CURRICULUM VITAE

CHRISTOPHER BLAIR, PH.D.

Assistant Professor of Organismal Biology
Department of Biological Sciences
New York City College of Technology
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ACADEMIC POSITIONS HELD

Assistant Professor	**New York City College of Technology, The City University of New York, Department of Biological Sciences, 2014–present**
Postdoctoral Associate	**Duke University, Department of Biology, 2012–2014** Supervisor: Prof. Anne D. Yoder

EDUCATION

Ph.D.	**University of Toronto, Department of Ecology and Evolutionary Biology** **Royal Ontario Museum, Department of Natural History, 2007–2012** Dissertation: Spatial and temporal patterns of diversification in leaf-toed geckos (Phyllodactylidae: *Phyllodactylus*) throughout the Mexican dry forest Supervisor: Prof. Robert W. Murphy
M.A.	**Central Connecticut State University, Department of Biology, 2004–2006** Thesis: Ecological Factors Influencing *Eleutherodactylus* (Anura: Leptodactylidae) Abundance and Distribution at Five Sites in Southeast Peru Supervisor: Dr. Tiffany M. Doan
B.A.	**University of Connecticut, Department of Marine Sciences, 1999–2003** Academic Major: Coastal Studies Academic Minor: Natural Resource Economics and Policy

PUBLICATIONS

Peer reviewed publications

21. Yu Y, Harris AJ, **Blair C**, He Xingjin. 2015. RASP (Reconstruct Ancestral State in Phylogenies): a tool for historical biogeography and ancestral state reconstruction. *Molecular Phylogenetics and Evolution* 87:46-49.
20. **Blair C**, Law C, Mendez de la Cruz FR, Murphy RW. 2015. Molecular phylogenetics and species delimitation of leaf-toed geckos (Phyllodactylidae: *Phyllodactylus*) throughout the Mexican dry forest. *Molecular Phylogenetics and Evolution* 84:254-265.
19. **Blair C**, Noonan BP, Brown JL, Raselimanana AP, Vences M, Yoder AD. 2015. Multilocus phylogenetic and geospatial analyses illuminate diversification patterns and the biogeographic history of Malagasy plated lizards (Gerrhosauridae: Zonosaurinae). *Journal of Evolutionary Biology* 28:481-492.
18. **Blair C**, Campbell CR, Yoder AD. 2015. The utility of whole genome amplified DNA for next-generation molecular ecology. *Molecular Ecology Resources* 15:1079-1090.
17. Rezansoff A, Crispo E, **Blair C**, Cruz E, Kitano J, Vamosi SM, Rogers SM. 2015. The genetic origins of a putatively invasive population of threespine stickleback (*Gasterosteus aculeatus*) in Alberta. *Conservation Genetics* 16:859-873.
16. **Blair C**, Jimenez-Arcos VH, Mendez de la Cruz, FR, Murphy RW. 2014. Historical and contemporary demography of leaf-toed geckos (Phyllodactylidae: *Phyllodactylus*) in the Mexican dry forest. *Conservation Genetics* 16:419-429.
15. **Blair C**, Heckman KL, Russell AL, Yoder AD. 2014. Multilocus coalescent analyses reveal the demographic history of mouse lemur sister species. *BMC Evolutionary Biology* 14:57.
14. Jimenez-Arcos VH, Centenero-Alcala E, Vazquez Reyes L, **Blair C**, Santa Cruz-Padilla SA. 2014. *Agalychnis dacnicolor*—Predation. *Herpetological Review* 45:677.
13. **Blair C**, Jiménez-Arcos VH, Mendez de la Cruz FR, Murphy RW. 2013. Landscape genetics of leaf-toed geckos in the tropical dry forests of northern Mexico. *PLoS One* 8(2): e57433. doi:10.1371/journal.pone.0057433.
12. Wu SJ, Luo J, Li QQ, Wang YQ, Murphy RW, **Blair C**, Wu, SF, Yue BS, Zhang YP. 2013. Ecological genetics of Chinese rhesus macaque in response to mountain building: all things are not equal. *PLoS One* 8(2): e55315. doi:10.1371/journal.pone.0055315.
11. **Blair C***, Davy C*, Ngo A, Orlov NL, Shi H, Lu S, Gao L, Rao D, Murphy RW. 2013. Genealogy and demographic history of a widespread amphibian throughout Indochina. *Journal of Heredity,* 104:72–85.
10. Martínez-Méndez N, Lara-Resendiz RA, **Blair C**. 2013. *Sceloporus clarkii*—Nocturnal Foraging. *Herpetological Review* 44:148.
9. **Blair C**, Jiménez-Arcos VH, Mendez de la Cruz FR, Murphy RW**.** 2012. Using next-generation DNA sequencing for rapid microsatellite discovery in Mexican leaf-toed geckos (*Phyllodactylus tuberculosus*). *Conservation Genetics Resources* 4:807-810.
8. **Blair C*,** Weigel D*, Balazik M, Keeley ATH, Walker FM, Landguth E, Cushman SA, Murphy M, Waits LP, Balkenhol N. 2012. A simulation-based evaluation of methods for inferring linear barriers to gene flow. *Molecular Ecology Resources* 12:822-833.
7. **Blair C,** Murphy RW. 2011. Recent trends in molecular phylogenetic analysis: where to next? *Journal of Heredity* 1:130–138.
6. **Blair C**, Doan TM. 2009. Patterns of community structure and microhabitat usage in Peruvian *Pristimantis* (Anura: Strabomantidae). *Copeia* 2009:303–312.

