the community

### News from Svetlana Kuzmina

Email: [kuzmina.alberta@gmail.com](mailto:kuzmina.alberta@gmail.com) / [svkuz@yandex.ru](mailto:svkuz@yandex.ru)



The research firm PALEOTEC Services has been established in 1998 by our dear late colleague Alice Telka. The firm provided identification of Quaternary and Neogene plant and insect remains and produced detailed paleoenvironment reconstructions based on these results. Alice Telka's husband Steve Byrne who was a co-owner of PALEOTEC has retired now. He gives his permission to Elena Ponomarenko and Svetlana Kuzmina, the PALEOTEC associates, to continue the services that they previously carried out for the PALEOTEC as subcontractors. During 2004-2007, Elena worked with Alice in Nova Scotia, reconstructing the history of pest infestations affecting Eastern hemlock (*Tsuga canadensis*). The reconstructions were based on the analysis of detailed record of abundance of species-specific insect faeces within vertical soil sections (Fig. 1). The study of paleo-infestations was continued in 2020 by E. Ponomarenko and S. Kuzmina; additional insect remains were found including beetles (Fig. 2). Currently, we provide identification of a variety of macrofossils, such as charcoal, seeds, insects, and insect coprolites for the purpose of paleoenvironmental reconstructions. PALEOTEC takes on assignments from archaeological companies, forestry institutes, national parks, and universities. Our colleague Ekaterina Ershova from the USA is ready to add her palynological expertise to PALEOTEC Services.

Our contacts:

[ecosystemarchaeology@gmail.com](mailto:ecosystemarchaeology@gmail.com)

Phone/WhatsApp/Telegram (613) 858-5825 (Elena)

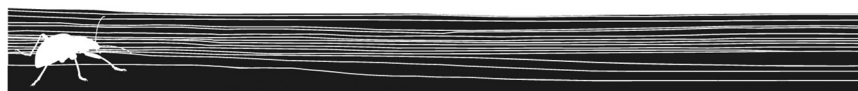


Figure 1 Coprolites of *Iridopsis ephyraria* (pale-winged grey moth), surface layer and ca. AD 1900 AD. Kejimikujik National Park, Nova Scotia. Scale bar = 0.5 mm.



Figure 2 *Polygraphus rufipennis* elytron, Debert peat bog, Nova Scotia, 4700 cal yr BP.

# Quaternary Entomology Dispatch



## News from Allison Bain

Email: [Allison.Bain@hst.ulaval.ca](mailto:Allison.Bain@hst.ulaval.ca)

2022 Solène Mallet Gauthier, Allison Bain et Heather Triggs. « Change and continuity in early 19th century foodways in Québec City's Lower Town » *Canadian Journal of Archaeology* 46(1): 100-130.

### Abstract.

Plant and insect remains found in a privy structure were analysed to gain insight into foodways of Québec City's Lower Town inhabitants in the early nineteenth century. We use dietary practices as a window to examine how the population of the St. Roch neighbourhood responded to changes taking place in the decades that followed the instauration of the British regime and how these changes may have influenced different aspects of their food consumption practices. Through comparisons with assemblages from two French-regime sites as well as from three later nineteenth-century sites, we find that a certain continuity characterizes the plant consumption of Québec City's French-Canadian population. We address some of the challenges of this research, as it is difficult to distinguish between consumption as a choice related to identity versus more practical considerations such as availability and access

## News from Francisco Tello

Email: [Francisco.Tello@uach.cl](mailto:Francisco.Tello@uach.cl)

RG: <https://www.researchgate.net/profile/Francisco-Tello>

Instagram of Pilauco Site: [@sitiopilauco](https://www.instagram.com/sitiopilauco)

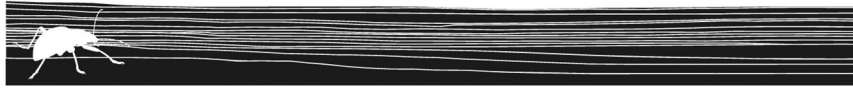
Hello dear Colleagues!

