



# SYSTEMATICS

The Science that Underpins Biology

Museum of Natural History, University of Oxford

26-28 August 2015



Thank you for registering for the Systematics Association Biennial Conference in Oxford during 26-28<sup>th</sup> August, 2015. This document is the programme and timing of events. The venue for the conference is The Oxford University Museum and accommodation is provided at Christchurch College. Details of travel to and from Oxford can now be found on our website at: <http://www.systass.org/biennial2015/index.shtml#travel>. We are happy to answer specific travel queries and these should be sent to [sabiennial2015@systass.org](mailto:sabiennial2015@systass.org) and we will endeavour to answer the same day. If you have booked accommodation at Christchurch we will be in touch shortly with information about checking in.

Registration for the conference remains open until 20<sup>th</sup> August and as of now we have 205 registrations, 40 invited speakers, 82 contributed talks and 40 posters. Access to the meeting for registration will take place from 8am on Wednesday the 26<sup>th</sup> August at the University Museum on Parks Rd. The posters will be available to view throughout the meeting in the gallery between the Large Lecture Theatre and lunch station. Thus the posters will have a prominent viewing area throughout the meeting. The 4 themed symposia will take place in the University Museum Lecture Theatre whilst the contributed talks will be in one of two other smaller rooms with capacities for 80 and 50 people respectively. We have tried to put together contributed talks on similar topics to maximise the impact and interest of each contributed session whilst minimizing conflicts with the main symposia. Each contributed talk has been allocated 15 minutes which includes questions. It would be helpful if you brought your presentation on a memory stick for ease of loading onto a collective laptop. We envisage these three venues should be more than able to cope with the three parallel sessions and provide opportunity for people moving between all three rooms as they are all within a 2 minute walk from each other.

There will be two coffee breaks throughout the day and a buffet lunch which are included for all delegates. There will also be two drinks receptions taking place at the University Museum from 6-8pm on the Wednesday evening and at Christ Church College for an hour before the banquet on Thursday 27<sup>th</sup> Aug. It is possible to come for the drinks reception at Christchurch without booking for the banquet but I would recommend coming to both and banquet tickets can still be booked through our website (<http://www.systass.org/biennial2015/index.shtml>). Dress for the banquet is 'as you like'.

We are attempting to make the conference a largely paperless event, so will be sending abstract books, delegate lists and the programme as PDF documents in the coming few days. We are also planning to have available a number of slots to view the original drawings and specimens of Ferdinand Bauer's Flora and Fauna Graeca [http://www.bodleian.ox.ac.uk/science/resources/herardian-library/flora\\_graeca](http://www.bodleian.ox.ac.uk/science/resources/herardian-library/flora_graeca). There will also be an opportunity to sign up for short tours of the University Museum and Pitt Rivers Museum <http://www.prm.ox.ac.uk/>. Sign up lists for these will be available on a first come first served basis at the conference.

We acknowledge support from The Linnean Society, British Ecological Society, Paleontological Association, Cambridge University Press and our host institution The Oxford University Museum of Natural History.

Thanks very much for registering for what should be an exciting three days and I look forward to welcoming you to Oxford in a fortnight.

Best Wishes  
Robert Scotland  
President of the Systematics Association

## Wednesday, 26<sup>th</sup> August

**08:00** Registration opens

**09:30 – 10:30** Keynote speaker: Michael Donoghue. MNH Lecture Theatre.

**10:30 – 11:00** Coffee break

**11:00 – 13:00**

MNH Lecture Theatre. SYMPOSIUM: *The value of long term monitoring plots for plant systematics and ecology in the tropics*.

Pitt Rivers Lecture Theatre. Contributed talks.

**13:00 – 14:00** Lunch break

**14:00 – 15:30**

MNH Lecture Theatre. SYMPOSIUM: *The value of long term monitoring plots for plant systematics and ecology in the tropics* [cont.].