5. **Blair C**, Orlov NL, Shi H, Murphy RW. 2009. A taxonomic re-evaluation of *Goniurosaurus hainanensis* (Squamata: Eublepharidae) from Hainan Island, China. *Russian Journal of Herpetology* 16:35–40.
4. **Blair C**, Mendez de la Cruz FR, Ngo A, Lindell J, Lathrop A, Murphy RW. 2009. Molecular phylogenetics and taxonomy of leaf-toed geckos (Phyllodactylidae: *Phyllodactylus*) inhabiting the peninsula of Baja California. *Zootaxa* 2027:28–42.
3. Murphy RW, **Blair C,** Mendez de la Cruz FR. 2009. A new species of leaf-toed gecko, genus *Phyllodactylus* (Squamata: Gekkota: Phyllodactylidae) from Guerrero, Mexico. *South American Journal of Herpetology* 4:17–24.
2. **Blair C**. 2009. Daily activity patterns and microhabitat use of a heliothermic lizard, *Ameiva exsul* (Squamata: Teiidae) in Puerto Rico**.** *South American Journal of Herpetology* 4:179–185.
1. **Blair C**. 2007. *Arrhyton exiguum.* Natural History Note—Reproduction. *Herpetological Review* 38: 466.

Popular articles

1. Ngo A, **Blair C**, Murphy RW. DNA Barcoding—helping to reveal the hidden diversity of life. *ROM Magazine:* Spring 2009.

Papers in review

2. **Blair C**. How should we collect and process next-generation sequencing data for phylogeography? In review: *Molecular Ecology Resources*.
1. **Blair C**, Sanchez-Ramirez S. Diversity-dependent cladogenesis throughout the Mexican highlands: evolutionary biogeography of rattlesnakes (Viperidae: Crotalinae: *Crotalus* and *Sistrurus*). In review: *Molecular Phylogenetics and Evolution*.

TEACHING EXPERIENCE AND PUBLIC EDUCATION

2015–present **New York City College of Technology, CUNY (Assistant Professor)**
Course Coordinator for BIO 1201 and BIO 1201L (General Biology 2 lecture and laboratory)
- Serve as coordinator for ~20 General Biology 2 instructors. Duties include revising curriculum, creating new laboratory exercises, and streamlining the transfer of grades among instructors.

2014–present **New York City College of Technology, CUNY (Assistant Professor)**
BIO 1201 and BIO 1201L (General Biology 2 lecture and laboratory)
- Prepared lectures and laboratories, conducted lectures and laboratories, curriculum development, grading, student advisement.

2011 **University of Toronto**
- Created BioComp scholarship exam for entering undergraduate students in life sciences (50 multiple choice questions).

2011 **University of Toronto (Teaching Assistant)**
EEB267 Vertebrate Diversity
- Curriculum development, laboratory demonstration, obtained museum specimens, coordinated live teaching demonstrations with colleagues, exam grading for >120 students.

2007–2010 **University of Toronto (Teaching Assistant)**
EEB265 Animal Biodiversity
- Curriculum development, laboratory demonstration, obtained museum specimens, coordinated live teaching demonstrations with colleagues, exam grading for >120 students.

