



Lizard tracking

Professor Richard Brown and former MPhil student Siobhan Cox, in collaboration with Salvador Carranza (Barcelona), have been studying lizard dispersals on islands. Using DNA and geological data they were able to infer when the Canary Islands were colonized by *Gallotia* lizards, and how they subsequently dispersed across these volcanic islands.

The whole process started some 20 million years ago after the appearance of the most eastern islands. Newly emerged islands don't seem to have remained vacant for long: each inferred island colonization date was generally quite soon after the island appeared. However, once one *Gallotia* species has colonized the island then it is unlikely to be subsequently colonized by another *Gallotia*. This work was published in *Molecular Phylogenetics and Evolution* in 2010 and Siobhan is now studying for a PhD at University College, London. Photo (left): *Gallotia stehlini*

Climate change and Bosnian Bogs

In May, Jason Kirby visited Bosnia & Herzegovina with colleagues from the University of Liverpool and the Institute of Oceanography and Fisheries in Split, Croatia. This visit was a pilot study to sample previously un-investigated lakes and wetlands in the Hutovo Blato Nature Park. The lakes are fed by both rivers and aquifers and the sediment record may provide information on climate change, flood history, long-term vegetation migration and recent human impacts. A programme of sediment dating and laboratory investigation is now underway which will form the basis of a future research grant proposal.

Photo (right): Prof Andy Plater (University of Liverpool, left) and Jason Kirby (right) compete for the 'dirtiest and cleanest' field worker awards!



Digging in Dog Hole

This summer, Dave Wilkinson, Hannah O'Regan and Ian Smith (all LJMU), and cavers from a number of clubs including the Red Rose Cave and Pothole Club and Kendal Cavers, explored a Romano-British burial site in a cave in Southern Cumbria. The site contains human remains dating from AD 250-450, as well as cattle, sheep, pig and dog remains, some of which have been radiocarbon dated to the Anglo-Saxon or Early Mediaeval period (just prior to the Norman conquest). The photo (left) shows a human lower jaw during excavation. The excavation took place at approximately 13m below the ground surface. Finds from the excavation included Romano-British blue glass beads, and a single jet bead, in addition to one crushed human skull and six partial lower jaws.



Dr Jane Fisher is working with The University of Liverpool to host the next Meres and Mosses Forum on 16th September 2010. The event is open to all with an interest in research and conservation projects on the West-Midland Meres and Mosses. We are especially interested in involving research students and all those with an interest are welcome to attend.

If you would like further details please contact either Dr Jane Fisher (J.Fisher@ljmu.ac.uk) or Dr Tom Barker (tomb@liv.ac.uk).

Tropical learning in Costa Rica

The students of the 3rd year module BIEBL3027 Tropical Expedition have just returned from their 2-week trip to Costa Rica. They undertook research in Santa Rosa National Park for the first week, doing individual projects on Howler monkeys, butterflies, caterpillars, fruiting trees, leaf cutter ants and animal associations with the bullhorn acacia. They then moved on to a coastal fishing village close by to do research projects on the coral reef. Local families hosted the students. Corals, pufferfish, diadem sea urchins, damselfish, triggerfish, butterflyfish and the international Reef Check Protocol were possible topics for their individual snorkel research projects. The students were supervised by Dr Simone Dürr and Prof Filippo Aureli with local support. Other than the research projects a priority on the trip was getting to know the various ecosystems, as well as local culture, with visits to a volcano, mangroves, tropical rocky reef and sightings of crocodiles and humpback whales. Photos, videos and other impressions are shared in the facebook group called LJMU BIEBL3027 Tropical Expedition.

Predicting Beauty

Professor Noel Sheehy and colleagues have been examining visual complexity and fractal geometry in predicting preference for artistic works. Their first study examined the extent to which perceived visual complexity in art can be successfully predicted using automated measures of complexity. Contrary to previous findings the most successful predictor of visual complexity was Gif compression. Their second study examined the extent to which fractal geometry (self-similar shapes) could account for judgments of perceived beauty. The fractal dimension measure accounts for more of the variance in judgments of perceived beauty in visual art than measures of visual complexity alone, particularly for abstract images (e.g. a Jackson Pollock) and natural images such as trees, deserts and forest landscapes. Results also suggest that when colour is removed from an artistic image observers are unable to agree as to its beauty.

Conference award



Dr Steph Davy-Jow and colleagues were runners up in category 3 of the 2010 Mimics Innovations Awards. Their paper entitled 'Who is this Person? The application of modern computer technologies to the emerging field of Virtual Forensic Anthropology' can be viewed online at:

<http://www.materialise.com/materialise/view/en/3145574-Mimics+Innovation+Awards+2010.html>

Kenyan fieldwork

Julien Louys and Laura Bishop spent time at the National Museums of Kenya working on two projects this summer. First, they were part of an international team identifying and examining the fossils recovered from 2009 excavations at Kanjera South for traces of damage caused by early humans and carnivores. Kanjera South is a rich Oldowan site on the shore of Lake Victoria, in Western Kenya. They also were examining fauna from the Koobi Fora Formation and Olduvai Gorge as part of their Leverhulme Trust funded project, Taxon-free palaeontological methods for reconstructing environmental change.

