

Personality traits in Gouldian finches

Dr. Claudia Mettke-Hofmann presented a poster about different personality traits related to head colour in Gouldian finches at the 31st International Ethological Conference in Rennes, France. Gouldian finches have three strikingly different head colours (right). Former NSP PhD student Orlaith Fraser (now a postdoc at University of Vienna) gave an oral presentation about post-conflict behaviour in ravens. About 750 researchers from all continents attended the meeting which is held every two years.



Where does the poison come from? A marine worm mystery



Tetrodotoxin is a potent neurotoxin which is found in a wide range of marine animals such as pufferfish and molluscs and serves to protect them from predators. This toxin is often linked to the presence of microbes and in particular *Vibrio* species. NSP MPhil student Manishadevi Patel, in collaboration with Dr Alan Gunn and Eric McEvoy, has been investigating the origin of this toxin in a British nemertean marine worm, *Ramphogordius sanguineus* (left). This study has found that *R. sanguineus* is associated with a *Vibrio* species, *V. gigantis*, and that it is found particularly in the mucus and head glands of the nemertean: this is the first time this bacteria has been associated with nemerteans. However, the role of the bacteria remains uncertain since their presence did not protect the worms from predation. This work was presented at the European Marine Biology Society meeting in Liverpool.

Public health research

Dr Susan Giles, new lecturer in Forensic Psychology, has been completing reports for the North West Public Health Observatory (NWPHO) following her move to the School of Natural Sciences and Psychology (NSP) this summer. She has co-authored a report commissioned by the former Care Services Improvement Partnership (CSIP) analysing outdoor and non residential suicide locations across the North West. A summary of this project is available on the NWPHO website <http://www.cph.org.uk/publications.aspx>. Susan has also been involved in a North West Development Agency funded project to help develop an evaluation framework for 'Active 8'. This is a 'social care' model intervention for young people with mental health problems that focuses on education, training, improving skills and raising aspirations.

Do you know this man?

Dr Stephanie Davy-Jow has been helping police in the quest to identify a part of a human skull found by fishermen in the North Sea in 2008. Analysis of the skull, which was lacking its lower jaw, showed it was male, aged between 20-50 years and had a missing upper left incisor. Stephanie specialises in digital facial reconstruction, and has used her skills to create a 3D model of the man in the hope that someone will recognise him. One view is shown above, and the 3D model can be viewed by following the links from Stephanie's staff webpage (<http://www.ljmu.ac.uk/NSP/96200.htm>).



Eating disorder experts meet in Liverpool

A Talking Eating Disorders conference for academics, clinicians, service users and carers was held at LJMU on September 7th. Organised by Valerie Todd (NSP) and the Institute of Health Research, the day brought together experts from Talking Eating Disorders, Guys Hospital, Cheshire and Merseyside Eating Disorders Service, B-eat and LJMU, as well as panel members with eating disorders, to raise awareness of the issues involved.

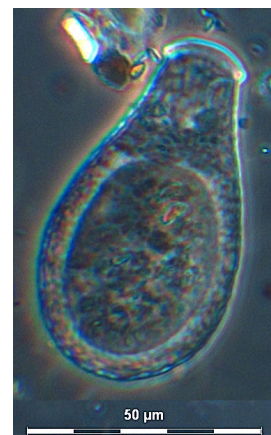
Life beyond the lecture theatre



Two ex-NSP students have been busy working with Professor Filippo Aureli on primate projects in the UK and Costa Rica. Yvette Foulds, who graduated with a first in Animal Behaviour this July, started volunteering in Costa Rica on Filippo's long-running spider monkey project soon after graduation. After her training is completed, she will collect data on the decisions leading to fissioning into subgroups. (Left: Yvette in the forest with Costa Rican field assistant Elvin Murillo.) In addition, an article based on former Zoology student Kerrie Yates' honours project was published online in *Biology Letters* in August. Her work focussed on the consequences of grooming others in the crested black macaque group at Chester Zoo.

The microbes are blowing in the wind...

Dr Dave Wilkinson gave talks at three different conferences during early September. He put the case for James Lovelock's Gaia hypothesis as an invited speaker at a debate during the British Science Festival in London, and won the public vote by a small margin. He also gave a more technical paper at the annual meeting of the British Ecological Society, summarising the results of work with colleagues from Switzerland. They have used a computer model of the whole atmospheric circulation of the Earth to investigate how easily microbes of different sizes can travel long distances on the wind. He also gave a keynote address at the Fifth International Symposium on Testate Amoebae in Montbeliard, France, describing his work on the factors affecting the large scale distribution of testate amoebae (microorganisms common in organic rich soils and many freshwater environments). Right: A testate amoeba (*Nebela militaris*) from a moss sample collected in the Cairngorm mountains of Scotland.



