

## **TARAN GRANT**

American Museum of Natural History  
Central Park West at 79<sup>th</sup> Street  
New York, NY 10024

Voice mail: 212-769-5247  
Email: grant@amnh.org

### **RESEARCH INTERESTS**

Anuran evolution, Neotropical herpetology, amphibian decline, phylogenetic theory, evolutionary theory, evolutionary bioinformatics and computational phylogenetics, genotypic and phenotypic evolution, history and philosophy of biology, philosophy of science, science policy

Ph.D. Dissertation Title: Phylogenetic Systematics of Poison Dart Frogs (Amphibia: Anura: Dendrobatidae)

### **EDUCATION**

Ph.D. with distinction, Columbia University (New York, USA), Ecology and Evolutionary Biology, 2005

Advanced Certificate, Columbia University (New York, USA), Environmental Policy, 2004

M.Phil., Columbia University (New York, USA), Ecology and Evolutionary Biology, 2002

B.Sc., Universidad del Valle (Cali, Colombia), Biology, 1998

### **FELLOWSHIPS AND GRANTS**

2005–present Post Doctoral Fellowship, Bioinformatics, American Museum of Natural History

1998–2005 Columbia University, Center for Environmental Research and Conservation  
Faculty Fellowship

1998–2005 American Museum of Natural History, Graduate Student Fellowship

2003 National Science Foundation Doctoral Dissertation Improvement Grant, DEB  
0309226 (with Darrel Frost)

2002 Declining Amphibian Populations Task Force Seed Grant

2001 Extinction Risk Analysis Grant (Colombian Amphibian Endemism and Richness),  
World Wildlife Fund, Inc.

1998 Collections Study Grant, American Museum of Natural History

1994 Equipment Purchase Grant, Idea Wild

## TEACHING EXPERIENCE

- 2006 University of Richmond, NSF-sponsored workshop “Approaches to Data Analysis: Direct Optimization and POY” on phylogenetic theory and data analysis using the computer program POY, attended by faculty and graduate students from the University of Richmond and the Virginia Commonwealth University.
- 2005 Universidad Nacional de Colombia, Bogotá, Profesor Invitado, invited to Colombia to lecture to graduate students on phylogenetic theory and frog systematics and consult with research groups supported by COLCIENCIAS; visit funded by COLCIENCIAS/Universidad Nacional de Colombia.
- 2004 City University of New York, Guest lecturer, Principles of Systematics, BIOL 70603, (Professor: Randall Schuh).
- 2002 University of Michigan, three day workshop on the theory and implementation of computational phylogenetics using the program POY (co-taught with Ward C. Wheeler). Participation included lecturing on phylogenetic inference from DNA sequence data and designing and leading a two-day tutorial covering commands, algorithms, and search strategies, as well as basic theory of parallel computing and implementation of POY in parallel environments.
- 2001 Columbia University, Teaching Assistant, Population Genetics, ENVB W4020, (Professor: Ben Evans). Explored fundamental concepts in population genetic theory and analysis. Responsibilities included designing computer labs, assisting in class, overseeing and grading labs, grading exams, lecturing on phylogenetics, and maintaining office hours.
- 2000 Columbia University, Teaching Assistant, The Life System, ENVB 2300/2002, (Professors: Paul Olson, Kevin Griffin, Matt Gompper). Emphasized the history of life, biogeochemical cycles, biodiversity, evolution, ecology, and physiology from the microbe to the global scale. Responsibilities included designing, implementing, and overseeing labs, giving lab-lectures, grading exams, lab assignments, and other homework assignments, and maintaining office hours.
- 1997 Four day course/workshop on local biodiversity, El Cairo, Valle del Cauca, Colombia (co-taught with Philip Silverstone-Sopkin and Néstor Paz). Designed to educate local young people and their teachers on the magnitude and importance of their local biodiversity and to discuss ways they could study and conserve their forests and wildlife.
- 1997 Universidad del Valle, Teaching Assistant, Evolutionary Theory [Teoría Evolutiva], (Professor: Luis A. Naranjo). Covered history of evolutionary ideas, evidence for evolution, origin of life, fitness and natural selection, sexual selection, population genetics, and systematics. Responsibilities included lecturing on phylogenetic inference, selecting and assigning reading, designing and implementing labs, grading lab and other class assignments, and grading exams.

