International Council for Archaeozoology

Microvertebrate Working Group Newsletter

News & Announcements

August 1, 2017

Volume 2

In this issue:

Send future contributions to

mvwg.icaz@gmail.com

More information about the MVWG and our events can be found at www.mvwg-icaz.com

Spermophilus INQUA Workshop in Weimar/Germany

by Chris Baumann

From 25.01. – 27.01., the INQUA workshop "Taxonomy and identification of Eurasian Pleistocene Ground Squirrels" in the frame of INQUA-HABCOM project "Ground squirrels on the march: expansion and speciation in the Quaternary of the Circum-Pontic area and surrounding" (Figure 1) was held in Weimar (Germany). The workshop was organized by Lilia V. Popova (Ukraine) and Lutz C. Maul (Germany) and included 15 invited *Spermophilus* experts from all over the world. In addition, Sara Rhodes and Chris Baumann from the Microvertebrate Working Group (MVWG) got the chance to take part on this special meeting.

The general aim of the workshop was to clarify the taxonomy of selected fossil and extant ground squirrels. To achieve this, we studied and discussed original material from Europe and Asia, as well as relevant literature with the experts. While most of our time was focused on taxonomic discussion, there were many talks about the biology, paleontology and ecology of different *Spermophilus* species, as well. As active participants in the group, Sara and I designed and presented a poster about the *Spermophilus* remains of Southern Germany summarizing all findings from the Middle to the Upper Paleolithic. Additionally, we had the chance to discuss the ground squirrel remains from Geißenklösterle Cave and Hohle Fels that we brought with us from Tübingen.

This meeting was the first of its kind and brought many experts together on one place. Indeed, there is no exact taxonomy of the ground squirrels so far, but the discussions help to form a

standardized one. The next step will be a special issue in Quaternary International (expected late this year) to publish the results of the INQUA workshop.

Figure 1 INQUA-HABCOM project "Ground squirrels on the march: expansion and speciation in the Quaternary of the Circum-Pontic area and surrounding" meeting in Weimar group picture

A Visit to *Meerkat Manor*

by Sara Rhodes

During recent field work in South Africa I had the chance to visit The Kalahari Research Centre (KRC), an international collaborative research center run by Cambridge University and Zurich University located in the South African Kalahari close to the border of Botswana. My colleagues and I woke at the break of dawn for the opportunity to assist researchers from the KRC Meerkat project, a long-term field study looking at the cooperative nature of meerkats (*Suricata suricatta*). The project gained international notoriety due to Meerkat Manor, a British documentary television program produced for Animal Planet International and narrated by Bill Nighy, which dramatized

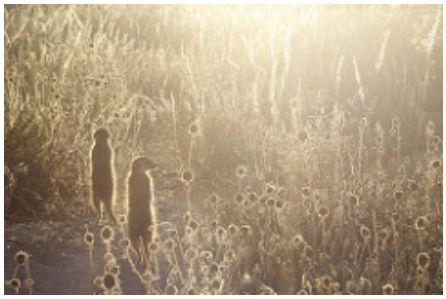

Figure 2 Meerkats greet the sun (photo credit: Amy Fox, UofT)

Figure 3 Weighing members of our adoptive meerkat family (photo credit: Amy Fox, UofT)

the lives of the Whiskers family, a matriarchically lead family of meerkats under study at the KRC. After locating the subterranean burrow of our meerkat family, via a radio locator on the collar of the dominant matriarch, we waited for the family to awake to join them in greeting the sun (Figure 2) and win their approval with bits of boiled egg.

Figure 4 A Kalahari ground squirrel poses for a close up.

After weighing everyone and noting their general health, we shared some play time with the younger members and followed the group scouting for breakfast (which included insects, mostly) (Figure 3). While foraging, members of the extended family took turns keeping watch for predatory birds and verbally signaling retreat to one of their many burrow complexes located across the desert landscape. Interestingly, these burrows are maintained by the Meerkats but were originally dug by local ground squirrels.

In short, we got the full Meerkat Manor experience and learned quite a lot about these adorable small mammals in the process. The guides were kind enough to extend our stay so we could visit the ground squirrel groups which also reside in the reserve and who, despite being more skittish than the partially domesticated meerkats, posed for some photographs (Figure 4).

In addition to the meerkat and ground squirrel projects the KRC includes the Damaraland mole-rat project which utilizes the sixty mole-rat (*Kukomys damarensis*) breeding colonies present at the KRC to study inter- and intra-colony social interaction and its effect on reproduction, division of labor, and ageing within the colonies (Figure 5). All three projects are asking interesting questions, the answers to which could clearly inform how we interpret small mammal behaviour in the
distant past, and it will be interesting to watch how their research progresses. For more information check out their website here.

