

## ARPAT OZGUL

(Date of birth: 21 April 1976)

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Population Ecology Research Group  
Institute of Evolutionary Biology and Environmental Studies  
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### RESEARCH INTERESTS

Population ecology, bio-demography, evolutionary demography, life-history theory, metapopulation dynamics, wildlife disease dynamics, conservation biology

### EDUCATION

- 2006 PhD in Wildlife Ecology & Conservation, University of Florida, Gainesville, Florida
- 2001 MSc in Environmental Sciences, Bosphorus University, Istanbul, Turkey
- 1999 BA in Management, Bosphorus University, Istanbul, Turkey

### EMPLOYMENT

- 2012 - present Assistant Professor of Population Ecology  
Institute of Evolutionary Biology and Environmental Studies, University of Zurich
- 2011 - 2012 Visiting Research Fellow, Darwin College  
Department of Zoology, University of Cambridge
- 2011 - 2012 NERC Advanced Research Fellow  
Division of Ecology & Evolution, Imperial College London
- 2010 - 2011 Postdoctoral Research Associate *supervised by Prof. Tim Clutton-Brock*  
Department of Zoology, University of Cambridge / Darwin College
- 2008 - 2010 Postdoctoral Research Associate *supervised by Prof. Tim Coulson*  
Division of Ecology & Evolution, Imperial College London
- 2006 - 2008 Postdoctoral Research Associate *supervised by Prof. Madan Oli*  
Department of Wildlife Ecology & Conservation, University of Florida
- 2001 - 2006 Graduate Research Assistant *supervised by Prof. Madan Oli*  
Department of Wildlife Ecology & Conservation, University of Florida
- 1999 - 2001 Graduate Research Assistant *supervised by Prof. Andrzej Furman*  
Institute of Environmental Sciences, Bosphorus University

### GRANTS AND AWARDS

- 2014 University of Zurich, Forschungskredit – Postdoc Grant for C. Canale (CHF 70'000)
- 2013 European Research Council - Starting Grant (EUR 1'500'000)
- 2013 Swiss National Science Foundation - Research Grant (CHF 476'638)
- 2013 Marie Curie Actions - Intra-European Fellowship for C. Canale (EUR 184,709)

- 2013 AXA Research Fund for C. Canale (EUR 40,000)
- 2013 University of Zurich, Forschungskredit – Postdoc Grant for G. Cozzi (CHF 100'000)
- 2012 NERC Advanced Research Fellowship, Imperial College London (GBP 323'071)
- 2011 Darwin College Fellowship, University of Cambridge
- 2007 Courtesy Assistant Professor, Wildlife Ecology and Conservation, University of Florida
- 2006 Graduate Student of the Year Award, Sigma Xi, University of Florida Chapter
- 2006 Best Dissertation Award, Dept. of Wildlife Ecology & Conservation, University of Florida
- 2004 Rocky Mountain Biological Labs - Lee R. G. Snyder Fellowship, Gothic, CO
- 2004 Sigma Xi Grant-in-Aid of Research
- 2003 Best Student Presentation Award, The Wildlife Society, Florida Chapter
- 2002 William and Else Jennings Award, University of Florida
- 2001 Rufford Conservation Grant, Whitley Awards Foundation, UK (GBP 5'000)
- 1999 Threatened Species Award, BP Conservation, BirdLife, Flora & Fauna Intl., UK (GBP 5'000)

#### **MEMBERSHIPS**

- Member of the IPHC Scientific Council (since 2014)
- Independent Statistical Consultant, The Wilderness Society (since 2012)
- Scientific Advisor, Panthera (since 2010)
- Scientific Advisor, WWF Project: 'Bat Research in Turkey' (since 2010)
- British Ecological Society (since 2008)
- American Society of Naturalists (since 2006)
- Ecological Society of America (since 2003)
- Evolutionary Demography Society (since 2013)

#### **CURRENT RESEARCH PROJECTS**

- Predicting population responses to environmental change (*funded by ERC & SNF*)
- Seabird life history responses to climate change (*funded by UZH faculty funding*)
- Resurrecting population responses to past environmental changes from lake sediments (*funded by UZH faculty funding*)
- Adaptive responses of hibernating mammals to climate change (*funded by Marie Curie & AXA & FK*)
- Individual strategies, group dynamics and population regulation in cooperative breeders (*funded by FK & UZH faculty funding*)
- Spatial ecology of large carnivores in human-dominated landscapes (*funded by FK & UZH faculty funding*)

