

The Academy of Natural
Sciences of Drexel University
Philadelphia, PA 19103
☎ +1 (215) 219 8709
✉ geneva@drexel.edu
📄 CrescatScientia.com
github.com/geneva

Anthony J Geneva

Curriculum Vitae

Training

- 2018 **Post-Doctoral Researcher**, *Academy of Natural Sciences, Drexel University.*
Supervisor: Jonathan Losos
- 2018 **Post-Doctoral Fellow**, *Organismic & Evolutionary Biology, Harvard University.*
Supervisor: Jonathan Losos
- 2015 **PhD, Ecology & Evolutionary Biology**, *University of Rochester.*
Supervisor: Richard Glor
- 2007 **MS, Biology**, *Villanova University.*
Supervisors: Todd Jackman & Aaron Bauer
- 2001 **BS, Biology (Genetics)**, *Penn State University.*
Minors: Info. Systems & Statistical Analysis, Info. Science & Technology

Professional Experience

- 2009 **Manager - Laboratory of Molecular Systematics & Ecology.**
2005 The Academy of Natural Sciences, Philadelphia

Forthcoming Publications

- Geneva, AJ** and RE Glor. *Intrinsic Reproductive Isolation among Ecologically Divergent Anolis Lizards. Evolution (pending revision).*
- Geneva, AJ** and RE Glor. *The negative impacts of incompletely sampled data on phylogenetic analyses of an empirical dataset. PeerJ (pending revision).*

Publications

- 2019 De Meyer, J, CM Donihue, D Scantlebury, J Ng, RE Glor, JB Losos, and **AJ Geneva**. "Protocol for setting up and rearing a successful lizard room". *Anolis Newsletter VII*. Ed. by JT Stroud, **AJ Geneva**, and JB Losos. St. Louis, MO: Washington University, 37–62.

- 2018 Donihue, CM, A Herrel, A-C Fabre, A Kamath, **AJ Geneva**, TW Schoener, JJ Kolbe, and JB Losos. “Hurricane-induced selection on the morphology of an island lizard”. *Nature* 560, 88–91.
- 2018 **Geneva, AJ**, AM Kreit, S Neiffer, S Tsang, and RJ Horwitz. “Regional population structure of the endangered Bridle Shiner (*Notropis bifrenatus*)”. *Conservation Genetics* (early online).
- 2018 Meiklejohn, CD, EL Landeen, KE Gordon, T Rzatkiwicz, SB Kingan, **AJ Geneva**, JP Vedanayagam, CA Muirhead, D Garrigan, DL Stern, and DC Presgraves. “Gene flow mediates the role of sex chromosome meiotic drive during complex speciation”. *eLife* (7), e35468.
- 2018 Prado-Irwin, SR, M van de Schoot, and **AJ Geneva**. “Detection and phylogenetic analysis of adenoviruses occurring in a single anole species”. *PeerJ* 6, e5521.
- 2018 Reynolds, RG, AR Puente-Rolón, AL Castle, M Van De Schoot, and **AJ Geneva**. “Herpetofauna of Cay Sal Bank, Bahamas and phylogenetic relationships of *Anolis fairchildi*, *Anolis sagrei*, and *Tropidophis curtus* from the region”. *Breviora* 560 (1), 1–19.
- 2017 MacGuigan, D, **AJ Geneva**, and Glor RE. “A genomic assessment of species boundaries and hybridization in a group of highly polymorphic anoles (*distichus* species complex)”. *Ecology and Evolution* 7, 3657–3671.
- 2017 Ng, J, **AJ Geneva**, S Noll, and RE Glor. “Signals and speciation: *Anolis dewlap* color as a reproductive barrier”. *Journal of Herpetology* 51 (3), 437–447.
- 2017 Sei, M, DG Robinson, **AJ Geneva**, and G Rosenberg. “Doubled *Helix*: Sagdoidea as the sister group of Helicoidea (Mollusca: Gastropoda: Pulmonata)”. *Biological Journal of the Linnean Society* 122, 697–728.
- 2017 Warren, D, **AJ Geneva**, and R Lanfear. “RWTY (R We There Yet): An R package for examining convergence of Bayesian phylogenetic analyses”. *Molecular Biology and Evolution* 34 (4), 1016–1020.
- 2016 Mahler, DL, SM Lambert, **AJ Geneva**, J Ng, SB Hedges, RE Glor, and JB Losos. “Discovery of a giant chameleon-like lizard (*Anolis*) on Hispaniola and its significance to understanding replicated adaptive radiations”. *American Naturalist* 188 (3), 357–364.
- 2016 Reynolds, RG, AR Puente-Rolón, KR Aviles-Rodriguez, **AJ Geneva**, and NC Herrmann. “Discovery of a remarkable new boa from Conception Island, Bahamas”. *Breviora* 549 (1), 1–19.
- 2015 **Geneva, AJ**, J Hilton, S Noll, and RE Glor. “Multilocus phylogenetic analyses of Hispaniolan and Bahamian trunk anoles (*distichus* species group)”. *Molecular Phylogenetics and Evolution* 87, 105–117.