## FIELD EXPERIENCE

- 2005 Colombia, Cordillera Central (above Anorí, Antioquia Department)
- 2004 Colombia, Cordillera Occidental (Cauca and Valle del Cauca Departments) and Cordillera Central (Risaralda Department)
- 2002 Colombia, Cordillera Central (near Popayán, Cauca Department) and Chocó region (near Bahía Solano, Chocó Department)
- 1999 Colombia, foothills of Cordillera Oriental near Villavicencio (Meta Department)
- 1994–1998 Colombia, numerous localities in Colombia, primarily in the Chocó region and higher elevations of the Cordillera Occidental and Cordillera Central

## RELATED EXPERIENCE

- 2004–2005 Co-curator, *Frogs: A Chorus of Colors*, American Museum of Natural History, (for overview go to <http://www.amnh.org/exhibitions/frogs/>), collaborated with co-curators Julián Faivovich and Christopher J. Raxworthy and AMNH Exhibitions, Education, Communications, and Development departments to produce this public exhibition of over 200 live frogs of 24 species, the purpose being to draw attention to both the ongoing discovery of diversity of frogs and the shocking global decline in amphibian populations; responsible for central poison dart frog display featuring nine species; featured and/or quoted in numerous newspaper and magazine articles, including ABC News, Al Día (Costa Rica), El Tiempo (Colombia), Monterey County Herald, Newsday, Newsweek, Science, Scientific American, Staten Island Advance, The Journal News, Weekly Reader, Charlotte Observer, and Science World; television interviews on CNN, CNN en español, NBC, Kazakhstan State Television, NY1Noticias, and Televisión Española; radio interviews on RCN La FM con Claudia Gurisatti (Colombia), WSJU Saint John's University Radio, and WBAI EcoLogic
- 2003 Global Amphibian Assessment Review Workshop for the Andes (Ecuador, 18–22 August), sponsored by Conservation International, the Species Survival Commission of IUCN–The World Conservation Union (IUCN–SSC), and NatureServe
- 1998 The Global Taxonomy Initiative: Using Systematic Inventories to Meet Country and Regional Needs, DIVERSITAS/Systematics Agenda 2000 International Workshop, 17–19 September
- 1996 Curatorial Assistant, Museo de Historia Natural, Colección de Anfibios y Reptiles, Universidad del Valle. Duties included data-basing, identification and cataloging of accessions and ancillary material, loans, and general maintenance of the collection
- 1988–1994 Animal Keeper (Herpetology), Amazon Gallery, Vancouver Aquarium, Vancouver, B.C., Canada
- 1986–1988 Volunteer (Herpetology), Amazon Gallery, Vancouver Aquarium, Vancouver, B.C., Canada

## AWARDS AND DISTINCTIONS

- 2005 Distinction in Doctoral Research, Columbia University
- 2003 Willi Hennig Award (\$1,000), Student Awards, Willi Hennig Society (for the presentation "Insertions and deletions in the evolution of equal-length DNA fragments")
- 2001 Honorable Mention, Student Awards, Willi Hennig Society (for the presentation "Testing methods: the evaluation of discovery operations in systematics")
- 1997 Award for Outstanding Academic Achievement [Estímulo Académico], Facultad de Ciencias, Universidad del Valle, Colombia (awarded for achieving 1<sup>st</sup> place in 7<sup>th</sup> semester of the Biology program)
- 1996 Award for Outstanding Academic Achievement [Estímulo Académico], Facultad de Ciencias, Universidad del Valle, Colombia (awarded for achieving 3<sup>rd</sup> place in 6<sup>th</sup> semester of the Biology program)