Pitt Rivers Lecture Theatre. Contributed talks.

MNH Annexe. Contributed talks.

**15:30 – 16:00** Coffee break

**16:00 – 17:00**

MNH Lecture Theatre. SYMPOSIUM: *The value of long term monitoring plots for plant systematics and ecology in the tropics* [cont.].

Pitt Rivers Lecture Theatre. Contributed talks.

MNH Annexe. Contributed talks.

**18:00 – 20:00** Drinks reception at Natural History Museum.

## Thursday, 27<sup>th</sup> August

**09:30 – 10:30** Keynote speaker: Peter Holland. MNH Lecture Theatre.

**10:30 – 11:00** Coffee break

**11:00 – 13:00**

MNH Lecture Theatre. SYMPOSIUM: *Rooted in deep time. Palaeontological contributions to systematics*.

Pitt Rivers Lecture Theatre. Contributed talks.

MNH Annexe. Contributed talks.

**13:00 – 14:00** Lunch break

**14:00 – 15:30**

MNH Lecture Theatre. SYMPOSIUM: *Rooted in deep time. Palaeontological contributions to systematics* [cont.].

Pitt Rivers Lecture Theatre. Contributed talks.

MNH Annexe. Contributed talks.

**15:30 – 16:00** Coffee break

**16:00 – 17:30**

Main Lecture Theatre. SYMPOSIUM: *Rooted in deep time. Palaeontological contributions to systematics* [cont.].

Pitt Rivers Lecture Theatre. Contributed talks.

MNH Annexe. Contributed talks

**19:00** Drinks reception and banquet (20:00) at Christ Church College.

## **Friday, 28<sup>th</sup> August**

**09:00 – 10:30**

MNH Lecture Theatre. SYMPOSIUM: *Accelerating the pace of taxonomy*.

**09:30 – 10:30**

Pitt Rivers Lecture Theatre. Contributed talks.

**10:30 – 11:00** Coffee break

**11:00 – 13:00**

MNH Lecture Theatre. SYMPOSIUM: *Accelerating the pace of taxonomy* [cont.]

Pitt Rivers Lecture Theatre. Contributed talks.

**13:00 – 14:00** Lunch break

**14:00 – 15:30**

MNH Lecture Theatre. SYMPOSIUM: *Comparative approaches to the origin of biodiversity*.

Pitt Rivers Lecture Theatre. Contributed talks.

**15:30 – 16:00** Coffee break

**16:00 – 17:15**

MNH Lecture Theatre. SYMPOSIUM: *Comparative approaches to the origin of biodiversity* [cont.].

Pitt Rivers Lecture Theatre. Contributed talks.

Wednesday, 26<sup>th</sup> August

9:30-10:30

**MICHAEL DONOGHUE**

Yale University, USA

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10:30-11:00 — Coffee break

11:00-13:00

**MNH LECTURE THEATRE**

**SYMPOSIUM. *THE VALUE OF LONG TERM MONITORING PLOTS FOR PLANT SYSTEMATICS AND ECOLOGY IN THE TROPICS.*** R. TOBY PENNINGTON & TIM BAKER.

**All legumes are not equal: understanding legume dominance in tropical biomes**

Lehmann, C.E.R., A. Cabrelli, K. Dexter & R.T. Pennington.

**Integrating ecological traits in the analysis of diversification of tropical trees**

Baker, T., F. Coelho De Souza & R.T. Pennington.

**Phylogeny, functional traits and community assembly on a long term forest plot in Malaysian Borneo**

Kaye, M.E.

**Using RAINFOR forest plots for estimating phylogenetic diversity of Amazonian tree communities**

Honorio Coronado, E.N., K.G. Dexter, R.T. Pennington & RAINFOR Members.

**PITT RIVERS LECTURE THEATRE**

**Missing data and topology in Total Evidence method**

Guillerme, T.