My name is Francisco Tello (he), I am a Chilean scientist and recently graduated PhD (November 2020) on Forest Ecosystems and Natural Resources, in the Universidad Austral de Chile. The main goal of my PhD was studying the response of modern beetles to wildfires in natural forests. However, in parallel I studied some fossil remains of beetles obtained from a deposit in southern Chile. At that time (since 2017), we published 4 papers on the fossil fauna of the site Pilauco, Osorno, Chile. My main interests are in understanding the processes that have driven the extant beetle fauna after the LGM in the temperate Chilean forests (35° - 46° S), with emphasis on dung and carrion beetles. I am currently working in the Laboratorio Natural Pilauco from Chile, as ad-honorem associated Professor in the Universidad Austral de Chile, under the supervision of Dr. Mario Pino (Geologist).

Here, I would like to provide you with information about my current project, the students I'm supervising, and my plans for after this project.

# Quaternary Entomology

## Dispatch



### Project

After a couple of attempts, I obtained a research grant to study dedicatedly fossil insects. This project (March 2022 to March 2024) is called FONDECYT Iniciación a la Investigación N°11220685: *The beetle fauna in Pleistocene-Holocene transition: What factors have driven the functional and taxonomical changes at this period?*.

As the name suggests, I will study the fossil beetle fauna of the Upper Pleistocene to Middle Holocene (30 to 5 k yr BP) from multiple sites in southern Chile, including some of which have been studied previously by Allan Ashworth and his colleagues in the 1980s- 90s. In this context, I have found some extinct species that I am describing now, which are mainly dung beetles and possibly associated to extinct megaherbivores. The first species that we described was *Onthophagus pilauco* Tello, et al., 2021 (Scarabaeidae, Onthophagini).

### Thesis and studies supervising

**Angela Nieto** – I am an ungraduate student at Ingeniería en Conservación de Recursos Naturales, Universidad Austral de Chile, Valdivia, Chile. I am working on my thesis under the supervision of Dr. Francisco Tello. The main goal of my studies is to analyze the diversity and abundance of aquatic beetles recorded between ~ 16,4 to 12,7 k yr BP to explore the synchrony/asynchrony with cold reversal events reported for this period. We expected to finish this thesis on December 2022.

**Luis Libido** – I am an ungraduate student of Licenciatura en Ciencias Biológicas, Univerisdad Austral de Chile, Valdivia, Chile. I´m working under supervision of Dr. Francisco Tello and analysing new remains of the extinct dung beetle *Onthophagus pilauco*, corresponding to the legs remains. We expect to finish and publish these findings in early 2023.

### Future directions

I expected to establish and consolidate a study line on fossil beetles, including Quaternary but also other periods of the Cenozoic. For this purpose, I am trying to obtain funds to establish a paleo-entomological collection to store the fossil materials. So far, I found space at the Facultad de Ciencias of the Universidad Austral de Chile. Additionally, I´m establishing contacts with various entomologists, paleontologists, and related areas, to connect our lines of research and generate collaborative work. Obviously, both are goals that could take a few years, but I am excited to make it possible. On the other hand, I expect to sample fossil beetles to perform aDNA analysis with emphasis on the extinct species. Therefore, in the PaleoLab (Universidad Austral de Chile) we are evaluating the bests protocols to perform it.

Finally, we are open and expectant to generate collaborations with other working groups in Quaternary Entomology. So, if you have a project in mind that includes insects from southern South America, please feel free to contact me.

# Quaternary Entomology Dispatch



## News from Michael Monzon

Email: [mmonzon@njaes.rutgers.edu](mailto:mmonzon@njaes.rutgers.edu)

What's up, friends? I'm Mike, currently I'm enrolled in the Graduate Entomology Program at Rutgers University in New Jersey, USA in the laboratory of Dr. George Hamilton. For the 2022-2023 academic year I have the privilege of serving as a Fulbrighter in Sweden at the Umeå University Environmental Archaeology Lab as a student of its Director, Dr. Philip Buckland. Broadly, my research incorporates interdisciplinary approaches to using insects as proxies to study climate change's impacts on human health and well-being. The investigation techniques I use, are drawn mainly from the fields of forensic science, ecology, archaeology, and genetics.