## PUBLICATIONS

22. Kluge, A. G. and **T. Grant**. 0000. From conviction to anti-superfluity: old and new justifications for parsimony in phylogenetic inference. *Cladistics* 00: 00-00 [in press].
21. Wheeler, W. C., L. Aageson, C. P. Arango, J. Faivovich, **T. Grant**, C. D'Haese, D. Janies, W. L. Smith, A. Varon, G. Giribet. 2006. Dynamic homology and phylogenetic systematics: a unified approach using POY. *Bulletin of the American Museum of Natural History* 00: 00–000 [in press].
20. Savage, J. M., C. W. Myers, D. R. Frost and **T. Grant**. 2006. Dendrobatidae Cope, 1865 (1850) (Amphibia, Anura): proposed conservation. *Bulletin of Zoological Nomenclature* 00: 00-00 [in press].
19. **Grant, T.**, D. R. Frost, R. Ibáñez D., C. W. Myers and J. M. Savage. 2006. *Hyloxalus panamansis* Dunn, 1933 (Amphibia: Anura: Dendrobatidae): proposed validation of emendment of spelling to *panamensis*. *Bulletin of Zoological Nomenclature* 00: 00–00 [in press].
18. **Grant, T.**, Kluge, AG. 2005. Stability, sensitivity, science, and heurism. *Cladistics* 21: 597–604.
17. **Grant, T.** 2004. On the identities of *Colostethus inguinalis* (Cope, 1868) and *C. panamensis* (Dunn, 1933), with comments on *C. latinasus* (Cope, 1863) (Anura: Dendrobatidae). *American Museum Novitates* 3444: 1–24.
16. **Grant, T.** and A. G. Kluge. 2004. Transformation series as an ideographic character concept. *Cladistics* 20: 23–31.
15. **Grant, T.** and A. G. Kluge. 2003. Data exploration in phylogenetic inference: Scientific, heuristic, or neither. *Cladistics* 19: 379–418.
14. **Grant, T.**, J. Faivovich and D. Pol. 2003. The perils of 'point-and-click' systematics. *Cladistics* 19: 276–285.
13. Davalos, L. M., R. R. Sears, G. Raygorodetsky, B. L. Simmons, H. Cross, **T. Grant**, T. Barnes, L. Putzel and A. L. Porzecanski. 2003. Regulating access to genetic resources under the Convention on Biological Diversity: an analysis of selected case studies. *Biodiversity and Conservation* 12: 1511–1524.

12. **Grant, T.** 2002. Testing methods: The evaluation of discovery operations in evolutionary biology. *Cladistics* 18: 94–111.
11. **Grant, T.** and M. C. Ardila-Robayo. 2002. A new species of *Colostethus* (Anura: Dendrobatidae) from the eastern slopes of the Cordillera Oriental of Colombia. *Herpetologica* 58: 252–260.
10. **Grant, T.** and L. O. Rodríguez. 2001. Two new species of frogs of the genus *Colostethus* (Dendrobatidae) from Peru and a redescription of *C. trilineatus* (Boulenger, 1883). *American Museum Novitates* 3355: 1–24.
9. Frost, D. R., M. T. Rodrigues, **T. Grant** and T. A. Titus. 2001. Phylogenetics of the lizard genus *Tropidurus* (Squamata: Tropiduridae: Tropidurinae): Direct optimization, descriptive efficiency, and sensitivity analysis of congruence between molecular data and morphology. *Molecular Phylogenetics and Evolution* 21: 352–371.
8. Sheil, C. A. and **T. Grant**. 2001. A new species of colubrid snake (*Synopsis*) from western Colombia. *Journal of Herpetology* 35: 204–209.
- Porzecanski, A. L., **T. Grant**. 2000. Are access regulations achieving the goals of the CBD? *IUCN Biolog* 2: 4–5. [Popular article]
7. **Grant, T.** 2000 "1999". Una nueva especie de *Rhamphophryne* (Anura: Bufonidae) de la Cordillera Central de Colombia. *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales* 23: 287–292.
6. Bolívar-G., W., **T. Grant** and L. A. Osorio. 1999. Combat behavior in *Centrolene buckleyi* and other centrolenid frogs. *Alytes* 16: 77–83.
5. **Grant, T.** 1998. Una nueva especie de *Colostethus* del grupo *edwardsi* de Colombia. *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales* 22: 423–428.
4. Lynch, J. D. and **T. Grant**. 1998. Dying frogs in western Colombia: catastrophe or trivial observation? *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales* 23: 149–152.
3. **Grant, T.**, W. Bolívar-G. and F. Castro. 1998. The advertisement call of *Centrolene geckoideum*. *Journal of Herpetology* 32: 452–455.
2. **Grant, T.** and F. Castro-Herrera. 1998. The cloud forest *Colostethus* (Anura, Dendrobatidae) of a region of the Cordillera Occidental of Colombia. *Journal of Herpetology* 32: 378–392.
1. **Grant, T.**, E. C. Humphrey and C. W. Myers. 1997. The median lingual process of frogs: a bizarre character of Old World ranoids discovered in South American dendrobatids. *American Museum Novitates* 3212: 1–40.

