

EVOLUTION JOURNAL CLUB: 2015

4 November

Biological evidence supports an early and complex emergence of the Isthmus of Panama
Bacon et al. (2015) Proceedings of the National Academy of Sciences of the USA, 112: 6110-6115.

Evolution of endemism on a young tropical mountain
Merckx et al. (2015) Nature, 524: 347-350.

1 September

Range expansion promotes cooperation in an experimental microbial metapopulation
Datta et al. (2013) Proceedings of the National Academy of Sciences of the USA, 110: 7354-7359.

4 August

The past, present and future of mitochondrial genomics: have we sequenced enough mtDNAs?

Smith (2015) Briefings in Functional Genomics, in press.

2 June

Exploring the relationships between mutation rates, life history, genome size, environment, and species richness in flowering plants

Bromham et al. (2015) American Naturalist, 185: 507-524.

5 May

Tree of Life reveals clock-like speciation and diversification

Hedges et al. (2015) Molecular Biology and Evolution, 32: 835-845.

14 April

Ancient proteins resolve the evolutionary history of Darwin's South American ungulates

Welker et al. (2015) Nature, 522: 81-84.

3 March

Evolution of Darwin's finches and their beaks revealed by genome sequencing

Lamichhaney et al. (2015) Nature, 518: 371-375.

EVOLUTION JOURNAL CLUB: 2014

7 October

Genomic surveillance elucidates Ebola virus origin and transmission during the 2014 outbreak

Gire et al. (2014) *Science*, 345: 1369-1372.

2 September

Defensive bacteriome symbiont with a drastically reduced genome

Nakabachi et al. (2013) *Current Biology*, 23: 1478-1484.

5 August

Complete mitochondrial genomes of ancient canids suggest a European origin of domestic dogs

Thalmann et al. (2013) *Science*, 342: 871-874.

3 June

Ancient DNA reveals elephant birds and kiwi are sister taxa and clarifies ratite bird evolution

Mitchell et al. (2014) *Science*, 344: 898-900.

6 May

Genesis and pathogenesis of the 1918 pandemic H1N1 influenza A virus

Worobey et al. (2014) *Proceedings of the National Academy of Sciences of the USA*, 111: 8107-8112.

1 April

Macroevolutionary speciation rates are decoupled from the evolution of intrinsic reproductive isolation in *Drosophila* and birds

Rabosky & Matute (2013) *Proceedings of the National Academy of Sciences of the USA*, 110: 15354-15359.

EVOLUTION JOURNAL CLUB: 2013

12 November

Phylogenomics resolves evolutionary relationships among ants, bees, and wasps
Johnson et al. (2013) *Current Biology*, 23: 1-5.

3 September

Extraordinary micro-endemism in Australian desert spring amphipods
Murphy et al. (2013) *Molecular Phylogenetics and Evolution*, 66: 645-653.

6 August

Sequencing Y chromosomes resolves discrepancy in time to common ancestor of males versus females
Poznik et al. (2013) *Science*, 341: 562-565.

4 June

Inferring ancient divergences requires genes with strong phylogenetic signals
Salichos & Rokas (2013) *Nature*, in press.

21 May

Inferring recent historic abundance from current genetic diversity
Palsbøll et al. (2013) *Molecular Ecology*, 22: 22-40.

7 May

Genetic analysis of novel avian A(H7N9) influenza viruses isolated from patients in China, February to April 2013
Kageyama et al. (2013) *Eurosurveillance*, 18: 2.

9 April

On the immortality of television sets: "Function" in the human genome according to the evolution-free gospel of ENCODE
Graur et al. (2013) *Genome Biology and Evolution*, 5: 578-590.

12 March

Assessing the role of cladogenesis in macroevolution by integrating fossil and molecular evidence
Strotz & Allen (2013) *Proceedings of the National Academy of Sciences of the USA*, in press.

26 February

Evolution of multicellularity coincided with increased diversification of cyanobacteria and the Great Oxidation Event
Schirmer et al. (2013) *Proceedings of the National Academy of Sciences of the USA*, 110: 1791-1796.

12 February

Widespread horizontal transfer of retrotransposons
Walsh et al. (2013) *Proceedings of the National Academy of Sciences of the USA*, in press.

EVOLUTION JOURNAL CLUB: 2012

20 November

The global diversity of birds in space and time

Jetz et al. (2012) *Nature*, 491: 444-448.