2007–2012 **Royal Ontario Museum**
- *Fact or Fiction?*
  Educated public on the general biology and natural history of snakes.
- *Darwin Exhibit*
  Maintained tortoise exhibit and educated public on the biology and natural history of tortoises.
- Worked with ROM curators and staff to develop new exhibits.
- Participated in biodiversity galleries and led discussions using live animals
- Participated in *March Break* instructional activities.

2006 **Central Connecticut State University (Teaching Assistant)**
General Biology I
- Performed introductory lectures on general plant biology, demonstrated laboratories and assisted in curriculum development.

2006 **Central Connecticut State University (Independent Tutor)**
- Coordinate tutorial session for a graduate level Herpetology course and undergraduate level General Biology.

RECENT RESEARCH EXPERIENCE

2012–2014 **Duke University, Department of Biology**
TITLE: Postdoctoral Research Associate
DUTIES:
- Served as lead researcher on a number of projects using molecular genetic data to infer diversification mechanisms within the Malagasy vertebrate fauna.
- Performed various molecular laboratory techniques including DNA extraction, PCR, and library preparation for next-generation DNA sequencing.
- Drafted grant proposals for federal research funding.
- Extensive cluster computing in Unix.
- Performed complex geospatial analyses in a GIS environment.

2007–2012 **University of Toronto, Department of Ecology and Evolutionary Biology**
TITLE: Ph.D. Student
DUTIES:
- Conservation genetics, molecular ecology, and evolution of amphibians and reptiles.
- Fieldwork, DNA extraction, PCR, gene sequencing, microsatellite and AFLP genotyping, statistical analysis, analytical writing, and publishing in peer-reviewed journals.
- Served as lead researcher on several projects pertaining to the molecular ecology and phylogenetics of vertebrates.
- Performed complex geospatial analyses in a GIS environment.
- Successfully obtained research funding and published 11+ papers in peer-reviewed journals.

2007 **Utah State University, Ecology Center**

TITLE: Research Technician

DUTIES:

- Took a leading role in studying the chemical ecology of tropical freshwater shrimp and their predatory fish species.
- Provided technical support; experimental design and data analysis; electro-shocking for fish species; various shrimp collecting techniques.
- Supervised an island-wide population genetic study of the Puerto Rican coqui frog.
- Collected data for the Long-term Ecological Research (LTER) project, to monitor ecological processes in several taxonomic groups throughout the Caribbean National Forest.

2004–2006 **Central Connecticut State University, Department of Biology**

TITLE: M.A. Student

DUTIES:

- Led research to understand the ecological factors influencing community composition of frogs throughout the Peruvian Amazon.
- Led a field project examining ecological relationships between arthropod and frog abundances in a Peruvian rain forest.
- Phylogeography of the lizard genus *Proctoporus* (Squamata: Gymnophthalmidae) throughout the Peruvian Andes.
- Studied the effects of staining snail larva (*Crepidula plana*) with the chemical calcein and monitored growth rates to ascertain the adverse effects of the chemical on larval development.
- Investigated the potential causes and maintenance of phenotypic plasticity in an intertidal barnacle.

CONTRIBUTED TALKS AND POSTERS

2015 **Blair C**. Reconciling molecular and geospatial approaches to understand spatial patterns of reptile diversification.
City College of New York (CUNY)— *Invited talk*

2015 **Blair C**, Noonan BP, Brown JL, Raselimanana AP, Vences M, Yoder AD. Diversification and biogeography of Malagasy plated lizards
13th Annual Poster Session of Faculty and Student Research and Faculty Publications Exhibit, New York City College of Technology (CUNY)— *Poster*

2015 **Blair C**, Sanchez-Ramirez S. Diversification and biogeography of the rattlesnakes (Viperidae: Crotalinae: *Crotalus* and *Sistrurus*)
Annual Evolution meeting, Guaruja, Brazil—*Talk*

2015 **Blair C.** Can whole genome enrichment be used for population genomics of non-model species? A test with the lemurs of Madagascar.
9th Annual Research Conference, New York City College of Technology (CUNY)— *Talk*

2014 **Blair C**, Campbell CR, Yoder AD. Utility of whole genome amplified DNA for next-generation phylogeography and population genomics.
Annual Evolution Meetings— *Talk*

