

# Ayşegül Birand

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## Education:

Ph.D. in Biology with a minor degree in Mathematical Sciences Department of Biology and Department of Mathematical Sciences New Mexico State University (Las Cruces, NM)	2003 - 2008
M.S. in Biology Department of Biological Sciences Middle East Technical University (Ankara, Turkey)	1996 - 1999
B.S. in Biology Department of Biological Sciences Middle East Technical University (Ankara, Turkey)	1992 - 1996

## Professional Experience:

Postdoctoral Research Associate, Department of Ecology & Evolutionary Biology, University of Tennessee (Knoxville, TN)	June 2008 - current
Graduate Assistant, Laboratory of Ecological and Evolutionary Genetics, Department of Biology, NMSU: Maintained and operated the ABI 3100 Automated Sequencer at the LEEG. Trained new users at the Department of Biology, and sequenced samples for users from several departments across the NMSU campus.	3 semesters during 2003 - 2007
Teaching Assistant, Department of Biology, NMSU: Taught introductory level labs for biology majors and non-biology majors, and an upper level microbiology lab. Responsible for lab preparation for all the sections, developing introductory lectures, supervising labs, and grading.	7 semesters during 2003 - 2007
Research affiliate, Centre for Ecological Research & Conservation, Nature Conservation Foundation, India: Along with a colleague, planned and carried out a nine-month field survey of amphibians, reptiles and birds across the semi-evergreen and wet-evergreen forests of Northeast India. The survey was motivated to provide basic biological data since the most recent surveys at the time dated from the early 1900s.	March 2000 – December 2001
Research student, Wildlife Institute of India, Dehra Dun; Attended courses and training tours of the M.S. course in Wildlife Science at the Institute. Studied the population ecology of three sympatric ungulates in Sariska Tiger Reserve, and the home range, movement patterns and habitat use by Gaur <i>Bos gaurus</i> in central India.	August 1997 – August 1998
Research intern, Marmara Research Center of the Scientific and Technical Research Council of Turkey: Studied the transcriptional regulation of latent Epstein-Barr Virus infection in host cells as an undergraduate intern.	July – Aug 1995

## Honors and Awards:

Travis and Wendy Traylor Memorial Graduate Fellowship (Department of Biology, NMSU)	2007
Excellence in Research Award (Department of Biology, NMSU)	2007
The Joaquin O. Loustaunau Memorial Graduate Fellowship (NMSU)	2007
Merit-based Enhancement Fellowship (Graduate School, NMSU)	2005 – 2006
Summer Research Award for Excellence in Graduate Studies (Department of Biology, NMSU)	2005
Research scholarship from the Turkish Ministry of Education & the Indian Council for Cultural Relations	1997 – 1998

## Publications:

### Scientific articles:

- Birand, A. and E. Barany (provisional acceptance) Evolutionary branching points and the form of carrying capacity functions. *Bulletin of Mathematical Biology*.
- Birand, A. and D. J. Howard (2008) The relationship between proportion of endemics and species diversity on islands: expectations from a null model. *Ecography*. 31(2): 286-288.
- Traylor, T., Birand, A\*, Marshall, J. L. and D. J. Howard (2008) A zone of overlap and hybridization between *Allonemobius socius* and a new *Allonemobius spp.* *Annals of the Entomological Society of America*. 101(1):30-39 (\*Corresponding author).
- Pawar, S.S., Birand, A., Ahmed, F. M., Sengupta, S. and T. R. S. Raman (2007) Conservation biogeography in Northeast India: hierarchical analysis of cross-taxon distributional congruence. *Biodiversity and Conservation* 13:53-65.
- Birand, A. and S. Pawar (2004) An ornithological survey in north-east India. *Forktail* 20: 7-16.

### under review or in prep:

- Birand, A. and E. Barany (under review) Revisiting the conflict between two seminal papers on the theory of limiting similarity.
- Birand, A., Avose A. and S. Gavrillets (in prep) Species ranges and speciation.
- Birand, A. and D. J. Howard (in prep) What does rate of speciation mean?

### Reports/thesis/unpublished manuscripts:

- Birand, A. C. (2008) On the theory of speciation: terminology, mechanisms, and analyses. Ph.D. Dissertation. New Mexico State University. 121 pages.
- Pawar, S. and A. Birand (2001) A survey of amphibians, reptiles, and birds in Northeast India. CERC Technical Report #6, Centre for Ecological Research and Conservation, Mysore. 118 pages.
- Birand, A. C. (1999) Studies on carnivores of Duzlercami Game Reserve, Antalya. Master's Thesis, Middle East Technical University. 50 pages.