23 October

Multiple rearrangements in mitochondrial genomes of Isopoda and phylogenetic implications

Kilpert et al. (2012) *Molecular Phylogenetics and Evolution* 64: 106-117.

2 October

Reconstructing Native American population history

Reich et al. (2012) *Nature* 488: 370-374.

18 September

Resolving conflict in eutherian mammal phylogeny using phylogenomics and the multispecies coalescent model

Song et al. (2012) *Proceedings of the National Academy of Sciences of the USA*, 109: 14942-14947.

4 September

Mapping the origins and expansion of the Indo-European language family

Brouckaert et al. (2012) *Science*, 337: 957-960.

21 August

Functional conservation of DNA methylation in the pea aphid and the honeybee

Hunt et al. (2010) *Genome Biology and Evolution*, 2: 719-728.

7 August

Reconciling an archaeal origin of eukaryotes with engulfment: a biologically plausible update of the Eocyte hypothesis

Poole & Neumann (2011) *Research in Microbiology*, 162: 71-76.

10 July

Common misconceptions in molecular ecology: echoes of the modern synthesis

Karl et al. (2012) *Molecular Ecology*, in press.

12 June

Direct evidence of extensive diversity of HIV-1 in Kinshasa by 1960

Worobey et al. (2008) *Nature*, 455: 661-664.

15 May

Sex determination

Gamble & Zarkower (2012) *Current Biology*, 22: R257-R262.

1 May

Nuclear genomic sequences reveal that polar bears are an old and distinct bear lineage

Hailer et al. (2012) *Science*, 336: 344-347.

27 March

Ancestral developmental potential facilitates parallel evolution in ants

Rajakumar et al. (2012) *Science*, 335: 79-82.

13 March

Multiple routes to mammalian diversity

Venditti et al. (2012) *Nature*, 479: 393-396.

14 February

Determining species boundaries in a world full of rarity: Singletons, species delimitation methods

Lim et al. (2012) *Systematic Biology*, 61: 165-169.

31 January

Illusions promote mating success in great bowerbirds

Kelley & Endler (2012) *Science*, 335: 335-338.

Q&A with John A. Endler

Endler (2012) *Current Biology*, 22: R41-R43.

READING GROUP – 8 May

"Chapter 8: Conservation Genetics" in *Molecular Ecology*, second edition.

READING GROUP – 24 April

"Chapter 6: Phylogeography" in *Molecular Ecology* (Freeland et al. 2011).

READING GROUP – 17 April

"Chapter 7: Behavioural Ecology" in *Molecular Ecology* (Freeland et al. 2011).

READING GROUP – 20 March

"Chapter 5: Studying Ecologically Important Traits: Ecogenomics, QTL Analysis, and Reverse Genetics" in *Molecular Ecology* (Freeland et al. 2011).

READING GROUP – 6 March

"Chapter 4: Genetic Analysis of Multiple Populations" in *Molecular Ecology* (Freeland et al. 2011).

READING GROUP – 21 February

"Chapter 3: Genetic Analysis of Single Populations" in *Molecular Ecology* (Freeland et al. 2011).

READING GROUP – 7 February

"Chapter 2: Molecular Markers in Ecology" in *Molecular Ecology* (Freeland et al. 2011).

READING GROUP – 24 January

"Chapter 1: Molecular Genetics in Ecology" in *Molecular Ecology* (Freeland et al. 2011).

EVOLUTION JOURNAL CLUB: 2011

7 November

An Archaeopteryx-like theropod from China and the origin of Avialae

Xu et al. (2011) *Nature*, 475: 465-470.

Likelihood reinstates Archaeopteryx as a primitive bird

Lee & Worthy (in press) *Biology Letters*.

10 October

An Aboriginal Australian genome reveals separate human dispersals into Asia

Rasmussen et al. (2011) *Science*, 334: 94-98.

Aboriginal genome shows two-wave settlement of Asia

Gibbons (2011) *Science*, 333: 1689-1691.

12 September

Revisiting the insect mitochondrial molecular clock: The mid-Aegean trench calibration

Papadopoulou et al. (2010) *Molecular Biology and Evolution*, 27: 1659-1672.

29 August

Deep phylogeographic structuring of populations of the trapdoor spider *Moggridgea tingle* (Migidae) from southwestern Australia: evidence for long-term refugia within refugia

Cooper et al. (2011) *Molecular Ecology*, 20: 3219–3236.