**The construction and delimitation of morphological characters**

Rauhut, O.W.M.

**The distribution of convergences on phylogenetic trees**

Hughes, M.

**4BaSAI - First insights on a new supertree method based on single quartet analyses and its performance with respect to different starting triplets**

Kück, P. & C. Groß

**Concatabominations: a priori identification of unstable taxa and ineffective overlap in phylogenetic and phylogenomic data.**

Wilkinson, M., K. Siu-Ting, W.A. Akanni, D. Pisani & C.J. Creevey

**Phylogenetic trees do not reliably predict feature diversity**

Scotland, R.W.



**13:00-14:00 — Lunch break**

**14:00-15:30**

**MNH LECTURE THEATRE**

**SYMPOSIUM. *THE VALUE OF LONG TERM MONITORING PLOTS FOR PLANT SYSTEMATICS AND ECOLOGY IN THE TROPICS* [CONT].** R. TOBY PENNINGTON & TIM BAKER.

**Using studies of phylogenetic diversity in tree plots across biomes to understand the general history of biome switching**

Dexter, K.G., T. Baker & R.T. Pennington.

**Tracking evolutionary diversity, phylogenetic structure, and species interactions across forest dynamics plots using plant DNA barcodes**

Kress, W.J.

**An Amazonian permanent plot network to quantify multi-trophic diversity across geographic and habitat gradients**

Fine, P.V.A., C. Baraloto, G.P.A. Lamarre, I. Mesones & K.G. Peay.

**PITT RIVERS LECTURE THEATRE**

**New inference tools for incorporating the effect of interspecific competition on trait evolution**

Drury, J., J. Clavel & H. Morlon.

**How should genes and taxa be sampled for phylogenomic analyses with missing data? An empirical study in iguanian lizards**

Jeffrey W. Streicher, J.A. Schulte II & J.J. Wiens.

**Morphological character analysis and the evolutionary change in development**

Assis, L.C.S.

**MNH ANNEXE**

**Phylogeny and Evolutionary Significance of Cambrian Scalidophorans**

Ma, X.

**Reconstructing relationships of fossil jawless fish (Pteraspidoformes, Heterostraci)**

Randle, E. & R. Sansom.

**Skeletal microstructures of the chiton *Ischnochiton hakodadensis* and a comparison with the Cambrian animal fossil *Halkieria***

Zhang, X. & J. Yao.

**Integrating fossils into the coral phylogenetic puzzle**

Santodomingo, N., D. Huang, A. Budd & K. Johnson.

**Fossils increase congruence between molecular and morphological hypotheses of spiny-rayed teleost (Acanthomorpha) phylogeny**

Davesne, D., C. Gallut, V. Barriel, G. Lecointre, P. Janvier & O. Otero.

**15:30-16:00 — Coffee break**

**16:00-17:00**

**MNH LECTURE THEATRE**

**SYMPOSIUM. *THE VALUE OF LONG TERM MONITORING PLOTS FOR PLANT SYSTEMATICS AND ECOLOGY IN THE TROPICS* [CONT.].** R. TOBY PENNINGTON & TIM BAKER.

**Maximising synergy between systematics and ecology in the tropics via long-term monitoring plots.**

Pennington, R.T., T. Baker, E. Honorio Coronado & K. Dexter.

**FINAL DISCUSSION**

**PITT RIVERS LECTURE THEATRE**

**The origin of annelids: reconciling morphology, fossils and molecules**

Parry, L., G.D. Edgecombe & J. Vinther.

**A total-evidence approach to dating with fossils**

Klopfstein, S.

**Experimental analysis of decay biases in the fossil record**

Murdock, D.J.E., S.E. Gabbott & M.A. Purnell.

**MNH ANNEXE**

**Evolutionary relationships of the Haplosclerida from Irish and Mediterranean waters**

Longakit, M.B.A., J.M. Camacho Aguilar, M.V. Marra, O. Thomas, M. Aude & G. McCormack.