Current projects I am engaged in include investigating how quickly filth flies become associated with novel human pathogens like COVID-19 by feeding on sewage at waste treatment plants, looking at the pest pressure of 17th century southern Sweden through a waste pit at the Masthugget site in Gothenburg, and using ancient DNA to identify a cache of rove beetle remains from a 1680s coffin excavated in Maryland, USA. The Maryland assemblage will be a large component of my work at the Environmental Archaeology Lab in Umeå. This project is being funded by the US Department of Agriculture's Sustainable Agriculture Research & Education (SARE) award with a focus on using historical vs. modern insect biodiversity to aid farmers in developing sustainable land use practices. Over the winter we're going to be heading up to the Arctic Research Station in Abisko, Sweden, to take lake sediment core samples for the purpose of seeing how insect and diatom assemblages change over time while attempting to correlate those changes with the arrival and abundance of microplastics. Currently, I'm finishing up a preliminary analysis of Chironomidae head capsules extracted from sediments I collected in upstate New York, USA. If anyone knows of someone able to confirm my identifications, I would be greatly appreciative.

The Fulbright program that is funding my time in Sweden has posts or commissions in most countries, so if anyone is interested in teaching and/or conducting research in America, I suggest looking into Fulbright awards which fund both graduate students and professional-level researchers. I love to collaborate on new and unusual projects, so feel free to hit me up (definitely lookin' at you mes pote français). Below is a brief abstract for a Quaternary Dipterology symposium I am co-convening at the International Congress of Dipterology (ICDX) in July 2023 with Dr. Lauren M. Weidner, a forensic entomologist at Arizona State University. If you're interested in speaking at the conference, please do reach out to me directly so we can invite you to speak.

# Quaternary Entomology Dispatch



## 10<sup>th</sup> International Congress of Dipterology

By Michael Monzon ([mmonzon@njacs.rutgers.edu](mailto:mmonzon@njacs.rutgers.edu))

The 10th International Congress of Dipterology (ICDX) will be held from **16-21 July 2023 in Reno, Nevada, USA**. The official invitation letter can be found here: [Invitation Letter for ICDX](#). Quaternary Dipterology: Historical Diptera in Environmental & Archaeological Investigations Dipteran remains are the second most commonly found insect order in both anthropogenic and naturally occurring depositional environments. In the sediment of lakebeds, the abundances and community assemblage of midges (Chironomidae) can be useful in evaluating functional biodiversity over time. Puparia left behind by wandering maggots of blow flies (Calliphoridae) trapped within a wooden coffin may delineate the margins of the receptacle, even after the wood fiber has decayed. While the presence or absence of other carrion fly remains can be indicative of the seasonality of interment. This symposium “Quaternary Dipterology: Historical Diptera in Environmental & Archaeological Investigations” for ICDX is seeking interdisciplinary scientists from around the world to share their investigations in this underrepresented field of dipterology with the broader Dipterology Community.

## Extension of deadline: special issue *Water*

In the last edition of QED, Svetlana Kuzmina advertised a special edition of the journal [Water](#): “Quaternary Insects: Reconstructing the Ecosystems of the past”. *Water* is an open-access journal with an impact factor of 3.530 (2021), ranking in 36/100 (Q2) in the 'Water Resources' category. Please be advised that the submission deadline for this special issue has been extended to July 2023. Svetlana also mentions that some discount might be available for anyone who has no planned resources to play for the publication fee.

## Recent publications

The following is a combination of references sent by subscribers and extracts from the latest version of **QBIB – A Bibliography for Quaternary Entomology** – compiled by Paul Buckland, Phil Buckland, Russell Coope and Jon Sadler. You can find it here: <https://www.bugscep.com/qbib.html>

Bison, L., Roffet-Salque, M., Botto, M., Madrigali, E., Salis, G., & Cramp, L. J. E. (2022) [Direct evidence of the use of beehive products in pre-Roman Sardinia](#). *Archaeometry*, 1–16.

Ferro, M. L. (2022) [Coleoptera in floods: biotic surveys, fish food, adaptation, reconstruction of paleoenvironments and preconstruction of neoenvironments](#). *Coleopterists Bulletin*, 76, 157–174.