## Presentations:

- Birand, A., Vose, A. and S. Gavrillets (2009) Species ranges and speciation. *Evolution 2009*, Moscow, Idaho.
- Birand, A. and E. Barany (2009) Evolutionary branching and symmetric bifurcations. *Society for Industrial and Applied Mathematics (SIAM) Conference on Dynamical Systems*. Snowbird, Utah.
- Birand, A. (2008) On the theory of speciation: terminology, mechanisms, and analyses. *Dissertation Defense*, Department of Biology, NMSU.
- Birand, A. and E. Barany (2007) The stability and invasibility dynamics during and after competitive sympatric speciation. *Evolution 2007*, Christchurch, New Zealand.
- Birand, A. and E. Barany (2007) 40 years later: revisiting the theory of limiting similarity through dynamical systems analysis – of apples, oranges, and going bananas! *Biosymposium*, Department of Biology, NMSU.
- Birand, A. (2007) Conservation prioritization at one of the hottest biodiversity hotspots: the Eastern Himalayas. *Brown Bag seminar*, Department of Biology, NMSU.
- Birand, A. and E. Barany (2006) Bifurcations in Roughgarden's 1972 model and applications to models of evolution (poster presentation) *Genetics of Speciation*, Vancouver, Canada.
- Birand, A. and D. J. Howard (2006) What does rate of speciation mean?: *Calculus 101 for biologists in 12 minutes!* *Biosymposium*, Department of Biology, NMSU.
- Birand, A. (2005) 10 Questions on Founder Effect Speciation: a reassessment. *Brown Bag seminar*, Department of Biology, NMSU.

## Grants:

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|---|-------------|
| Travel Grant for Evolution 2007, New Zealand (ASNMSU & Department of Biology, NMSU)       | 2007        |
| Travel Grant to visit University of Tennessee, Knoxville (Graduate Student Council, NMSU) | 2007        |
| Travel Grant for Genetics of Speciation conference (ASNMSU & Dept. of Biology, NMSU)      | 2006        |
| Ricardo Aguilar-Melantzon Travel Award (NMSU)   | 2005        |
| Following grants for the Survey of amphibians, reptiles, and birds in northeast India     | 2000 - 2001 |
| Chicago Zoological Society (Brookfield, IL) - Conservation and Research Fund              |             |
| Oriental Bird Club (Bedford, UK) - Small Grants Programme                                 |             |
| Bombay Natural History Society (Mumbai, India) - IBCN Programme                           |             |

**Workshops:**

Teaching Scholars: A Course on Teaching From A to Z (Attendee, Teaching Academy, NMSU)	Spring 2008
Publish & Flourish: Become a Prolific Scholar (Team leader, Teaching Academy, NMSU)	Spring 2007
Writing Groups (Attendee, Teaching Academy, NMSU)	Fall 2005

**Service:**

Graduate Student Council Treasurer, NMSU	2006 – 2007
Judge for the Southwestern New Mexico Regional Science and Engineering Fair	2005 - 2007
Organizer of the weekly Brown Bag seminars of the Department of Biology, NMSU	Spring - Fall 2005
Research Volunteer for the Research Association of Forestry & Rural Environments, Ankara, Turkey, surveyed mammals across protected areas in Turkey	1998 – 1999

**Professional Organizations and Affiliations**

American Society of Naturalists  
The Society for the Study of Evolution  
National Geographic Society

**Miscellanea (popular photo-articles and presentations)**

- Birand, A. (2009) Speciation: a love story! NTV Science 2:84-85 (*article in Turkish*).
- Birand, A. (2007) Exploring the dark side: cave diving in Turkey. National Speleological Society – Cave Diving Section workshop: cave diving around the world, Live Oak, Florida (*presentation*).
- Birand, A (2005) Costa Rica - a tropical laboratory. Atlas 153: 76-100 (*article in Turkish, plus photographs*).
- Birand, A (2003) To walk on top of the trees. Mobidik 7:20-27 (*article for kids in Turkish*).
- Birand, A (2003) Unbearable toothaches of the elephants. Mobidik 4:54-61 (*article for kids in Turkish, plus photographs*).
- Birand, A (2002) Himalayan rainforests – invisible things. Atlas 116:102-131 (*article in Turkish, plus photographs*).
- Birand, A (2002) Western Ghats – creatures of the rain. Atlas 117:123-132 (*article in Turkish, plus photographs*).

## References:

Daniel J. Howard, Professor and Dean (Ph.D. major advisor)

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Sergey Gavrilets, Distinguished Professor (Postdoctoral advisor)

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Ernest Barany, Professor (Ph.D. Thesis committee member)

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Mary Ballyk, Assistant Professor (Ph.D. minor advisor)

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Bill Boecklen, Professor (Ph.D. Thesis committee member)

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C. Can Bilgin, Associate Professor (M.S. advisor)

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