Thomas Guillerme

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RESEARCH INTERESTS

I am interested in macroevolutionary biology; the stories behind the history of Life and the methodologies with which it is investigated. I am particularly interested in ways of combining classical methods such as descriptive palaeontology with modern bioinformatic tools such as phylogenomics and mathematical modelling.

EDUCATION

2012 - Present: PhD in Zoology, Trinity College Dublin (viva due 22/10/2015) *Macroevolution with fossil and living taxa*

2010 - 2012: MSc in Palaeontology (honours), Université Montpellier II

2nd year project: Molecular clocks and evolutionary rates among primates: a palaeontological and genomic approach. 1st year project: Southern France Upper Cretaceous Theropod

teeth variability.

2007 - 2010: BSc in Biology, Université Montpellier II

PUBLICATIONS

Peer reviewed

In review: **Guillerme T.** and Cooper, N. Effects of missing data on topological inference using a Total Evidence approach. *Molecular Phylogenetics and Evolution*

Note: a preprint is available here (goo.gl/sEScGo).

2015: **Guillerme T.** and Cooper, N. Assessment of cladistic data availability for living mammals. *bioRxiv*, DOI: 10.1101/022970

Note: This paper is ready an invited submission for a special issue at **Biology Letters**. The deadline for submission to this issue has been extended until December 2015.

2014: Healy, K., Guillerme T., Finlay, S., Kane, A., Kelly, S.B.A., McClean, D., Kelly,

D.J., Donohue, I., Jackson, A.L. and Cooper, N.

Ecology and mode-of-life explain lifespan variation in birds and mammals.

Proceedings of the Royal Society B, 281(1784). DOI: 10.1098/rspb.2014.0298

Personal Contributions: writing the code and running the analysis. Developed R package: mulTree – github.com/TGuillerme/mulTree.

In prep.

Guillerme T. and Cooper, N. Cretaceous-Palaeogene extinction does not affect mammalian disparity. *Note:* To be submitted to *Evolution* in August 2015. A preprint is available here (goo.gl/MiaRaO).

AWARDS AND GRANTS

2014: BES Photo Competition Student Price (Ecology and Society)

2012: Trinity Postgraduate Research Studentship (€46800)

COMPUTER SKILLS

Coding: R*, Bash*, HTML, LATEX, git

Phylogenetics: PAUP, MrBayes, BEAST*, RAxML, PhyloBayes, CoEvol

MACSE, MAFFT, SEAview, Tracer, Mesquite, R{ape} R{geiger}, R{diversitree}, R{MCMCglmm}, R{caper}

Morphometrics: TPS, R{geomorph}, R{MASS}

Graphics: Adobe Illustrator, Adobe Photoshop, Gimp, Inkscape

CONFERENCES AND WORKSHOPS

International Conferences

2014: *SVP annual meeting -* Berlin, Germany

Symposium presentation (invited talk): Putting fossils in trees

Talk: Total evidence phylogenies and missing data

Available here: goo.gl/CBqSVJ

2014: BES Macroecology SIG meeting - University of Nottingham, UK

Talk: Trees with fossil and living species: the data issue

Available here: goo.gl/Sdcxon

2014: Evolution 2014 - Raleigh NC, USA

Symposium presentation: Ernst Mayr Symposium

Talk: Total evidence phylogenies: the missing data issue

Available here: goo.gl/oPfHZE

2014: Challenges in Macroecology: Scaling the Time Barrier - Natural History Museum

London, UK

Talk: Trees with fossil and living species: the missing data issue

Available here: goo.gl/c1RBER

2013: European Society for Evolutionary Biology Congress - Lisbon, Portugal

Poster: Combining fossils and molecular phylogenies

Available here: goo.gl/3HcRGH

2013: 11th International Mammalogical Congress - Queen's University, Belfast, UK

Poster: Combining fossils and molecular phylogenies

Available here: goo.gl/3HcRGH

Workshops

2015: OpenData & Reproducibility workshop

Nick Isaac & Emiel van Loon, Charles Darwin House, London, UK

2013: Introduction to Trinity Centre for High Performance Computing

Paddy Doyle, Trinity College Dublin, Ireland

2013: Spatial Analysis in R Workshop

Barry Rowlingson, University of Sheffield, UK

2013: Introduction to Morphometrics Workshop

François Gould, Trinity College Dublin, Ireland

2013: IUCN Red List of Ecosystems Workshop

Edmund Barrow, Trinity College Dublin, Ireland

^{*} Skills taught at workshops (see below)

PROFESSIONAL SERVICE

Reviewing: Reviewer for: the International Journal of Primatology; The Royal Society: Interface focus.

Workshops:

2014: Tip-Dating workshop — *helper*

Nicholas Matzke & April Wright, SVP Annual meeting - Berlin

2014: Software Carpentry Bootcamp - R and UNIX — helper

Devasena Inupakutika & Aur Saraf, University of Nottingham

Academic memberships:

2015-present: Member of the Systematic Association

2014-present: Member of the Society of Vertebrate Palaeontology

2013-present: Member of Society of Systematic Biologists

2013-present: British Ecological Society (BES) including Macroecology Special Interest Group

Departmental services: 2013-present: Zoology Postgraduate student social committee chair

TEACHING

Academia

2014: MSc students: Timing Evolution

Teacher, Trinity College Dublin - IE

2014: Software Carpentry Bootcamp - R and UNIX

Helper, University of Nottingham - UK

2013-14: 2nd year MSc students: Statistics with R

Teaching assistant, Trinity College Dublin - IE

2013-14: 4th year undergraduate students: Evolution

Teaching assistant, Trinity College Dublin - IE

2012-13: 4th year undergraduate students: Statistics with R

Teaching assistant, Trinity College Dublin - IE

2012-13: 1st year undergraduate students: Introduction to Biodiversity Evolution and the Environment

Teaching assistant, Trinity College Dublin - IE

Student supervision

2014: Maura Judge (4th year project): Bite force and diet in mammals.

FIELDWORK AND DATA COLLECTION

2013-14: Museum data collection: Smithsonian Institute Natural History Museum (Washington DC), American Museum of Natural History (New York), Museum of Comparative Zool-

ogy (Cambridge, MA), Muséum National d'Histoire Naturelle (Paris)

2011-12: Excavations in Cruzy, France

Southern France, Continental Cretaceous

2011: Excavations in Krasiejów, Poland

Southern Poland, Continental Trias

2009-10: Excavations in Espéraza, France - Site fore-person

Southern France, Continental Cretaceous

PUBLIC ENGAGEMENT AND OUTREACH

- Regular contributor to EcoEvo@TCD blog; rated best Irish Science and Technology blog (2014).
- Complete list available here: goo.gl/MAq90A
- Featured posts: How do lego cars evolve?; If you please draw me a dino...; The more the better?.
- Threesis video (early stage thesis project explained in three minutes).

Outreach Events

2014 & 2013: Trinity College Dublin Zoology Department, Researcher's night – participant

2014: 1st Soapbox Science Ireland – *helper*

2014: "What can we learn from skeletons", comparative anatomy practical – *Co-organiser*

2013: Trinity College Zoology Museum guided tours – *tour guide*

2010: Introduction to palaeontological excavations, Musée des Dinosaures (FR) – animator