## INVITED PRESENTATIONS

9. **Grant, T.** 2005. Optimización directa y el análisis *filogenético* de secuencias de ADN. Conferencia Magistral, Pontificia Universidad Javeriana, Bogotá, Colombia
8. **Grant, T.** 2005. La filogenia de las ranas venenosas y sus parientes (Anura: Dendrobatidae). Conferencia Magistral, Universidad de Antioquia, Bogotá, Colombia
7. **Grant, T.** 2005. La filogenia de las ranas venenosas y sus parientes (Anura: Dendrobatidae). Conferencia Magistral, Universidad de los Andes, Bogotá, Colombia
6. **Grant, T.** 2005. La filogenia de las ranas venenosas y sus parientes (Anura: Dendrobatidae)
5. **Grant, T.** 2005. The phylogeny of poison dart frogs (Anura: Dendrobatidae). CERC Seminar Series, Columbia University, New York, USA

4. **Grant, T.**, and W. C. Wheeler. 2005. Direct optimization and the *phylogenetic* analysis of DNA sequences. 2<sup>nd</sup> Dresden Meeting on Insect Phylogeny: The Phylogenetic Relationships among the Insect Orders. Dresden, Germany
3. **Grant, T.** 2004. Optimización directa y el análisis *filogenético* de secuencias de ADN. Conferencia Magistral, Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá, Colombia
2. **Grant T.**, and C. D'Haese. 2003. Insertions and deletions in the evolution of equal-length DNA fragments. Competing Methods for Sequence Alignment Symposium, Hennig XXII, New York, USA. Abstract published in *Cladistics* 20:76–100
1. **Grant T.** 2001. Testing methods: the evaluation of discovery operations in systematics. Phylosophy Symposium, Hennig XX, Corvallis, USA. Abstract published in *Cladistics* 18:218–236

## CONTRIBUTED PRESENTATIONS

4. **Grant T.**, J. Faivovich, C. Raxworthy. 2002. Direct optimization and the phylogeny of mantellid frogs. Hennig XXI, Helsinki, Finland. Abstract published in *Cladistics* 19:148–163
3. **Grant T.** 2002. Against sensitivity analysis in phylogenetic systematics. Hennig XXI, Helsinki, Finland. Abstract published in *Cladistics* 19:148–163
2. Faivovich, J., **T. Grant**, C. Raxworthy, M. Duc Le. 2002. A molecular approach to determining the phylogenetic relationships of Mantellinae rhacophorids. ASIH/AES/SSAR/HL Annual Meeting, Kansas City, Missouri
1. **Grant T.** 2000. The median lingual process of frogs revisited. ASIH/SSAR/HL Annual Meeting, La Paz, Mexico

## POSTERS

2. **Grant, T.**, R.W. McDiarmid, and B. D. Means. 2005. *Colostethus roraima*: another phytotelm breeding dendrobatid. ASIH/AES/SSAR/HL Annual Meeting, Tampa, Florida, USA
1. **Grant T.**, Faivovich, J. 2001. On the relationships among ranoid frogs: A *real* review of the evidence. Hennig XX, Corvallis, Oregon, USA

## PROFESSIONAL SERVICE

1. Fellow, Willi Hennig Society, 2001–present
2. Graduate Student Council Faculty Representative, 1999–2000
3. Reviewer for Granting Agencies: COLCIENCIAS (Colombia); WOTRO, Netherlands Foundation for the Advancement of Tropical Research; Fundación para la Promoción de la Investigación y la Tecnología, Banco de la República (Colombia); National Science Foundation (NSF, USA)
4. Reviewer for Journals: *American Museum Novitates*; *Biological Journal of the Linnean Society*; *Caribbean Journal of Science*; *Cladistics*; *Copeia*; *Herpetologica*; *Herpetological Review*; *Journal of Biomedical Informatics*; *Journal of Herpetology*; *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales*; *Scientific*

*Papers of the Natural History Museum, The University of Kansas; Systematics and Biodiversity; Zoological Journal of the Linnean Society*

5. External Observer, 2005 Ph.D. dissertation proposals, Doctoral Program in Nursing, Facultad de Enfermería, Universidad Nacional de Colombia, Bogotá, Colombia; oversaw evaluation of proposals, provided recommendations to strengthen this evaluation process

## **PROFESSIONAL ASSOCIATIONS**

Association for the Study of Amphibians and Reptiles  
Herpetologists' League  
Philosophy of Science Association  
Willi Hennig Society

## **LANGUAGES**

English (fluent)  
Spanish (fluent)