- 2015
Geneva, AJ, CA Muirhead, SB Kingan, and D Garrigan. “A new method to scan genomes for introgression in a secondary contact model”. *PLoS one* 10, e0118621.
- 2015
Graf, DL, H Jones, Geneva, AJ, JM Pfeiffer III, and MW Klunzinger. “Molecular phylogenetic analysis supports a Gondwanan origin of the Hyriidae (Mollusca: Bivalvia: Unionida) and the paraphyly of Australasian taxa”. *Molecular Phylogenetics and Evolution* 85, 1–9.
- 2014
Gamble, T*, AJ Geneva*, RE Glor, and D Zarkower. “*Anolis* sex chromosomes are derived from a single ancestral pair”. *Evolution* 68 (4), 1027–1041. ***Joint First Authors.**
- 2014
Garrigan, D, SB Kingan, AJ Geneva, JP Vedanayagam, and DC Presgraves. “Genome diversity and divergence in *Drosophila mauritiana*: Multiple signatures of faster X evolution”. *Genome Biology and Evolution* 6 (9), 2444–2458.
- 2014
Graf, DL, AJ Geneva, JM Pfeiffer, and AD Chilala. “Phylogenetic analysis of *Prisodontopsis* Tomlin, 1928 and *Mweruella* Haas, 1936 (Bivalvia: Unionidae) from Lake Mweru (Congo basin) supports a Quaternary radiation in the Zambian Congo”. *Journal of Molluscan Studies* 80 (3), 303–314.
- 2014
Van Meter, M, M Kashyap, S Rezazadeh, AJ Geneva, TD Morello, A Seluanov, and V Gorbunova. “SIRT6 represses LINE1 retrotransposons by ribosylating KAP1 but this repression fails with stress and age”. *Nature communications* 5, 5011.
- 2013
Arce H, M, RE Reis, AJ Geneva, and MH Sabaj Pérez. “Molecular phylogeny of thorny catfishes (Siluriformes: Doradidae)”. *Molecular Phylogenetics and Evolution* 67 (3), 1–18.
- 2013
Ascher, JM, AJ Geneva, J Ng, JD Wyatt, and RE Glor. “Phylogenetic analyses of novel squamate *Adenovirus* sequences in wild-caught *Anolis* lizards”. *PLoS ONE* 8 (4), e60977.
- 2013
Geneva, AJ, AM Bauer, RA Sadlier, and TR Jackman. “Terrestrial Herpetofauna of Île des Pins, New Caledonia, with an Emphasis on its Surrounding Islands”. *Pacific Science* 67 (4), 571–593.
- 2013
Lambert, SM, AJ Geneva, DL Mahler, and RE Glor. “Using genomic data to revisit an early example of reproductive character displacement in Haitian *Anolis* lizards”. *Molecular Ecology* 22 (15), 3981–3995.
- 2012
Garrigan, D, SB Kingan, AJ Geneva, P Andolfatto, AG Clark, KR Thornton, and DC Presgraves. “Genome sequencing reveals complex speciation in the *Drosophila simulans* clade”. *Genome Research* 22 (8), 1499–1511.
- 2012
Stuart, YE, MA Landestoy, DL Mahler, D Scantlebury, AJ Geneva, PS VanMiddlesworth, and RE Glor. “Two new introduced populations of the Cuban green anole (*Anolis porcatius*) in the Dominican Republic”. *IRCF Reptiles & Amphibians* 19 (1), 71–75.

