

Meeting Reports

First “European” Scarab Symposium at the NHM

This report is dedicated to the memory of Henry F. Howden (1925 - 2014), one of the greatest contributors to scarab systematics

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The superfamily Scarabaeoidea contains a highly diversified cosmopolitan group of beetles including scarab beetles, bess beetles, stag beetles, hide beetles, rain beetles and many others. This group includes 14 families with approximately 2,200 genera and 35,000 species. Possibly the most well known features of this group are their segmented lamellate antennal clubs and their strong legs equipped with teeth, which are an important adaptation for digging. They have a varied diet, containing among them necrophagous, coprophagous, herbivorous, fungivorous, saprophagous, xylophagous and also a few predatory species. Some of them are agricultural pests while others are used as indicators of ecosystem health.

At a worldwide level, several meetings are organized related to this superfamily, including RELAS (Reunion Latinoamericana de Scarabaeoideologia – Latin American countries every two years since 1993), SOLA (Sacred Order of the Lamellate Antennae – USA every year since 1998) and JSS (Japanese Society of Scarabaeoidology – Japan every year since 2000). However, a specific meeting that deals with this taxonomic group did not exist in Europe in the past. Considering the importance of this superfamily, Maxwell V. L. Barclay, the curator and collection manager of the Coleoptera collection in the Department of Life Science at the Natural History Museum (NHM), decided to organise the first European Scarab Symposium which took place between the 31st July - 1st August 2014 at the NHM in London.

The two-day event took place in the Neil Chalmers Seminar Room in Darwin Centre II. Over two days, sixteen researchers from different countries and continents delivered interesting and exciting talks covering a wide range of topics, ranging from alpha-taxonomic studies to molecular

phylogenetics and including subjects such as morphology, physiology, ecology, inventories, evolution and natural history. Using the words of Max Barclay: “the Symposium had a very diverse and varied schedule”. Abstracts of talks, with a full summary, are available by email from Max Barclay.

Max Barclay opened the Symposium on Thursday with a warm welcome and charming talk about the Coleoptera collection, showing some amazing specimens collected by Darwin (Fig. 1). This was followed by Brett C. Ratcliffe who presented a collaborative work with Ronald Cave: “A biotic survey and inventory of the Dynastinae scarab beetles of Mesoamerica, the West Indies, and North America: a review of a long-term, multi-country project” (Fig. 2). After that Mary Liz Jameson gave an exquisite presentation of work with Anderson Puker: “Scarabs

associated with termites and first report of a leaf chafer-termite association”. Afterwards, Ronald D. Cave presented a complete analysis of: “Scarabaeoidea of Honduras”. Later, Matthew R. Moore presented: “Exploring phylogeny and host plant shifts in Cyclocephalini (Scarabaeidae: Dynastinae)”. The next talk was by Frank-T. Krell who presented a controversial study by various authors including Robert Angus and Tomas Roslin: “Making the cryptic visible - resolving the species complex of *Aphodius fimetarius* (Linnaeus) and *Aphodius pedellus* (de Geer) (Coleoptera: Aphodiidae) by three complementary methods”. Thereafter, Jason F. Mate presented: “Detritivory to coprophagy: the Aphodine perspective”. Finally that day, Robert B. Angus presented: “To chew or not to chew? Unexpected variation among Psammodiine mouth parts”.



Figure 1. Max V. L. Barclay showing an entomological box with scarabs collected by Charles Darwin.



Brett C. Ratcliffe



Mary Liz Jameson



Ronald D. Cave



Frank-T. Krell



Jason F. Mate



Darren J. Mann



Alberto Ballerio



Conrad Gillett

Figure 2. Some of the speakers giving their talks at the Symposium.



Figure 3 (left). During the “icebreaker” party with all the amazing food and some jars of Pimms!!! Figure 4 (right). At the nice open roof garden in the Darwin Common Room.



Figure 5 (left). Even during the party there was always time to review some data. (L to R): Jason F. Mate, and Darren J. Mann. Figure 6 (right). Looking at some chafer beetles. (L to R): Matthias Seidel, Hitoshi Takano, and Milan Krajcik.



