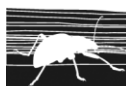


# Quaternary Entomology Dispatch



## Editorial

Dear colleagues,

I am pleased to present the latest version of our Newsletter!

In this edition, Phil Buckland and I give you some news about our latest insect-related activities, and Scott Cocker (Brock University, Canada), presents an ongoing project analysing dung associated with a mastodon! Two of Allison Bain's students, who have just completed their MA projects both focusing on archaeoentomological assemblages from northern forager sites (Labrador Inuit and Alaskan Yupit) at Université Laval, also present their dissertation abstracts. Congratulations Olivier and Thiéfaïne on completing your degrees!

There are two small changes to the 'recent publications' section in this edition:

1. I have embedded the DOI of publications to their titles, so you can now simply click on the titles to be taken directly to the online version of the paper. I hope you will find this useful.
2. To be able to provide you with a more exhaustive list of recent publications, I have extracted new publications from [QBIB – A Bibliography for Quaternary Entomology](#) to add to references that were sent directly to me by subscribers. Huge thanks to Paul Buckland for his work continuing to update this great resource!

I am taking this opportunity to encourage you to join our [Facebook group for Quaternary entomologists](#). The group was created to provide a different (instant and more informal) way to share news and questions about Quaternary Entomology and to encourage the community, especially the younger ones among us, to share their interests, connect together, and support each other. Big thanks again to Nick Schafstall for creating the group!

Finally, I want to thank contributors to this edition, without whom this project would not be possible.

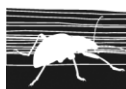
Happy reading! ☺

Véro Forbes ([veroforbes@gmail.com](mailto:veroforbes@gmail.com))

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## News from our colleagues

### News from Sweden

From **Philip Buckland** ([philip.buckland@umu.se](mailto:philip.buckland@umu.se))

Work on SEAD goes on at a steady low level, with monthly data updates, including updates to the Bugs dataset (which is still published through the [www.bugscep.com](http://www.bugscep.com) website as well). The new SEAD browser is online, and now has a dedicated palaeoentomology portal: <https://browser.sead.se/palaeo>. We have had a couple of grants come through related to this, one on making Swedish excavation data public (with my part linking in the environmental archaeology), and another as part of the enormous IPERION-HS EU infrastructure for Heritage Science.

I have a couple of new beetle publications, both resting on the hard work of others. One on insects NOT eating a dead bishop, and the other on the climate and environment of the earliest Hominins in the UK (see the **Recent Publications** section below).

Francesca Pilotto (also Umeå) is working on matching the Bugs taxonomy to the Swedish national checklist in the Swedish Biodiversity Data Infrastructure (SBDI) project. She is also trying to sort out the many issues with sample dates in Bugs, so that we can give every sample at least a max and min age. This will allow for better linking with the modern biodiversity databases and make long-term biodiversity studies much easier. All of this will be made openly available once it is ready. We are working on a paper describing all of this.

Otherwise I continue to work with Paul Buckland (who also continually updates Bugs and QBIB) and Geoffrey Lemdahl on various projects, as well as various other people waiting for results from samples or article texts...

As with the rest of you, the coronavirus has shut down our labs, and all teaching is now online. Perhaps one advantage is that I am now getting to really know the dermestids as they emerge from the winter in our house! Otherwise it's just boring old Diptera, moths and butterflies out there at the moment.

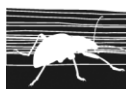


### News from Canada

From **Véro Forbes** ([veroforbes@gmail.com](mailto:veroforbes@gmail.com))

With access to the lab now being restricted during this Covid-19 crisis, we have had to be creative in the [PEAT lab](#). Ivan's projects changed from a lab-based to a documentary-based thesis. The new plan is for the analysis of the samples we collected last summer in northern Labrador to be completed as part of a follow-up PhD. I am also looking forward to at least two new students (potentially three!) joining us next September (digitally, if not physically – depending on the pandemic's situation then) to begin Master's projects analysing beetle subfossils from southern Greenland and L'Anse aux Meadows. I will work with

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my graduate students to provide you with short updates on their respective projects in the next version of QED!