2014 Campbell, CR, Larsen P, **Blair C**, Yoder AD. Applications of Circos beyond genomics.

Annual Evolution Meetings—*Poster*

2014 **Blair C**, Noonan BP, Brown JL, Raselimanana AP, Vences M, Yoder AD. Historical diversification and biogeography of the Malagasy endemic plated lizards (Gerrhosauridae: Zonosaurinae).
North Carolina Herpetological Society Spring Meeting— *Talk*

2014 **Blair C**. Tropical lizard diversification: a 'tail' of two clades.
Systematics Discussion Group, Duke University— *Talk*

2013 **Blair C**, Brown JL, Yoder AD. Elucidating speciation mechanisms in Malagasy vertebrates.
Duke Biology Retreat—*Poster*

2012 **Blair C**. Spatial and temporal patterns of diversification in leaf-toed geckos throughout the Mexican dry forest.
PhD. Exit Seminar. Department of Ecology & Evolutionary Biology, University of Toronto— *Talk*

2012 **Blair C**, Mendez de la Cruz FR, Law C, Murphy RW. Genes, geography, climate, and cryptic diversity in leaf-toed geckos (Phyllodactylidae: *Phyllodactylus*) illuminate evolutionary processes throughout the Mexican dry forest.
Ernst Mayr Symposium; 1st Joint Congress on Evolutionary Biology, Ottawa, Ontario, Canada— *Talk*

2012 **Blair C**, Jimenez-Arcos, VH, Mendez de la Cruz FR, Murphy RW. Landscape genetics of leaf-toed geckos in the sub-tropical dry forests of northern Mexico.
Landscape Genetics Symposium, University of Toronto, Toronto, Ontario, Canada— *Talk*

2012 **Blair C**, Mendez de la Cruz FR, Law C, Murphy RW. Climate change and gecko diversification: testing alternative evolutionary hypotheses throughout the Mexican dry forest.
Graduate Student Contributed Talks, Royal Ontario Museum, Toronto, Ontario, Canada— *Talk*

2008 Doan TM, **Blair C**. Can Reptile Species Be Distinguished with Solely Morphometric Characters?
Joint Meeting of the American Society of Ichthyologists and Herpetologists, Society for the Study of Amphibians and Reptiles and the Herpetologists' League, Montreal, Quebec, Canada— *Talk*

2006 **Blair C**. Environmental Variables Influencing the Distribution of *Eleutherodactylus* (Anura: Leptodactylidae) at Five Sites in Southeast Peru. Joint Meeting of the American Society of Ichthyologists and Herpetologists, Society for the Study of Amphibians and Reptiles and the Herpetologists' League, New Orleans, Louisiana— *Talk*

2006 Jarrett JN, **Blair C**. Phenotypic Plasticity in Operculum Morphology of the Barnacle, *Chthamalus fissus:* an Alternative Strategy to Avoid Predation.
Ocean Sciences Meetings, Honolulu, Hawaii— *Talk*

2005 Jarrett JN, **Blair C**. Growth, Survival, and Size-Specific Reproduction of the Barnacle, *Chthamalus fissus,* From Two Sites in Southern California and Baja California.
Benthic Ecology Meetings, Wilmington, North Carolina— *Talk*

GRANTS AND AWARDS

2015	Genomic and epigenomic consequences of hypoxia among freshwater fish population (co-PI; NSF-DEB RUI; In Review—Full Proposal Invited)
2015	Perkins Award (NYCCT-CUNY, $9,782)
2014	Professional Development Advisory Council travel award (NYCCT-CUNY; $1,500)
2012	University of Toronto School of Graduate Studies Conference Grant ($567.00)
2011	University of Toronto Donald A. Chant Scholarship in Ecology and Evolutionary Biology ($5,600)
2010	Theodore Roosevelt Memorial Fund, American Museum of Natural History ($2,000)
2007–2012	University of Toronto Graduate Research Assistantship, Natural Sciences and Engineering Research Council of Canada ($8,000/year)
2007–2012	University of Toronto Tuition Fellowship, Department of Ecology and Evolutionary Biology ($18,000/year)
2006	Central Connecticut State University, Outstanding Scholar Award for the School of Arts & Sciences
2006	Central Connecticut State University, Department of Biology Award

STUDENT SUPERVISION

2015 **New York City College of Technology, CUNY**

- Research supervisor for Emerging Scholars program
  - *Serifat Adebola* (undergraduate)
    Project: Molecular phylogeny and biogeography of rattlesnakes (*Crotalus* and *Sistrurus*)
- Research supervisor for internship course for Biomedical Informatics degree
  - *Alicha Paul* (undergraduate)
    Project: Quantifying diversification dynamics in the chameleons (Squamata: Chamaeleonidae)