**Are data from 18 genes enough to resolve bark and ambrosia beetle phylogeny?**

Jordal, B.H., D. Pistone, S. Mugu & J. Gohli.

**Species discovery and integrative taxonomy in jellyfishes (Cnidaria, Discomedusae)**

Gómez Daglio, L. & M.N. Dawson.

**Water mite speciation in Madeira**

Valdecasas, A.G. & R. García-Jiménez.

**18:00-20.00 — Drinks reception at Oxford Museum of Natural History**

# Thursday, 27<sup>th</sup> August

9:30-10:30

**PETER HOLLAND**

University of Oxford, UK

**From genomes to diversity: the prospects and problems of  
evo-devo in reverse**

10:30-11:00 — Coffee break

11:00-13:00

## MNH LECTURE THEATRE

**SYMPOSIUM. ROOTED IN DEEP TIME: PALAEOLOGICAL CONTRIBUTIONS TO  
SYSTEMATICS.** ROGER BENSON & MATT FRIEDMAN

**Before roots, shoots, and leaves: the early fossil record of plants on land**

Kenrick, P.

**The tale of mollusc evolution would be fiction if there were no fossils to tell the story**

Vinther, J.

**The impact of fossils on arthropod phylogeny**

Legg, D.A.

**Problems and progress in terrestrial arthropod phylogeny**

Garwood, R.J.

**Palaeontological insights into the assembly of the echinoderm body plan**

Rahman, I.A.

## PITT RIVERS LECTURE THEATRE

**Visual opsin gene evolution and the origin and diversification of snakes**

Gower, D.J., B.F. Simões, F.L. Sampaio, N.S. Hart, D.M. Hunt & J.C. Partridge.

**Viviparity Stimulates Diversification in an Order of Fish**

Helmstetter, J.A., A.S.T. Papadopoulos, J. Igea, T.J.M. Van Dooren, A.M. Leroi & V. Savolainen.

**Floral symmetry shifted 203 times in angiosperms**

Reyes, E., H. Sauquet & S. Nadot.

**Segmental allopolyploid origin in *Medicago arborea* (Fabaceae) revealed through next-generation sequencing and allele phasing**

Eriksson, J.S.

**Niche and trait evolutionary rates are correlated during the Proteaceae radiation**

Onstein, R.E.



**3D models of ant domatia and phylogenetics reveal how morphological evolution drove the recurrent specialization and dissolution of association in ant/plant symbioses**

Chomicki, G. & S.S. Renner.

**Testing developmental biology predictions with fossils – phylogeny, dental complexity and evolutionary rates of the Multituberculata**

Corfe, I., L. Säilä & J. Jernvall.

#### MNH ANNEXE

**Integrated systematics finally gets a grip on a large genus – Myrcia (Myrtaceae)**

Lucas, E.

**Systematics of Campylocentrum (Angraecinae-Orchidaceae)**

Pessoa, E.

**The evolutionary history of Cypella (Iridaceae: Iridoideae) and allied genera: toward a taxonomic revision of Tigridieae based on leaf anatomy, floral morphology and molecular evidences**

Chauveau, O., T. Pastori, L. Eggers, J.E.A. Mariath & T.T. Souza-Chies.

**Rate heterogeneity and inconsistency of current models in molecular dating – the case of Annonaceae and Lentibulariaceae**

Chatrou, L.W.

**Phylogenetic backbone of Annonaceae (Magnoliidae) based on 29 whole-chloroplast sequences**

Carrive, L., T. Couvreur, S. Little & H. Sauquet.

**The evolutionary trends of genus *Hypochaeris* s.l. (lactuceae, asteraceae)**

Ortiz, M.Á., K. Tremetsberger, C.F. Ruas, E. Urtubey, P. López-Sepúlveda, T.F. Stuessy & S. Talavera.