As for news, we have been lucky to receive an excellent one a few weeks ago: our project 'Biocultural and archaeological legacies at L'Anse aux Meadows' has been funded by the Social Sciences and Humanities Council of Canada! This is a five-year interdisciplinary and collaborative project, which will involve the analysis of beetle remains preserved in a peat bog located east of the Norse ruins at the site. Our hope is to document changes in beetle biodiversity over time and to illuminate the role(s) played by Indigenous and European people in shaping the local faunas and landscapes.

## Ongoing Research project

### Dung analysis of the East Milford Mastodon: dietary and environmental reconstructions

By **Scott L. Cocker** (Department of Earth Sciences, Brock University, [scottcocker1@gmail.com](mailto:scottcocker1@gmail.com))

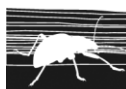
Project collaborators: **Michael F.J. Pisaric** (Departments of Earth Sciences and of Geography and Tourism Studies, Brock University), **Francine M.G. McCarthy** (Departments of Earth Sciences, Brock University), **Jesse C. Vermaire** (Department of Geography and Environmental Studies, Carleton University), **Patrick Beaupre** (Department of Geography and Environmental Studies, Carleton University) and **Les C. Cwynar** (Department of Biology, University of New Brunswick)

We have been working on reconstructing the diet and local environment associated with the 70 000 – 80 000-year-old East Milford Mastodon (EMM), an American mastodon (*Mammut americanum*), from central Nova Scotia. The EMM was excavated in 1991 alongside herpetological assemblages, large wood fragments, insects, molluscs, and petrified dung and it remains one of the most complete mastodon skeletons known from the Maritimes. There have been a few publications, mostly from the late 90's and early 2000's, which discuss dating of the mastodon and analysis of the herpetological remains (two turtles and a frog), but no one has addressed the dung. This presented a great opportunity to further our understanding of environmental change in Nova Scotia associated with the onset of the Wisconsinan glaciation and the diets of maritime mastodons. The project initially came about to supplement my thesis at Brock University, from which I have been testing the use of coprophilous fungal spores as indicators of megaherbivore presence from central Yukon Territory lake sediments covering the Pleistocene-Holocene transition. Here was a chance to look at some actual dung to see what spores, if any, were present. Could the browsing feeding ecology of mastodons, in comparison to the grazing of groups like the mammoths, affect spore consumption? How would this affect spore preservation and detectability within sedimentary archives? These questions became the drivers for this study.

The 50 g dung sample was lithified in a carbonate matrix and subsequently dissolved in HCL until all of the organic matter was released. Then, like all of us will be familiar with, I spent hours picking through the material and separating out what I could find. Unsurprisingly, this included mostly plants, particularly the remains of spruce needles, sedge fruits and birch samaras. However, alongside the plethora of plant macrofossils, there were chironomids, a single simuliid, beetles, oribatid mites, freshwater sponges and

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several ambiguous remains of hymenopterans (at least one ant). More detail of the invertebrate fauna will hopefully be published later this year. Nevertheless, there were some exciting finds, particularly considering the age of the material. Of the 15 beetles recovered, seven were identified to species, four to genus and four to family. All taxa are extant in the Maritimes, although not all are currently recorded from Nova Scotia.

Some exciting records, in my opinion, are elytral remains of *Polygraphus* cf. *rufipennis* (I think this represents the earliest record of this taxon from the Maritimes, if not Canada, although please let me know if I am wrong.) and the complete head of the anthribid *Trigonorbinius sticticus*.