2008–2012 **University of Toronto/Royal Ontario Museum**

- Assisted in the supervision of undergraduate, graduate, and volunteer research projects. Specific duties included the supervision of molecular genetic laboratory work, bioinformatics, and methods of statistical analysis.
- Direct supervisor for the following students:
  - *Christopher Law* (undergraduate, University of Guelph).
    Project: Diversification and molecular ecology of Mexican leaf-toed geckos.
  - *Lucy Szczesniak* (undergraduate, University of Toronto).
    Project: Molecular phylogeny of Mexican leaf-toed geckos.

TEACHING AND RESEARCH WORKSHOPS ATTENDED

2015 **Software Carpentry: Learning Basic Computing Skills to be More Effective in the Lab**
The New York Academy of Sciences, New York, NY, USA

2015 **An Introduction to Online Teaching**
New York City College of Technology, Brooklyn, NY, USA

2014 **An introduction to OpenLab**
New York City College of Technology, Brooklyn, NY, USA

2014 **Phylogenomics Discussion Group**
NESCENT, Durham, NC, USA
Co-founder

2014 **Mobile Devices and Learning**
Teaching Ideas Series
Duke Center for Instructional Technology, Durham, NC, USA

2014 **Introduction to Team-Based Learning**
Teaching Ideas Series
Duke Center for Instructional Technology, Durham, NC, USA

2010 **Developing the Best Practices for Landscape Genetics**
NCEAS, Santa Barbara, CA, USA

2009 **Canadian Bioinformatics Workshop**
Exploratory Data Analysis and Essential Statistics
Toronto, ON, Canada

PROFESSIONAL SERVICE (COLLEGE)

2015–present **BIO1201 Course Coordinator (New York City College of Technology, CUNY)**

2015–present **Departmental Committees (New York City College of Technology, CUNY)**
a. Department Curriculum Committee
b. Program liaison to New Student Center

2014–2015 **Departmental Committees (New York City College of Technology, CUNY)**
a. Information Technology
b. Biomedical Informatics
c. Laboratory Safety
d. Laboratory Equipment

2014–present **College Committees (New York City College of Technology, CUNY)**
a. College Retention Committee
b. College Council Curriculum Committee

PROFESSIONAL SERVICE (OTHER)

2015 Judge for New York City Science and Engineering Fair

2014 Invited faculty reviewer for 11th edition *Biology: Life on Earth* (Audesirk, Audesirk, & Byers)

Manuscript Review

Top Reviewer for *Molecular Ecology* 2015
Top Reviewer for *Molecular Ecology* 2014

Molecular Ecology (8), *Molecular Ecology Resources* (1), *Methods in Ecology and Evolution* (2), *Journal of Biogeography* (3), *Zoological Journal of the Linnean Society* (1), *Journal of Herpetology* (2), *Zootaxa* (3), *South American Journal of Herpetology* (1), *Biological Journal of the Linnean Society* (5), *Journal of Zoological Systematics and Evolutionary Research* (1), *Herpetological Conservation & Biology* (1), *Endangered Species Research* (1), *Marine Environmental Research* (1), *Acta Chiropterologica* (1), *Journal of Tropical Ecology* (1), *BMC Evolutionary Biology* (2), *Amphibia-Reptilia* (1)

PROFESSIONAL INTERESTS

Molecular ecology; phylogenomics; systematics; biogeography; ecological and landscape genomics; herpetology; Mexico; vertebrate biology; incorporating novel teaching methods in the classroom; developing new approaches for students to synthesize complex material; learner-centered teaching and comprehension; utilizing Bloom's Taxonomy; flipped-classroom teaching; team-based learning.

RELEVANT SKILLS

DNA extraction; PCR; gene sequencing; microsatellite genotyping; AFLP fingerprinting; next-generation DNA sequencing, library preparation and analysis (e.g. ddRADseq); proficiency in a wide array of phylogenetic and population genetic software packages; cluster computing; Unix; spatially explicit analyses; ArcGIS; species distribution modeling; bioinformatics; manuscript editing; R, undergraduate student supervision, field work, collections-based research.

CURRENT PROFESSIONAL AFFILIATIONS

Society of Systematic Biologists

REFERENCES

Anne D. Yoder, Professor
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