**Accelerating integrative taxonomy in the genomics era: RADseq provides unprecedented species resolution in the genus *Lupinus* (Leguminosae)**

Atchison, G.W., E. Bridges, S. Orzell, L. Deflorin, N. Contreras, S. Madriñán & C.E. Hughes.

**13:00-14:00 — Lunch break**

**14:00-15:30**

#### MNH LECTURE THEATRE

**SYMPOSIUM. ROOTED IN DEEP TIME: PALAEOLOGICAL CONTRIBUTIONS TO SYSTEMATICS [CONT.].** ROGER BENSON & MATT FRIEDMAN

**Neopterygii: the iceberg clade**

López-Arbarello, A.

**Fossils, ecomorphs, and the evolution of squamate reptiles**

Müller, J.

**The early evolution of Aves**

O'Connor, J. & J. Choiniere.

## PITT RIVERS LECTURE THEATRE

**The taxonomy of endangered, endemic radiations: keeping the tradition alive through local teams and advanced technology**

Attwood, S.W.

**Drawers full of old, undescribed wasps: integrating curation with taxonomy and ecology**

Broad, G.R.

**A complementary role for old and new collections in revealing unsuspected species diversity in an endemic gastropod (*Paramelania*) from Lake Tanganyika**

Todd, J.A., J.D. Burgon & E. Michel.

**Combining morphology, molecules, and morphometrics: revising closely related species in the genus *Araniella* (Araneae: Araneidae)**

Spasojevic, T., C. Kropf, W. Nentwig & L. Lasut.

**Untangling the molecular phylogeny of tapeworms**

Waeschenbach, A., J.N. Caira, K. Jensen, J. Mariaux, B.B. Georgiev, T. Scholz, R. Kuchta, J. Brabec, V. Tkach, D.T.J. Littlewood & PBI Consortium.

**Evolution of convergent functional systems in a speciose clade of parasitic wasps (*Ichneumonidae*, *Cryptinae*)**

Santos, B.F.

## MNH ANNEXE

**Evolution of the leucobryoid morphology in Dicranidae (Bryophyta)**

Bonfim, M. & M. Stech.

**New ingredients for an old recipe: contribution of the Asian aubergines to a better understanding of the complex evolutionary history of Old World spiny solanums (subg. *Leptostemonum*)**

Aubriot, X.

**Genome skimming and phylogenomics of *Nicotiana* section *Suaveolentes* (Solanaceae)**

Dodsworth, S.

**Genetic patterns within the diploid-tetraploid *Arabidopsis arenosa* group**

Kolář, F., E. Závěská, G. Fuxová, L. Hyklová, M. Lučanová, A.J. Nagano, H. Kudoh, S. Španiel & K. Marhold.

**The recent discovery of four new, narrow endemic plant species within the well-studied *Plantago* genus shows the urgent need for taxonomic research in the Neotropics**

Hassemer, G., H.M. Meudt & N. Rønsted.

**Phylogenetic reassessment of subfamily *Ajugoideae* (Lamiaceae)**

Moon, H.-K. & S.-P. Hong.

**15:30-16:00 — Coffee break**

**16:00-17:30**

**MNH LECTURE THEATRE**

**SYMPOSIUM. ROOTED IN DEEP TIME: PALAEOLOGICAL CONTRIBUTIONS TO SYSTEMATICS [CONT.].** CHAIRS: ROGER BENSON & MATT FRIEDMAN.

**Delusions in Deep Time: Is an Accurate Phylogeny Fact or Fiction in Palaeontology?**

Asher, R.

**Clade-wide shifts in macroevolutionary dynamics and the role of fossil data**

Slater, G.J.

**Fossil biases and phylogeny**

Sansom, R.S.

**PITT RIVERS LECTURE THEATRE**

**What limits the morphological disparity of clades?**

Oyston, J., M. Hughes, P. Wagner, S. Gerber & M. Wills.