In total, 229 chironomid head capsules were recovered, with an assemblage dominated by the genus *Chironomus*, and a total of nine genera were identified. The oribatid mite assemblage was monogeneric, represented by the genus *Hydrozetes*, and the freshwater sponge gemmules were identified as *Eunapius* cf. *fragilis* (this was also exciting because it is fairly rare for gemmules to preserve).

Overall, this 50 g dung sample produced a diverse fossil assemblage of plant macro remains, sporomorphs, non-pollen palynomorphs and invertebrate individuals, which provides a ‘snapshot’ view into a period of time seldom analysed from the Maritimes.

## Recently completed dissertations

### Portée de l'archéontomologie dans l'étude des maisons hivernales inuites (période de contact à Dog Island, Labrador, 17e et 18e siècles)

[Thesis in French, English title and abstract below]

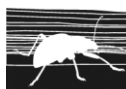
### Potential and limits of archaeoentomology in the study of Inuit winter houses (contact Period at Dog Island, Labrador, 17-18th centuries)

MA dissertation (2020, Université Laval, Département des sciences historiques), by **Olivier Lalonde** (olivier.lalonde.2@ulaval.ca)

Supervised by Drs **Allison Bain** and **James Woollett**

An archaeoentomological analysis was conducted on sediment samples collected from three Inuit winter houses located at Oakes Bay 1, in the Nain region, Labrador. The analysis' primary goal is to contribute new perspectives to research concerning the reorganization of Labrador Inuit winter houses and winter households during the 17<sup>th</sup> and 18<sup>th</sup> centuries, a significant period of transition in their history. Secondly, the project seeks to explore the potential of archaeoentomology to contribute to archaeology in the Arctic and Subarctic regions. Following an in-depth analysis of the ecology of insects collected from Oakes Bay 1, we conclude that beetle subfossil assemblages from Inuit contexts are not well suited for the study of domestic living conditions. Instead, archaeoentomological assemblages were more productively employed

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to document the use of a variety of food and raw materials in the house, to document site formation and to shed light on temporary and permanent abandonment of winter houses, a critical aspect of the occupation history of all archaeological sites that is difficult to observe through conventional archaeological field methods.



## Modes de vie et pratiques domestiques des Yupiit du sud-ouest de l'Alaska. Analyse archéoentomologique de l'habitation semi-souterraine de Nunalleq

[Thesis in French, English title and abstract below]

## Lifeways and domestic practices of the Yupiit of southwestern Alaska. Archaeoentomological analysis of the semi-subterranean dwelling at Nunalleq

MA dissertation (2020, Université Laval, Département des sciences historiques), by **Thiéfaine Terrier** (thiefaine.terrier.1@ulaval.ca)

Supervised by Drs **Allison Bain** (Université Laval) and **Véronique Forbes** (Memorial University)

This Master's thesis examines a Yup'ik semi-subterranean dwelling at Nunalleq (GDN-248), located on the delta of the Yukon and Kuskokwim Rivers in southwestern Alaska. The main objective of this study is to assess past lifeways of the Yupiit who lived at this village between 1570 and 1670 AD through an archaeoentomological approach. Thirteen samples taken from the house floor were analysed and found to contain hundreds of beetles (Coleoptera), lice (Phthiraptera) and fleas (Siphonaptera) remains. Their spatial distribution provides an understanding of some aspects of Yup'ik daily life, including practices such as delousing and the presence of dogs inside the dwelling. Environmental conditions in the house were also reconstructed from beetle remains. Local resource harvesting, including that of plants, is also documented. Finally, the impact of this hunter-gatherer settlement on the environment is discussed.

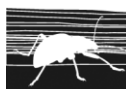
## Recent publications

*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 here: <https://www.bugscep.com/qbib.html>*

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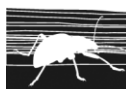
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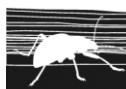
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## About the Quaternary Entomology mailing list

Back in 2011, Scott Elias and I (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 December 2020.**

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

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