- 2011
Scantlebury, DP, J Ng, M Landestoy, **AJ Geneva**, and RE Glor. “Notes on activity patterns of five species of *Sphaerodactylus* (Squamata: Sphaerodactylidae) from the Dominican Republic”. *IRCF Reptiles & Amphibians* 18 (1), 51–55.
- 2011
Schaefer, SA, P Chakrabarty, **AJ Geneva**, and MH Sabaj Perez. “Nucleotide sequence data confirm diagnosis and local endemism of variable morphospecies of Andean astrolepid catfishes (Siluriformes: Astrolepididae)”. *Zoological Journal of the Linnean Society* 162 (1), 90–102.
- 2011
Whelan, NV, **AJ Geneva**, and DL Graf. “Molecular phylogenetic analysis of tropical freshwater mussels (Mollusca: Bivalvia: Unionoida) resolves the position of *Coelatura* and supports a monophyletic Unionidae”. *Molecular Phylogenetics and Evolution* 61, 504–514.
- 2010
Geneva, A and D Garrigan. “Population genomics of secondary contact”. *Genes* 1, 124–142.
- 2009
Geneva, AJ and RE Roberts. “The terrestrial herpetofauna of the Atlantic Ridge Preserve State Park”. *Florida Scientist* 72 (2), 121–133.

Natural History Notes & Book Reviews

- 2016
Geneva, AJ, RG Reynolds, Herrmann NC, AR Puente-Rolón, and KR Aviles-Rodriguez. “*Hemidactylus mabouia* (Wood slave) Distribution”. *Herpetological Review* 47 (3), 423–424.
- 2016
Reynolds, RG, NC Herrmann, AR Puente-Rolón, **AJ Geneva**, and KR Aviles-Rodriguez. “*Osteopilus septentrionalis* (Cuban Treefrog) Distribution”. *Herpetological Review* 47 (3), 420.
- 2010
Geneva, AJ, J Ng, D Scantlebury, A Ossip-Klein, S Rudman, A Kelly, C Reinhardt, and RE Glor. “Natural History of West Indian Amphibians and Reptiles”. *Herpetological Review* 41 (2), 249–250.
- 2010
Geneva, AJ and RE Roberts. “*Gopherus polyphemus* (Gopher Tortoise) Growth”. *Herpetological Review* 41 (2), 213.

Software Contributions

- **spectrum2stats**: An R package to calculate population genetic summary statistics from site frequency spectra github.com/geneva/spectrum2stats
- **POPBAMTools**: An R package for reading and annotating output from POPBAM github.com/geneva/POPBAMTools
- **msmove**: A modified version of Hudson’s ms allowing for finer control and tracking of migrant genealogies github.com/geneva/msmove
- **AFLPTools**: Tools for the curation and analysis of AFLP data github.com/geneva/AFLPTools

- **R We There Yet?:** An R package for the analysis of Markov chain Monte Carlo convergence in Bayesian phylogenetic inference (contributor) github.com/danlwarren/RWTY
- **ngscmd:** A C program to manipulate next-generation sequence data files (contributor) github.com/dgarriga/ngscmd

Invited Seminars

- 2017 Boston Evolutionary Genomics Supergroup Annual Retreat
- 2015 Academy of Natural Sciences of Drexel University
- 2008 The Franklin Inn Club, *Philadelphia, PA*

Research Grants & Fellowships

- 2019 NSF Dimensions of Biodiversity, \$1,103,212
- 2015 Doctoral Dissertation Improvement Grant, \$19,995
- 2011 Ernst Caspari Fellowship, \$6,000
- 2011 Sigma Xi Grants-in-Aid, \$400
- 2011 Sproull Dissertation Travel Grant, \$800
- 2010 Google Earth Education Initiative, \$5,985 per year, renewed five times
- 2009 Robert L. And Mary L. Sproull University Fellowship, \$44,000
- 2007 Laboratory for Molecular Systematics Small Grants, \$6,166