Figure 5 Hakunamatat, everyone! (photo credit: Amy Fox, UofT)

International MA Program in Prehistoric Archaeology

by Lior Weissbrod

This program offers a unique opportunity to study in Israel and participate in ongoing research and exploration of the renowned Mount Carmel archives of human evolution (*AHE*).

The program is situated at the University of Haifa, in one of the world's most dynamic centers for prehistoric research. Encompassing both a UNESCO World Heritage Site and a biosphere reserve, Mount Carmel reveals a nearly 500,000 year-long sequence of human evolution

exposed in caves, rock shelters and open-air sites along mountain valleys and the nearby coastal plain.

Unlike any other region in the world, the Carmel preserves evidence of both modern humans and Neanderthal populations, in sites less than 100 meters from each other, such as the famed caves of Tabun and Skhul. For over 80 years, research expeditions working in the region have investigated "Out of Africa" human expansions, the role of past climate change in the development of culture, and the invention of agriculture and emergence of farming communities.

We provide students with an exceptional selection of interdisciplinary courses and hands-on experience, where each student can choose to specialize in one of many topics, including *Zooarchaeology and Microvertebrate Taphonomy, Lithic and Geological Studies,* and *Palynology*. Additional key topics that the program emphasizes are *Environmental Archaeology* and *Archaeological Method and Theory.*

The one-year program, adhering to the highest international standards of teaching and research, is taught in English over three consecutive semesters, and awards a Masters of Arts Degree (*M.A.*) in Archaeology from the Faculty of Humanities of the University of Haifa.

For more information see the program website:
http://archinternational.haifa.ac.il/index.php?lang=en

Call for Submissions

Got the scoop on funding opportunities or job openings MVWG members should know about? Maybe your lab recently published a series of paradigm shifting articles? Or have you been to a conference you're just dying to talk about? Consider contributing to the next issue of the MVWG newsletter! We publish this newsletter biannually, in both December and June, and welcome contributions from members and friends alike, including:

- Reviews of recent conferences
- Journal and Book reviews

- Updates on ongoing projects
- Funding opportunities and deadlines
- Student profiles
- Other updates of interest to the MVWG community

Send your submissions (as a word file) to mvwg.icaz@gmail at any time and we'll include it in our next issue.

Recent Publications

A regular part of the ICAZ Microvertebrate working group newsletter will be a detailed bibliography (with links where possible) of the most recent publications related to microvertebrate studies. If you would like to contribute to this list, please send complete bibliographic data (in any format) to mvwg.icaz@gmail.com. We are also happy to publish book reviews or research syntheses submitted to the above email address and accepted by the MVWG Scientific Committee.

Albarella, Umberto, et al., eds. *The Oxford Handbook of Zooarchaeology*. Oxford University Press, 2017.

Andrade, Analia, and Pablo Marcelo Fernández. "Rodent consumption by hunter-gatherers in north Patagonian Andean forests (Argentina): Insights from the small vertebrate taphonomic analysis of two late Holocene archaeological sites." *Journal of Archaeological Science: Reports* 11 (2017): 390-399.

Bennàsar, M., et al. "Mole's humerus speaks. A rebuttal to Furió 2016." *Historical Biology* 29.2 (2017): 248-252.

Bañuls-Cardona, Sandra, et al. "Human impact on small-mammal diversity during the middle-to late-Holocene in Iberia: The case of El Mirador cave (Sierra de Atapuerca, Burgos, Spain)." *The Holocene* (2017): 0959683616683257.

Bernardino (Vicenza, Italy) through the small-mammal assemblage." *Quaternary Science Reviews* 168 (2017): 42-54.

Bisbal-Chinesta, J.F., Blain, H-A. "Long-term changes in composition and distribution patterns in the Iberian herpetofaunal communities since the latest Pleistocene". *Quaternary Science Reviews (2017) In press.*

Blain, Hugues-Alexandre, et al. "A new middle Pleistocene (Marine Oxygen Isotope Stage 6) cold herpetofaunal assemblage from the central Iberian Peninsula (Manzanares Valley, Madrid)." *Quaternary Research* 87.3 (2017): 499-515.

Bogićević, Katerina, et al. "A Late Pleistocene rodent fauna (Mammalia: Rodentia) from Hadži Prodanova Clave near Ivanjica (Western Serbia)"*Rivista Italiana di Paleontologia e Stratigrafia (Research In Paleontology and Stratigraphy)* 123.1 (2017): 23-38.