Gauthier, S. M., Bain, A. & Trigg, H. (2022) [Change and Continuity in Early Nineteenth-Century Foodways in Québec City's Lower Town](#). *Canadian Journal*, 46(1), 100–130.

Hüberle, S., Schäfer, M., Sotera, R., Martínez-Grau, H., Hajdas, I., Jacomet, S., Röder, B., Schibler, J., Van Willigen, S. & Antolín, F. (2022) [Small animals, big impact? Early farmers and pre- and post-harvest pests from the Middle Neolithic site of Les Bagnoles in the south-east of France \(L'Isle-sur-la-Sorgue, Vaucluse, Provence-AlpesCôte-d'Azur\)](#). *Animals*, 12, 1511.

Huchet, J.-B. & Castex, D. (2022) *The walking dead.- life after death. Archaeoentomological evidence in a Roman catacomb (Saints Marcellinus and Peter, central (AD))*. In, C. J. Knüsel & E. M. J. Schotsmans (eds) *The Routledge Handbook of Archaeoethnology. Bioarchaeology of Mortuary Behaviour, Chapter 26*. Routledge, London.

Il'yashuk, E. A., Il'yashuk, B. P., Heiri, O. & Spötl, C. (2022) [Summer temperatures and environmental dynamics during the Middle Würmian \(MIS 3\) in the Eastern Alps: Multi-proxy records from the Unterangerberg palaeolake, Austria](#). *Quaternary Science Advances*, 6, 100050.

Ni, Z., Zhang, E., Yi, S., Sun, W., Meng, X., Ning, D. & KIM, J. C. (2022) [A Chironomid Record of Early-Middle Holocene Environmental Evolution in the Darbad Basin, Northern Mongolia](#). *Insects* 13(5), no. 461.

Osborne, P. J. (2022). *Insect Fauna from Lower Brook Street*. In, M. Biddle, J. Renfrew & P. Ottaway (eds) *Environment and Agriculture of Early Winchester*, 347-357. Archaeopress, Oxford.

Pleskot, K., Apolinarska, K., Cwynar, L. C., Kotrys, B. & Lamentowicz, M. (2022) [The late-Holocene relationship between peatland water table depth and summer temperature in northern Poland](#). *Palaeogeography, Palaeoclimatology, Palaeoecology*, 586, 110758.

Solórzano-Kraemer, M. M., Kunz, R., Hammel, J. U., Peñalver, E., Delclòs, X. & Engel, M. S. (2022) [Stingless bees \(Hymenoptera: Apidae\) in Holocene copal and defaunation resin from Eastern Africa indicate Recent biodiversity change](#). *The Holocene*, 32(5), 414–432.

Tuccia, F., Giordani, G. & Vanin, S. (2022) [State of the art of the funerary archaeoentomological investigations in Italy](#). *Archaeological and Anthropological Sciences*, 14: 70.

Wójcik-Tabol, P., Uchman, A. & Kazakauskas, V. (2022) [Were Pleistocene proglacial lakes biological deserts? Insights from varved clays in Lithuania](#). *Palaeogeography, Palaeoclimatology, Palaeoecology*, 594, 110928.

# Quaternary Entomology Dispatch



## About the Quaternary Entomology mailing list

Back in 2011, Scott Elias and Véro Forbes set up a mailing list to facilitate communication amongst researchers in Quaternary Entomology. The list allows subscribers, including experienced workers in the field but also students, to exchange news and ideas and to query their colleagues about any questions, problems or requests they may have. Our mailing list is hosted by Jiscmail, a national academic service based in the UK.

The mailing list is used to distribute editions of the Quaternary Entomology Dispatch. **The next edition of QED is scheduled for June 2023.**

**To subscribe to the mailing list, please visit:**

<https://www.jiscmail.ac.uk/cgi-bin/webadmin?A0=QUATERNARYENTOMOLOGY>

Emails to the mailing list can also be sent directly through the email address

In 2020, we also created a **Facebook group for Quaternary entomologists** to complement the mailing list. You are cordially invited to join us there too! You can find us here:

<https://www.facebook.com/groups/201377827914952>