**Homoplasy and clade support across higher taxa and through research time**

Mounce, R., G. Lloyd, M. Wilkinson & M. Wills.

**How big is a genus?**

Sigwart, J.D. K.D. Bennett, M. Sutton, A. Garbett & B. Picton.

**Aphyly and Highly Diverse Organisms**

Williams, D. & M. Ebach.

**MNH ANNEXE**

**Joining up for digitisation – a pilot project between Kew and the Natural History Museum London**

Phillips, S.W.

**Scholarly publishing becomes a part of the research process: Data publication and re-use in the Biodiversity Data Journal**

Penev, L., P. Stoev, T. Georgiev, J. Miller & V. Smith.

**The key role of systematics in conservation assessments of butterflies**

Huertas, B.

**19:00 — Drinks reception and conference banquet (20:00) at Christ Church College**

# Friday, 28<sup>th</sup> August

9:00-10:30

## MNH LECTURE THEATRE

### **SYMPOSIUM. ACCELERATING THE PACE OF TAXONOMY.**

ROBERT W. SCOTLAND & QUENTIN WHEELER.

#### **Widespread mistaken identity in tropical plant collections**

Goodwin, Z., D.J. Harris, D. Filer, J.R.I. Wood & R.W. Scotland.

#### **Accelerating the global systematic revision of scorpions: Improving accuracy and efficiency with integrative taxonomy, collaboration and cyberinfrastructure**

Prendini, L.

#### **The science of species and art of survival**

Wheeler, Q.

#### **A game of two halves? Taxonomy as a team sport.... take two.**

Knapp, S.

## PITT RIVERS LECTURE THEATRE

#### **Areas of endemism under the semantic conception paradigm**

Ung, V. & A. Grand.

#### **The Gulf of Gabès (southern Tunisia): center of Mediterranean endemism or ecophenotypic variations in extreme conditions?**

Aissaoui, C., N. Puillandre, M. Oliverio & P. Bouchet.

#### **Why do different oceanic archipelagos harbour contrasting levels of species diversity?**

Jones, K., S. Pérez-Espona, A. Reyes-Betancort, D. Pattinson, Juli Caujapé-Castells, S. Hiscock & M. Carine.

#### **Biogeography and the evolution of succulence in the Old World genus Aloe L. (Xanthorrhoeaceae)**

Grace, O.M.

10:30-11:00 — Coffee break

11:00-13:00

## MNH LECTURE THEATRE

### **SYMPOSIUM. ACCELERATING THE PACE OF TAXONOMY [CONT.].**

ROBERT W. SCOTLAND & QUENTIN WHEELER.

#### **Taxonomy on the fast track. Towards more sustainability in Biodiversity Research**

Balke, M., T. von Rintelen & A. Riedel.

#### **Accelerating the pace of taxonomy**

Scotland, R.W. & J.R.I. Wood.

#### **Searching for the silver bullet**

Harris, D.

**Developing a workflow for accelerating cumulative taxon descriptions, from fieldwork to publication.**

Polaszek, A., L. Penev & S. Schmidt.

**Nothing in taxonomy makes sense except in the light of Open Access**

Agosti, D.

**Mowing the lawn during an identity crisis: do well known groups need taxonomists?**

Vorontsova, M.S.

#### **PITT RIVERS LECTURE THEATRE**

**No ecological opportunity on a continental scale? Diversification and life-history evolution of African true toads (Anura: Bufonidae)**

Liedtke, H.C.

**Long-term decline in dinosaur speciation rates**

Sakamoto, M., M. Benton & C. Venditti.

**Testing for convergent evolution and adaptive radiations: the austral danthonioid grass radiations**

Linder, H.P. & Y. Bouchenak-Khelladi.

**Cryptic morphological characters and how they are changing the way we interpret plant taxonomy and evolution**

Vasconcelos, T.N.C., E.J. Lucas & G. Prenner.

