## Walker Pett

Department of Ecology, Evolution and Organismal Biology
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Iowa State University
Ames, Iowa

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## Current

**Postdoctoral Researcher** 2016-Present
Department of Ecology, Evolution and Organismal Biology
Iowa State University
Principal Investigator: Tracy Heath

## Education

**PhD in Bioinformatics and Computational Biology** August 2014
Iowa State University
Minor: statistics
Advisors: Dennis Lavrov and Karin Dorman

**B.A. in Biology** May 2007
Bard College
Annandale-on-Hudson, New York

## Research Positions

**Postdoctoral Researcher** 2014-2016
Laboratoire de Biométrie et Biologie Évolutive
Université Claude Bernard - Lyon 1
Villeurbanne, France
Principal Investigator: Nicolas Lartillot

**Graduate Research Assistant** 2009-2014
Department of Ecology, Evolution and Organismal Biology
Iowa State University
Principal Investigator: Dennis Lavrov

## Refereed Publications


Dennis Lavrov and **Walker Pett**. 2016. "Animal mitochondrial DNA as we dont know it: mt-genome organization and evolution in non-bilaterian lineages". *Genome Biology and Evolution* in review.

Davide Pisani, **Walker Pett**, Martin Dohrmann, Roberto Feuda, Omar Rota-Stabelli, Hervé Philippe, Nicolas Lartillot, and Gert Wörheide. 2015. "Genomic data do not support comb jellies as the sister group to all other animals". *Proceedings of the National Academy of Sciences* 112: 15402–15407.

Davide Pisani, **Walker Pett**, Martin Dohrmann, Roberto Feuda, Omar Rota-Stabelli, Hervé Philippe, Nicolas Lartillot, and Gert Wörheide. February 9, 2016. "Reply to Halanych et al.: Ctenophore misplacement is corroborated by independent datasets". *Proceedings of the National Academy of Sciences* 10.1073/pnas.1525718113.

**Walker Pett** and Dennis Lavrov. 2015. "Cytonuclear interactions in the evolution of animal mitochondrial tRNA metabolism". *Genome Biology and Evolution* 7: 2089–2101.

Karri M Haen, **Walker Pett**, and Dennis Lavrov. 2014. "Eight new mtDNA sequences of glass sponges reveal an extensive usage of +1 frameshifting in mitochondrial translation". *Gene* 535: 336–44.

Dennis V Lavrov, **Walker Pett**, Oliver Voigt, Gert Wörheide, Lise Forget, B Franz Lang, and Ehsan Kayal. 2013. "Mitochondrial DNA of Clathrina clathrus (Calcarea, Calcinea): six linear chromosomes, fragmented rRNAs, tRNA editing, and a novel genetic code." *Molecular Biology and Evolution* 30: 865–80.

**Walker Pett** and Dennis V Lavrov. 2013. "The twin-arginine subunit C in Oscarella: origin, evolution, and potential functional significance." *Integrative and Comparative Biology* 53: 495–502.

Dennis V Lavrov, Olga O Maikova, **Walker Pett**, and Sergey I Belikov. 2012. "Small inverted repeats drive mitochondrial genome evolution in Lake Baikal sponges." *Gene* 505: 91–9.

**Walker Pett**, JF Ryan, Kevin Pang, James C Mullikin, Mark Q Martindale, Andreas D. Baxevanis, and Dennis V Lavrov. 2011. "Extreme mitochondrial evolution in the ctenophore Mnemiopsis leidyi: Insight from mtDNA and the nuclear genome". *Mitochondrial DNA* 22: 130–142.

Romulo Segovia, **Walker Pett**, Steve Trewick, and Dennis V Lavrov. 2011. "Extensive and evolutionarily persistent mitochondrial tRNA editing in Velvet Worms (phylum Onychophora)." *Molecular Biology and Evolution* 28: 2873–81.

Karri M Haen, **Walker Pett**, and Dennis V Lavrov. 2010. "Parallel Loss of Nuclear-Encoded Mitochondrial Aminoacyl-tRNA Synthetases and mtDNA-Encoded tRNAs in Cnidaria." *Molecular Biology and Evolution* 27: 2216–9.

## Awards

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| Research Excellence Award, ISU | 2014 |
| Cornette Fellowship, ISU | 2012 |
| EEOB Graduate Student Research Award, ISU | 2012 |
| BCB Student Seminar Award, ISU | 2010 |

## Teaching

**Iowa State University**

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| BIOL 315: Evolution | 2014 |
| BIOL 212L: Principles of Biology Lab | 2014 |
| BIOL 255L: Human Anatomy Lab | 2013 |
| BIOL 211L: Introduction to Biodiversity Lab | 2012-2013 |
| BCB 570: Computational Functional Genomics and Systems Biology | 2012 |
| EEOB 536: Molecular Phylogenetics | 2011 |

## Contributed Talks and Posters

**Ascertainment bias in gene family data and metazoan phylogenomics**

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| Ancestrome Project Annual Meeting, Talk | 2015 |

Paris, France

**Genomic data do not support comb jellies as the sister group to all other animals**
Society of Molecular Biology and Evolution, Poster 2015
Vienna, Austria

**Deep metazoan phylogeny and the position of Ctenophora**
Ancestrome Project Annual Meeting, Talk 2014
Saint-Martin-de-Londres, France

**A mitochondrial gene unique among animals: the evolution of the Tat pathway in *Oscarella***
Society for Integrative and Comparative Biology, Talk 2013
San Francisco, CA

**The Coevolving Histories of mt-tRNAs and aminoacyl-tRNA synthetases**
Society of Molecular Biology and Evolution, Poster 2011
Kyoto, Japan

**Reconstructing Patterns of Rearrangements in Animal Mitochondrial DNA**
New Mexico Bioinformatics Symposium, Poster 2011
Santa Fe, NM

**Mitochondrial Genome Rearrangements in Animals**
Society for Integrative and Comparative Biology, Talk 2010
Seattle, WA

## Experience

**Smithsonian Tropical Research Institute**, Bocas del Toro, Panama 2012
Taxonomy and Ecology of Carribean Sponges (course)

**Point Reyes Bird Observatory**, Point Reyes, CA 2008
Resident species nest-searching, and neotropical migrant banding internships

**Hudsonia, Ltd.**, Red Hook, NY 2007
Blanding's turtle conservation and monitoring internship

## Service

**BCB Curriculum Committee**, student representative 2012-2013

## Languages

Perl, C++, R, Python, bash, LaTeX, Mathematica

## Software

biphy: Phylogenetic analysis of binary character data (sole author)
RevBayes: An interactive statistical environment for Bayesian phylogenetics (developer)

## References

**Tracy Heath**, Postdoctoral advisor
Department of Ecology Evolution and Organismal Biology
Iowa State University
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**Nicolas Lartillot**, Postdoctoral advisor
Laboratoire de Biométrie et Biologie Evolutive
Université Claude Bernard Lyon 1
69622 Villeurbanne, France
nicolas.lartillot@univ-lyon1.fr

**Dennis Lavrov**, PhD advisor
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Ames, Iowa, 50011, USA
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