Campmas, Émilie, et al. "Which predators are responsible for faunal accumulations at the Late Pleistocene layers of El Harhoura 2 Cave (Témara, Morocco)?." *Comptes Rendus Palevol* 16.3 (2017): 333-350.

Čerňanský, Andrej, et al. "First record of fossil anguines (Squamata; Anguidae) from the Oligocene and Miocene of Turkey." *Swiss Journal of Geosciences* (2017): 1-11.

Colombero, Simone, et al. "Late Messinian mollusks and vertebrates from Moncucco Torinese, north-western Italy. Paleoecological and paleoclimatological implications." *Palaeontologia Electronica* 20.1 (2017): 1-66.

Cuenca-Bescós, Gloria, et al. "Beavers (Castoridae, Rodentia, Mammalia) from the Quaternary sites of the Sierra de Atapuerca, in Burgos, Spain." *Quaternary International* 433 (2017): 263-277.

Dekel, Y., Machluf, Y., Brand, R., Partouche, O.N., Ben-Shlomo, I. and Bercovich, D., 2017. Mammal domestication and the symbiotic spectrum. *Proceedings of the National Academy of Sciences USA*, p.201705784. doi: 10.1073/pnas.1705784114

Discamps, Emmanuel, and Aurélien Royer. "Reconstructing palaeoenvironmental conditions faced by Mousterian hunters during MIS 5 to 3 in southwestern France: A multi-scale approach using data from large and small mammal communities." *Quaternary International* 433 (2017): 64-87.

Hawkins, Stuart, et al. "Human Palaeoecological Interactions and Owl Roosting at Tron Bon Lei, Alor Island, Eastern Indonesia." *The Journal of Island and Coastal Archaeology* (2017): 1-17.

Faerman, Marina, et al. "DNA analysis of a 30,000-year-old Urocitellus glacialis from northeastern Siberia reveals phylogenetic relationships between ancient and present-day arctic ground squirrels." *Scientific Reports* 7 (2017): 42639.

Fernández, Fernando J., et al. "A re-evaluation of the taphonomic methodology for the study of small mammal fossil assemblages of South America." *Quaternary Science Reviews* 155 (2017): 37-49.

Flynn, Lawrence J., and Wen-Yu Wu. "Dynamic Small Mammal Assemblages of Yushe Basin." *Late Cenozoic Yushe Basin, Shanxi Province, China: Geology and Fossil Mammals*. Springer Netherlands, (2017): 205-215.

Georgalis, Georgios L., Andrea Villa, and Massimo Delfino. "The last European varanid: demise and extinction of monitor lizards (Squamata, Varanidae) from Europe." *Journal of Vertebrate Paleontology* 37 (2017): e1301946.

Guimaraes, S., et al. "A cost-effective high-throughput metabarcoding approach powerful enough to genotype~ 44,000 year-old rodent remains from Northern Africa." *Molecular ecology resources* 17.3 (2017): 405-417.

Hawkins, Stuart, et al. "Human Palaeoecological Interactions and Owl Roosting at Tron Bon Lei, Alor Island, Eastern Indonesia." *The Journal of Island and Coastal Archaeology* (2017): 1-17.

Kerber, Leonardo, et al. "A new rodent (Caviomorpha: Dinomyidae) from the upper Miocene of southwestern Brazilian Amazonia." *Historical Biology* (2017): 1-9.

Knitlová, Markéta, and Ivan Horáček. "Late Pleistocene-Holocene paleobiogeography of the genus Apodemus in Central Europe." *PloS one* 12.3 (2017): e0173668.

Kuzmin, Yaroslav V., et al. "The northernmost and latest occurrence of the fossil porcupine (Hystrix brachyura vinogradovi Argyropulo, 1941) in the Altai Mountains in the Late Pleistocene (ca. 32,000–41,000 cal BP)." *Quaternary Science Reviews* 161 (2017): 117-122.

Leichliter, Jennifer, et al. "Stable carbon isotope ecology of modern small mammals from the Sterkfontein Valley: Implications for habitat reconstruction in mosaic environments." *Palaeogeography, Palaeoclimatology, Palaeoecology* (2017) *In press*.

López-García, Juan Manuel, et al. "Palaeoenvironmental and palaeoclimatic reconstruction of the Middle to Late Pleistocene sequence of Scladina Cave (Namur, Belgium) using the small-mammal assemblages." *Historical Biology* (2017): 1-18.