Awards & Recognition

- 2016 University of Rochester Outstanding Dissertation Award
- 2011 SSAR Best Poster Award - Evolution, Genetics, & Systematics
- 2011 SSAR Graduate Travel Award
- 2009 Accepted to Bodega Applied Phylogenetics Workshop, Bodega Bay, CA
- 2009 Accepted to Estimating Species Tree Workshop, Ann Arbor, MI
- 2008 Sigma Xi Annual Meeting Superior Presentation Award
- 2004 ASIH Graduate Travel Award
- 2004 Villanova Summer Research Fellowship
- 2004 Villanova Graduate Research Fellowship
- 2003 Villanova Summer Research Fellowship

Teaching Experience

- 2014 Guest Lecturer, *Population Genetics and Phylogeography*, Rochester
- 2014 Teaching Assistant, *Amer. Genetic Assoc. Non-Model Genomics Workshop*, Cornell
- 2011 Graduate Coordinator, *Freshman Level Advanced Biology*, Rochester
- 2010 Teaching Assistant, *Freshman Level Advanced Biology*, Rochester

- 2003 Teaching Assistant, *Anatomy and Physiology*, Villanova
- 2003 Teaching Assistant, *Senior Level Evolution*, Villanova
- 2002 Teaching Assistant, *Freshman Level General Biology*, Villanova
- 2002 Teaching Assistant, *Senior Level Developmental Biology*, Villanova

Student Mentoring - Harvard University

- Sofia Prado-Irwin (PhD) - Phylogenomics
- Nicholas Herrmann (PhD) - Molecular genetics
- Fatih Sarigöl (MS Thesis) - Population transcriptomics
- Raphaël Scherrer (MS Thesis) - Geographic scale of adaptation
- Martijn van de Schoot (MS Thesis) - Molecular phylogenetics
- Emmanuel D'Agostino (Senior Thesis) - Speciation
- Annalie Herrmann (Senior Thesis) - Evolution of sexual dimorphism
- Vanessa Lam (Undergraduate Researcher) - Genetics of body color patterning
- Max Prager (Senior Thesis) - Phylogenetic Comparative Methods

Student Mentoring - University of Rochester

- Shannon Keating (Senior Thesis) – Molecular population genomics
- Benjamin Desch (Senior Thesis) – Molecular population genetics
- Daniel MacGuigan - Speciation genomics
- Sabina Noll - Bioinformatics
- Jared Hilton – Multilocus phylogenetics
- Christine Rienhart – Relational databases and analysis

Student Mentoring - Academy of Natural Sciences

International PhD student training in Molecular Phylogenetics

- Mariangeles Hernandez (Universidade Católica do Rio Grande do Sul, Brazil)
- Natalie Blake (University of the West Indies, Jamaica)

NSF-REU (Research Experience for Undergraduates)

- Susan Tsang - Evolutionary genetics of a rare fish
- Patrick Videau - Developing DNA extraction protocols from museum specimens

Outreach

- 2018 Research Featured *in*, *Nature's Great Experiment: Anoles & the Origin of Species*
Educational web film series produced by Day's Edge Productions
- 2018 Co-Organizer, *The Seventh Anolis Symposium*
International meeting of *Anolis* researchers. Miami, Florida
- 2014 Guest Teacher, *Rochester City School District School #10 - First Grade*
Interactive Presentation – *All About Lizards*
- 2010 Contributor, *Anole Annals* – *Clearinghouse of information on Anolis research*
>1.3 million hits since 2012, ~650 unique visits/day

2008

Scientific Advisor, *Geckos: Tails to Toepads* traveling exhibit
Exhibit on the science of new species discovery, over 1 million visitors

Manuscript or Proposal Referee

Biological Invasions, Biology Letters, Evolution, GigaScience, Graduate Women in Science National Fellowships, Journal of Biogeography, Journal of Herpetology, Journal of Molluscan Studies, Molecular Ecology, Molecular Phylogenetics and Evolution, National Geographic Research Grants, PeerJ