## PUBLICATIONS

### In review

- Brooks M, Mugabo M, Rogers G, Benton T, Ozgul A (in 2<sup>nd</sup> review) How well can trait-based demography capture current and past environmental effects? The case of body size in soil mites. **American Naturalist**
- Cozzi G, Börger L, Hutter P, Abegg D, Beran C, Broekhuis F, McNutt J, Ozgul A. (in 2<sup>nd</sup> review) Effect of trophy hunting leftovers on the ranging behaviour of large carnivores: A case study on spotted hyenas. **PLoS ONE**
- Bancila RI, Ozgul A, Hartel T, Sos T, Schmidt RB (in 2<sup>nd</sup> review) Direct negative density-dependence regulating the population dynamics of a pond-breeding frog. **Ecography**

### Peer-reviewed

33. Clements C, Drake J, Griffiths J, **Ozgul A** (in press) Factors affecting the detectability of early warning signals in wild populations. **American Naturalist**
32. **Ozgul A**, Bateman AW, English S, Coulson T, Clutton-Brock TH (2014) Linking body mass and group dynamics in an obligate cooperative breeder, *Suricata suricatta*. **Journal of Animal Ecology** 83: 1357–66
31. English S, Bateman A, Mares R, **Ozgul A**, Clutton-Brock TH (2014) Maternal, social and abiotic environment effects on growth vary across life stages in a cooperative mammal. **Journal of Animal Ecology** 83: 332–342
30. Saether B-E, Coulson T, Grøtan V, Engen S, Altwegg R, Armitage KB, Barbraud C, Becker PH, Blumstein DT, Dobson FS, Festa-Bianchet M, Gaillard J-M, Jenkins A, Jones C, Nicoll MAC, Norris K, Oli MK, **Ozgul A**, Weimerskirch H (2013) How life history influences population dynamics in fluctuating environments. **American Naturalist** 182:743-59
29. Engen S, Saether B-E, Armitage KB, Blumstein DT, Clutton-Brock TH, Dobson FS, Festa-Bianchet M, Oli MK, **Ozgul A** (2013) Estimating the effect of temporally autocorrelated environments on the demography of density-independent age-structured populations. **Methods in Ecology and Evolution** 4:573-584
28. Bateman A, **Ozgul A**, Nielsen J, Coulson T, Clutton-Brock T (2013) Social structure mediates environmental effects on group size in an obligate cooperative breeder, *Suricata suricatta*. **Ecology** 94: 587-597
27. Dietz MS, Murdock CC, Romero M, **Ozgul A**, Fufopoulos J (2013) Distance to a road is associated with reproductive success and physiological stress response in a migratory landbird. **The Wilson Journal of Ornithology** 125: 50-61
26. **Ozgul A**, Coulson T, Reynolds A, Cameron T, Benton T (2012) Population responses to perturbations: the importance of trait-based analysis illustrated through a microcosm experiment. **American Naturalist** 179:582-94
25. Bateman A, **Ozgul A**, Coulson T, Clutton-Brock T (2012) Density dependence in group dynamics of a highly social mongoose, *Suricata suricatta*. **Journal of Animal Ecology** 81:628-39
24. Goswami VR, Getz LL, Hostetler JA, **Ozgul A**, Oli MK (2011) Synergistic influences of phase, density and climatic variation on the dynamics of fluctuating populations. **Ecology** 92:1680-90
23. Armitage KB, Van Vuren DH, **Ozgul A**, Oli MK (2011) Causes of prenatal dispersal in yellow-bellied marmots. **Ecology** 92: 218-27