Figure 7 (left). Traditional London Friday pub lunch. (L to R): Robert Angus, Max Barclay, Brett Ratcliffe, Mary Liz Jameson, Hitoshi Takano, David Oram, Malcolm Kerley, Beulah Garner, Matthew R. Moore, Ronald Cave, and Maria Fremlin. Figure 8 (right). The “dung beetles” team. (L to R): Frank-T. Krell, Conrad Gillett, Darren J. Mann and Jorge Ari Noriega.



Figure 9. The whole group of speakers and assistants trying to do the customary “SOLA” salute.

During the afternoon, Robert Angus kindly showed some delegates the photography studio of the NHM and in the evening there was an “icebreaker party”, an informal refreshments gathering in the Darwin Common Room, with a nice open roof garden (Figs 3-6). There was so much food and drink that there was enough left over for a second celebration the following day.

The meeting continued on Friday morning with a talk by myself: “Population effect of the invasion process of *Digitonthophagus gazella* (Coleoptera: Scarabaeinae) on native assemblages in Colombia”. Then Darren J. Mann gave an entertaining and amusing talk: “Hope you like Scarabs: stuff we do in the Hope Entomological Collections”. After that, Alberto Ballerio presented a much awaited talk that involved various authors like Frank Krell and Olivier Montreuil: “An enigma of scarabaeidology revealed: the re-discovery of *Belohina inexpectata* in Southern Madagascar, and its placement in Scarabaeoidea”. Later, Hitoshi Takano presented a remarkable tribute to some important explorers with his talk: “Through the Dark Continent: Africa’s Great Explorers and their scarabs”. Afterwards, David Oram presented an inspiring talk in terms of collecting abilities: “Flower chafers of the genus *Eudicella*, subgenus *Cyprolais* from the Republic of Zambia”. Thereafter, Matthias Seidel presented: “Molecular phylogenetics

and evolution of the sub-Saharan Cetoniinae genus *Eudicella*”. The next talk was by Conrad Gillett who presented an interesting work by various authors including Alfried P. Vogler: “Bulk *de novo* mitogenome assembly uncovers the root of all weevils (and potentially all scarabs!)”. Finally, the last and most touching talk was by Malcolm Kerley who presented: “Concluding words: Informal reminiscences of 40 years in curation at the Natural History Museum”.

Following a busy schedule we went for a traditional London Friday “pub lunch” (Figs 7-8). Other activities during the Symposium included visits to the Coleoptera collection, the entomological library and the rest of the Museum. In addition, there were some impressive exhibitions at the NHM like: “Britain: One Million Years of the Human Story”, “Sensational Butterflies” and “Mammoths: Ice Age Giants”. There were also a couple of posters presented at the meeting, including one from Conrad Gillett and other authors, including Darren J. Mann, titled: “Field parataxonomy vs Expert taxonomy: A preliminary comparison of their effects on interpreting community ecology in Ecuadorian dung beetles (Coleoptera: Scarabaeinae)”.

It is also important to mention a selection of non-presenting delegates who attended the meeting and contributed with questions and in the discussion sessions: Alfried P. Vogler,

Milan Krajcik, and Maria Fremlin. Any meeting like this involves a lot of effort in planning and organisation by many people. All the participants are thankful for the excellent logistics of the “NHM Coleoptera Team” composed of: Beulah Garner, Lydia Smith, Lucia Chmurova, Jessica Hughes and Friederike Gebert. Finally, a very special mention goes to Max Barclay, as this meeting would not have been possible without his important support and incredible coordination.

In conclusion, this first Scarab Symposium at the NHM was a great opportunity to meet other colleagues and arrange some academic collaborations, as well as catch up with old friends (Fig. 9). All the talks were nicely illustrated and organized, and the whole Symposium was an outstanding update of some of the latest research findings and the newer topics in Scarabaeoidea investigation. The meeting was phenomenal, everyone had a great time and I hope that the enthusiasm generated at this event leads to a second meeting next year!

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