López-García, Juan Manuel, Luzi, E. and Peresani, M. "Middle to Late Pleistocene environmental and climatic reconstruction of the human occurrence at Grotta Maggiore di San Bernardino (Vicenya, Italy) through the small-mammal assemblage" *Quaternary Science Reviews* 168 (2017): 42-54.

Luna, Leandro, Claudia Aranda, and Carlos Quintana. "Middle and late holocene micromammal pathologies from Cueva Tixi (Tandilia Range, Buenos Aires Province, Argentina)." *International Journal of Paleopathology* (2017) *In press.*

Moya-Costa, Raquel, et al. "Structure and composition of tooth enamel in quaternary soricines (Mammalia)." *Quaternary International* (2017) *In press.*

Piñero, Pedro, et al. "Early Pliocene continental vertebrate Fauna at Puerto de la Cadena (SE Spain) and its bearing on the marine-continental correlation of the Late Neogene of Eastern Betics." *Palaeogeography, Palaeoclimatology, Palaeoecology* 479 (2017): 102-114.

Popov, Vasil. "A Pleistocene Record of Apodemus agrarius (Pallas, 1771) (Mammalia: Rodentia) in the Magura Cave, Bulgaria." *ACTA ZOOLOGICA BULGARICA* 69.1 (2017): 121-124.

Riley, Megan E., and Blaine D. Griffen. "Habitat-specific differences alter traditional biogeographic patterns of life history in a climate-change induced range expansion." *PloS one* 12.5 (2017): e0176263.

Rogers, Raymond R., et al. "Isotaphonomy in concept and practice: an exploration of vertebrate microfossil bonebeds in the Upper Cretaceous (Campanian) Judith River Formation, north-central Montana." *Paleobiology* 43.2 (2017): 248-273.

Shiels, Aaron B., Arthur C. Medeiros, and Erica I. Allmen. "Shifts in an invasive rodent community favoring Black rats (*Rattus rattus*) following restoration of native forest." *Restoration Ecology* (2017).

Soto-Centeno, J. Angel, Nancy B. Simmons, and David W. Steadman. "The bat community of Haiti and evidence for its long-term persistence at high elevations." *PloS one* 12.6 (2017): e0178066.

Stoetzel, Emmanuelle, et al. "Systematics and evolution of the Meriones shawii/grandis complex (Rodentia, Gerbillinae) during the Late Quaternary in northwestern Africa: Exploring the role of environmental and anthropogenic changes." *Quaternary Science Reviews* 164 (2017): 199-216.

Szentesi, Zoltán, and Julio Company. "Late Maastrichtian small-sized herpetofauna from Valencia province, eastern Spain." *Historical Biology* 29.1 (2017): 43-52.

Torres-Roig, Enric, et al. "An early Pliocene anuran assemblage from Mallorca (Balearic Islands, Western Mediterranean): palaeobiogeographic and palaeoenvironmental implications." *Palaeobiodiversity and Palaeoenvironments* 97.2 (2017): 315-327.

Vasil'ev, A. G., et al. "Chernov's compensation principle and the effect of rodent community completeness on the variability of bank vole (Clethrionomys glareolus) population in the Middle Urals." *Russian Journal of Ecology* 48.2 (2017): 161-169.

Weissbrod, L., Marshall, F.B., Valla, F.R., Khalaily, H., Bar-Oz, G., Auffray, J.C., Vigne, J.D. and Cucchi, T., "Origins of house mice in ecological niches created by settled hunter-gatherers in the Levant 15,000 y ago." *Proceedings of the National Academy of Sciences USA*, 114 (2017): 4099–4104.

Weissbrod, L., Marshall, F.B., Valla, F.R., Khalaily, H., Bar-Oz, G., Auffray, J.C., Vigne, J.D. and Cucchi, T., "Reply to Dekel et al.: Preagricultural commensal niches for the house mouse and origins of human sedentism." *Proceedings of the National Academy of Sciences USA*, (2017): 06914. doi: 10.1073/pnas.1706914114

White, Tom S., et al. "Fossils from Quaternary fluvial archives: Sources of biostratigraphical, biogeographical and palaeoclimatic evidence." *Quaternary Science Reviews* 166 (2017): 150-176.

Wu, Wen-Yu, Lawrence J. Flynn, and Zhu-Ding Qiu. "The Murine Rodents of Yushe Basin." *Late Cenozoic Yushe Basin, Shanxi Province, China: Geology and Fossil Mammals*. Springer Netherlands, (2017): 179-198.