**The Effects of Pollination and Range Shifts on the Diversification of the Tribe Antirrhineae**

Ogutcen, E., J. Theriault, D.B. King & J.C. Vamosi.

**Chameleons through time and space: extinction or adaptation?**

Tolley, K.A.

**Macroevolution of giant water scavenger beetles in the Cretaceous and Cenozoic**

Toussaint, E.F.A.

**13:00-14:00 — Lunch break**

**14:00-15:30**

#### **MNH LECTURE THEATRE**

**SYMPOSIUM. COMPARATIVE APPROACHES TO THE ORIGIN OF BIODIVERSITY.**

COLIN E. HUGHES & MATT FRIEDMAN.

**Competition and dispersal in clade diversification dynamics**

Purvis, A. S. Echevarría-Londoño & T.H.G. Ezard.

**New phylogenetic comparative methods and their application to our understanding of phenotypic evolution and diversification**

Morlon, H.

**Inferring island biogeography from phylogenetic data**

Etienne, R.

**Ecological release, perenniality and evolutionary plant radiations on island systems**

Atchinson, G., N.M. Nürk & C.E. Hughes.

**Scales of phenotypic diversification: exploring unconventional radiations in fishes**

Friedman, M.

#### PITT RIVERS LECTURE THEATRE

**Are coral reefs driving rates of diversification in jacks and allies (Carangoidei)?**

Santini, F.

**The shell beds of Lake Tanganyika: Palaeoecology, patchy ecosystems and divergence in a rift lake**

Michel, E., J.A. Todd, J. Tarrant & M.J. Soreghan.

**A preliminary phylogeny for Upper Guinean angiosperms**

Marshall, C.A.M.

**Cave floras in SWChina: unexplored marginal biomes rich in diversity and undervalued for conservation**

Monro, A., W. Yigang, F. Longfei & N. Bystriakova.

**DNA Barcoding and Community Structure Assessment of a mixed Dipterocarp forest in Brunei Darussalam**

Heckenhauer, J., M. Barfuss, K. Abu Salim, O. Paun, M. Chase, T. Pennington & R. Samuel.

**Edaphic determinism on tree community assemblages at a landscape scale in the tropical forests of South Cameroon**

Vleminckx, J.

**15:30-16:00 — Coffee break**

**16:00-17:15**

#### MNH LECTURE THEATRE

**SYMPOSIUM. COMPARATIVE APPROACHES TO THE ORIGIN OF BIODIVERSITY [CONT.].**

COLIN E. HUGHES & MATT FRIEDMAN.

**Did predation shape fish? Disentangling the complex drivers of fish body form diversity**

Price, S.A.

**Phylogenetic rates, adaptive evolution and evolutionary trends**

Venditti, C.

**Macroevolutionary divergence of bird bills**

Thomas, G.H.

**Extraordinary rates of evolution are common**

Pagel, M.

#### PITT RIVERS LECTURE THEATRE

**From medicinal use to phylogenetic prediction in drug discovery in the genus Euphorbia L.: Classification of medicinal uses have major influence on data interpretation**

Ernst, M., C.H. Saslis-Lagoudakis, O.M. Grace, N. Nilsson, H. Toft Simonsen, J.W. Horn & N. Rønsted.

**The Quest for Cinchona - a Phylogenetic Tale**

Rønsted, N. C. Maldonado, C. Cornett, S.H. Hansen, C. Persson & A. Antonelli.

**Traits involved in human selection of useful South American palms**

Cámara-Leret, R., S. Fuarby, M.J. Macía, H. Balslev, B. Göldel, W.D. Kissling, N. Paniagua-Zambrana, N. Rønsted, J.-C. Svenning & C.H. Saslis-Lagoudakis.

**Neotropikey - identification resources**

Klitgaard, B., N. Biggs, J. Bishop, S. Edwards, S. Frisby, A. Haigh / W. Milliken.