LOOM

The Liverpool Logistics, Offshore and Marine (LOOM) Research Institute has recently been established, led by Professor Jin Wang. Steve Fairclough and Andy Tattersall (both NSP) are members and other staff, such as Angela Nananidou, are actively involved in research collaboration with LOOM. The particular interests of NSP staff involve research on safety and risk assessment at sea, human factors, and fatigue and workload management.

Conferences

NSP staff have been very busy at conferences this year - Simone Dürr chaired a session at the International Congress on Marine Corrosion and Biofouling in Newcastle, UK, Anne-Marie Nuttall, Kostas Kiriakoulakis and Tim Stott (ECL) all presented work at the European Geophysical Union meeting in Vienna, and Hannah O'Regan presented a paper at the International Congress for Archaeozoology in Paris.

Forthcoming research seminars

NSP Research seminars take place every week and all staff and students are welcome to attend.

Natural sciences seminars are held weekly on **Wednesdays at 4.30pm in room 327**, Byrom Street. The first seminar this semester takes place on September 29th. Dr **Costa Eliopoulos, LJMU** will be presenting *Contemporary human skeletal collections: to have or not to have?*

Psychology Research seminars are held every two weeks on **Tuesday lunchtimes at 1pm in the Tom Reilly Building, room 149**. The first seminar this semester will be on September 28th.

Some recent publications by staff within the School

Barnard, W., **Mettke-Hofmann, C.**, Matsuoka, S. (in press). Prevalence of hematozoa infections among breeding and wintering Rusty Blackbirds. *Condor*.

Bishop, L.C. (2010) Suidae. In: *Cenozoic Mammals of Africa*. Eds. Werdelin, L & Sanders, W.J. University of California Press. pp 821-842.

Braun, D.R., Harris, J.W.K., Levin, N.E., McCoy, J.T., Herries, A.I.R., Bamford, M.K., **Bishop, L.C.**, Richmond, B.G., Kibunjia, M. (2010) Early hominin diet included diverse terrestrial and aquatic animals 1.95 Ma in East Turkana, Kenya. *Proceedings of the National Academy of Sciences* 107: 10002-10007.

Cox, S.C., Carranza, S., **Brown, R.P.** (2010) Divergence times and colonization of the Canary Islands by *Gallotia* lizards. *Molecular Phylogenetics and evolution* 56: 747-757.

Cunningham, J.C., **Glenn, S.** (in press) Age, social and developmental appropriateness: Has the pendulum swung too far? *Down Syndrome Quarterly*.

Edmonds, S.T., Evers, D.C., O'Driscoll, N. J., **Mettke-Hofmann, C.**, Powell, L., Cristol, D., McGann, A.J., Armiger, J.W., Lane, O., Tessler, D., Newell, P. (in press) Geographic and seasonal variation in mercury exposure of the declining Rusty Blackbird. *Condor*.

Fisher, J., Deflandre, A., Coste, M., Delmas, F. and Jarvie, H. (2010) Community grouping of European benthic diatoms as indicators of eutrophic status of rivers. *Fundamental and Applied Limnology* 176: 89-100.

Forsythe, A., Nadal, M., **Sheehy, N.**, Cela-Conde, C.J., Sawey, M. (in press) Predicting beauty: Fractal dimension and visual complexity in art. *British Journal of Psychology*.

Glenn, S., Poole, H. et al. (in press) Individual differences in the judgement of pain in post-surgery neonates. *Treatment Strategies: Pediatrics*.

Greenop, J.D., **Glenn, S.**, Clifford, D., Walshaw, M., Ledson, M. (in press) Self care and cystic fibrosis: A review of research with adults. *Health and Social Care in the Community*.

Greenop, D, **Glenn S** (in press) Self-care stories and Healthcare Narratives: developing a pluralistic taxonomy for adults with cystic fibrosis. In: *User-Driven Healthcare and Narrative Medicine*. Eds. Rakesh B. & Carmel, M. IGI Publishing.

Hobson, K. A., Greenberg, R., van Wilgenburg, S., **Mettke-Hofmann, C.** (in press) Migratory connectivity in the Rusty Blackbird (*Euphagus carolinus*) in North America. Isotopic evidence from feathers of historic and contemporary specimens. *Condor*.

Mettke-Hofmann, C., Sinclair, P., Hamel, P.B., Greenberg, R. (in press) Implications of prebasic and a previously undescribed prealternate molt on aging Rusty Blackbirds. *Condor*.

Yang, J., Smith, H.G., Sherratt, T.N., **Wilkinson D.M.** (2010) Is there a size limit for cosmopolitan distribution in free-living microorganisms? A biogeographical analysis of testate amoebae from polar areas. *Microbial Ecology* 59, 635-645.

Yang, J., Smith, H.G., **Wilkinson, D.M.** (2010) Fauna and distribution of Testacea (Protozoa) from Arctic, Antarctic and Tibet. *Biodiversity Science* 18: 373-382. (In Chinese with English abstract).

Interested in Psychology?



Would you like to know how memory works, how stress affects our health or why people overeat?



LJMU is looking for students to join a panel of volunteers for a range of psychology studies, giving you an opportunity to contribute to important scientific research. If you are added to the panel you will be under no obligation to participate in the studies, but if you do take part your out-of-pocket expenses will be reimbursed with shopping vouchers. All studies will be approved by an appropriate Research Ethics Committee.

To register your interest, call: **0151 904 6227** or Email psypanel@ljmu.ac.uk