The legacy of Erik the Red

Dr Jason Kirby has been working on a research project to establish the timing and impact of Norse (Viking) settlement of Greenland. Erik the Red led the first settlement of Greenland by the Norse in AD985 during a period of time when the climate of parts of Northern Europe were perhaps 1 °C warmer than today. The Norse population grew and their agricultural activities led to significant landscape change, not least the removal of all indigenous trees (mostly stunted varieties of birch). The last written records of the Norse in Greenland are from the 15th Century and it is generally thought that they abandoned the area around AD1450. Jason has been analysing the diatoms (microscopic algae) from a lake adjacent to the ruins of a Norse settlement on the West coast of Greenland along with colleagues from Aberdeen University who have been working on the pollen preserved in the sediment. Together, these results give a precise picture of the timing of the Norse occupation of the site, their impact on the environment and also information on climate change. The results suggest an increase in ice cover on the lake when the site was abandoned and it is likely that the Norse vacated Greenland when the country became uninhabitable during the Little Ice Age.

Tracking sheep - by satellite



Dr Jenny Sneddon and Dr Dick Small are beginning a new research project, with Dr Mark Rutter from Harper Adams University College, to ascertain the grazing preferences of sheep. While 'grass' seems the obvious answer, many animals are rather more discriminating than we might think, choosing to graze in particular areas of a field where grass contains the trace elements and minerals that they need to remain healthy. Jenny and Dick will be examining this by using high resolution GPS harnesses on sheep (left) to track where they move within a field at different times of day, in combination with soil analyses. The data collected will be used for research, but also for student training - so keep an eye out for it! Dr Rutter will be presenting an NSP research seminar on this topic on November 18th in room 327 at 4.30pm. All welcome.

Dick Small also gave an invited presentation on 'In situ conservation - current best practice' at a Genesis-Faraday sponsored workshop 'Post-genomic farm animal biodiversity' in Edinburgh on 3rd September.

Greenland expedition

Drs Siobhán Power and Anne-Marie Nuttall from NSP and Professor Tim Stott from ECL spent the summer on fieldwork in south Greenland along with fifty 16-20 year old 'young explorers'. The expedition, organised by the British Schools Exploring Society (<http://bses.org.uk>) offered the youngsters the chance to take part in research projects in geology, glaciology, fluvial hydrology and social sciences. The geology group studied the 1.8 billion year old igneous and metamorphic rocks that now contribute to the beautiful mountains of south Greenland (right). The glaciologists measured the microclimate and melt rate at the snout of an outlet glacier. Melt rates averaged about 10cm per day, which was higher than expected due to the warm föhn winds blowing off the Greenland Ice Sheet.



Research seminars

Natural science research seminars take place every week on Wednesdays at 4.30pm in Room 327, Byrom Street. The first few talks for this semester are:

September

30th Anna Nilsson, University of Oslo. *Climate change effects on the ecology and migration of birds - from blue tits to dippers.*

October

7th Julien Louys, LJMU. *From bones to biomes: new approaches in vertebrate palaeoecology.*

14th Warren Eastwood, University of Birmingham. *Integrating palaeoenvironmental and historical/textual archives: evidence for environment and landscape change in Cappadocia (Turkey) since late Antiquity (AD 300).*

Some recent publications by staff within the School

Amici, F., Call, J., **Aureli, F.** (2009) Variation in withholding of information in three monkey species. *Proceedings of the Royal Society B* 276: 3311-3318.

Aureli, F., Yates, K. (2009) Distress prevention by grooming others in crested black macaques. *Biology Letters* doi: 10.1098/rsbl.2009.0513

Fisher, J., Barker, T., James, C. and Clarke, S. (2009) Water Quality in chronically nutrient-rich lakes: the example of the Shropshire-Cheshire Meres. *Freshwater Reviews* 2: 79-99.

Hiramatsu, C., Melin, A.D., **Aureli, F.**, Schaffner, C.M., Vorobyev, M., Kawamura, S. (2009) Interplay of olfaction and vision in fruit foraging of spider monkeys. *Animal Behaviour* 77: 1421-1426.

Louys, J., Travouillon, K. J., Bassarova, M., Tong, H., 2009. The use of natural protected areas in palaeoecological analyses: assumptions, limitations and application. *Journal of Archaeological Science* 36: 2274-2288.

O'Regan, H.J., Reynolds, S.R. (2009) An ecological assessment of the Sterkfontein carnivore guild: its structure and implications for hominin scavenging opportunities. *Journal of Human Evolution* 57: 212-222.

O'Regan, H.J., Menter, C. (2009) Carnivora from the Plio-Pleistocene hominin site of Drimolen, Gauteng, South Africa. *Geobios* 42: 329-350.

Pratolongo, P., **Kirby, J.R.**, Plater, A.J., Brinson, M.M. (2009) Temperate Coastal Wetlands: Morphology, Sediment Processes and Plant Communities. In: Perillo, G.M.E., Wolanski, E., Cahoon, D., Brinson, M.M. (Eds.) *Coastal Wetlands, An Integrated Ecosystem Approach*. Elsevier.

Ramos-Fernandez, G., Boyer, D., **Aureli, F.**, Vick, L.G. (2009) Association networks in spider monkeys (*Ateles geoffroyi*). *Behavioral Ecology and Sociobiology* 63: 999-1013.