8 August

Genetic diversity and population structure of the endangered marsupial *Sarcophilus harrisii* (Tasmanian devil)

Miller et al. (2011) *Proceedings of the National Academy of Sciences of the USA*, 108:12348-12353.

8 July

Decline of a biome: evolution, contraction, fragmentation, extinction and invasion of the Australian mesic zone biota

Byrne et al. (2011) *Journal of Biogeography*, in press.

20 June

The evolution of supertrees

Bininda-Emonds (2004) *Trends in Ecology and Evolution*, 19: 315-322.

6 June

Divergence time estimation using fossils as terminal taxa and the origins of Lissamphibia

Pyron (2011) *Systematic Biology*, in press.

23 May

Experimental evidence supports a sex-specific selective sieve in mitochondrial genome evolution

Innocenti et al. (2011) *Science*, 332: 845-848.

The cost of being male

Parsch (2011) *Science*, 332: 798-799.

9 May

Ancestral polyploidy in seed plants and angiosperms

Jiao et al. (2011) *Nature*, 473: 97-100.

11 April

An evolutionary process that assembles phenotypes through space rather than through time

Shine et al. (2011) *Proceedings of the National Academy of Sciences of the USA*, in press.

28 March

The neutral theory of molecular evolution in the genomic era

Nei et al. (2010) *Annual Review of Genomics and Human Genetics*, 11: 265-289.

14 March

Genetic history of an archaic hominin group from Denisova Cave in Siberia

Reich et al. (2010) *Nature*, 468: 1053-1060.

28 February

Hypothesis testing in biogeography

Crisp et al. (2010) *Trends in Ecology and Evolution*, 26: 66-72.

EVOLUTION JOURNAL CLUB: 2010

11 November

Gene trees versus species trees: Reassessing life-history evolution in a freshwater fish radiation

Waters et al. (2010) *Systematic Biology*, 59: 504-517.

28 October

Three roads diverged? Routes to phylogeographic inference

Bloomquist et al. (2010) *Trends in Ecology and Evolution*, 25: 626-632.

14 October

Tracking marsupial evolution using archaic genomic retroposon insertions

Nilsson et al. (2010) *PLoS Biology*, 8: e1000436.

30 September

MicroRNAs and the advent of vertebrate morphological complexity

Heimberg et al. (2008) *Proceedings of the National Academy of the USA*, 105: 2946-2950.

17 September

A congruent solution to arthropod phylogeny: Phylogenomics, microRNAs and morphology support monophyletic Mandibulata

Rota-Stabelli et al. (2010) *Proceedings of the Royal Society B*, 278: 298-306.

31 August

Recent advances in DNA taxonomy

Vogler & Monaghan (2007) *Journal of Zoological Systematics and Evolutionary Research*, 45: 1-10.

Need morphology always be required for new species descriptions

Cook et al. (2010) *Invertebrate Systematics*, 24: 322-326.

We will be discussing the question posed by the title of the second paper. This journal club will be held in conjunction with the Systematics in the City discussion group.

Location: Lord Roberts Hotel, near the Australian Museum.

19 August

Annotation of *Tribolium* nuclear receptors reveals an increase in evolutionary rate of a network controlling the ecdysone cascade

Bonneton et al. (2008) *Insect Biochemistry and Molecular Biology*, 38: 416-429.

5 August

Unparalleled rates of species diversification in Europe

Valente et al. (2010) *Proceedings of the Royal Society B*, 277: 1489-1496.

22 July

Sociality is linked to rates of protein evolution in a highly social insect

Hunt et al. (2010) *Molecular Biology and Evolution*, 27: 497-500.

24 June

Did Kauri (Agathis: Araucariaceae) Really Survive the Oligocene Drowning of New Zealand?

Biffin et al. (2010) *Systematic Biology*, 59: 594-602.

10 June

Substitutions in woolly mammoth hemoglobin confer biochemical properties adaptive for cold tolerance

Campbell et al. (2010) *Nature Genetics*, 42: 536-540.

LECTURE - 17 June

Introduction to Bayesian phylogenetics

This lecture is aimed at biologists who have some familiarity with phylogenetic methods, but who wish to find out more about Bayesian phylogenetic analysis.

Simon Ho. DT Anderson Lecture Theatre (Heydon-Laurence A08). 11:00 to 11:50.