22. **Ozgul A**, Child DZ, Oli MK, Armitage KB, Blumstein DT, Olson LE, Tuljapurkar S, Coulson T (2010) Coupled dynamics of body mass and population growth in response to environmental change. *Nature* 466: 482-85  
*Reviewed:* Visser M (2010) Fatter marmots on the rise. *Nature* 466: 445-47  
*Featured:* Nature Podcast July 22<sup>nd</sup>, 2010 “Waking up to climate change”
21. Struve J, Lorenzen K, Blanchard J, Börger L, Bunnefeld N, Edwards C, Hortal J, MacCall A, Matthiopoulos JF, Moorther BV, **Ozgul A**, Royer F, Singh N, Yesson C, Bernard R (2010). Lost in space? Searching for directions in the spatial modelling of individuals, populations and species ranges. *Biology Letters* 6: 575–78
20. Ezard T, Bullock J, Dalglish H, Millon A, Pelletier F, **Ozgul A**, Koons D (2010) Matrix models for a changeable world: the importance of transient dynamics in population management. *Journal of Applied Ecology* 47: 515-23
19. Wendland L, Wooding J, White CL, Demcovitz D, Littell R, Berish JD, **Ozgul A**, Oli MK, Klein PA, Christman MC, Brown MB (2010) Social behavior drives the dynamics of respiratory disease in threatened tortoises. *Ecology* 91: 1257-62
18. **Ozgul A**, Tuljapurkar S, Benton TG, Pemberton JM, Clutton-Brock TH, Coulson T (2009) The dynamics of phenotypic change and the shrinking sheep of St. Kilda. *Science* 325: 464-7
17. **Ozgul A**, Oli MK, Bolker BM, Perez-Heydrich C (2009) Upper respiratory tract disease, force of infection, and effects on survival of gopher tortoises. *Ecological Application* 19: 786-98
16. **Ozgul A**, Armitage KB, Blumstein DT, Van Vuren DH, Oli MK (2009) Influence of local demographic processes on the metapopulation dynamics of the yellow-bellied marmot. *American Naturalist* 173: 517-30
15. Borrego N, **Ozgul A**, Armitage KB, Blumstein DT, Oli MK (2008) Spatiotemporal variation in survival of male yellow-bellied marmots. *Journal of Mammalogy* 89: 365–73
14. **Ozgul A**, Oli MK, Olson LE, Blumstein DT, Armitage KB (2007) Spatiotemporal variation in the reproductive rates of the yellow-bellied marmot. *Oecologia* 154: 95-106
13. Getz LL, **Ozgul A**, Oli MK, Hofmann JE, McGuire B (2007) Dynamics of vole populations: Influence of interspecific competition. *Acta Zoologica Sinica* 53: 800-11
12. **Ozgul A**, Armitage KB, Blumstein DT, Oli MK (2006) Spatiotemporal variation in survival rates: Implications for population dynamics of yellow-bellied marmots. *Ecology*, 87: 1027-37
11. **Ozgul A**, Armitage KB, Oli MK, Blumstein DT, Van Vuren DH (2006) Effects of patch quality and network structure on patch occupancy dynamics of a yellow-bellied marmot metapopulation. *Journal of Animal Ecology* 75: 191-202
10. Dodd CK, **Ozgul A**, Oli MK (2006) Influence of disturbance events on survival and dispersal rates of Florida box turtles. *Ecological Applications* 16: 1936–44
9. Blumstein DT, **Ozgul A**, Yovovich V, Van Vuren DH, Armitage KB (2006) Effect of predation risk on the presence and persistence of yellow-bellied marmot (*Marmota flaviventris*) colonies. *Journal of Zoology* 270: 132-38
8. Getz LL, **Ozgul A**, Oli MK, Hofmann JE, McGuire B (2006) Dynamics of vole populations: an experimental evaluation of the influence of food resources. *Acta Zoologica Sinica* 26: 114-22
7. Getz LL, Oli MK, Hofmann JE, McGuire B, **Ozgul A** (2005) Factors influencing movement distances of two species of sympatric voles. *Journal of Mammalogy* 86: 647-54
6. **Ozgul A**, Getz LL, Oli MK (2004) Demography of fluctuating populations: temporal and phase-related changes in vital rates of *Microtus ochrogaster*. *Journal of Animal Ecology* 73: 201-15
5. Blumstein DT, Runyan A, Seymour M, Nicodemus A, **Ozgul A**, Ransler F, Im S, Stark T, Zugmeyer C, Daniel JC (2004) Locomotor ability and wariness in yellow-bellied marmots. *Ethology* 110: 615-34
4. Furman A & **Ozgul A** (2004) The distribution of cave-dwelling bats and conservation status of underground habitats in Northwestern Turkey. *Biological Conservation* 120: 243-48
3. Karatas A & **Ozgul A** (2003) On the occurrence of *Myotis emarginatus* (Geoffroy, 1806) in Turkey (Chiroptera: Vespertilionidae). *Zoology in the Middle East* 28: 17-24

2. Furman A & **Ozgul A** (2002) Distribution of cave-dwelling bats and conservation status of underground habitats in the Istanbul area. *Ecological Research* 17: 69-77
1. **Ozgul A**, Bilgin R, Furman A (2000) Cave-dwelling bats of Çatalca-Kocaeli Region, Northwestern Turkey. *Proceedings of the 8<sup>th</sup> European Bat Research Symposium* (ed. BW Woloszyn) 17: 191-8

#### Theses

**Ozgul A** (2006) Metapopulation dynamics of yellow-bellied marmots. PhD Thesis. University of Florida (Advisor: Prof. Madan K. Oli)

**Ozgul A** (2001) Population distribution of cave-dwelling bat species and conservation status of underground roosts in Northwestern Turkey. MSc Thesis. Bosphorus University (Advisor: Prof. Andrzej Furman)

#### **ACADEMIC SUPERVISION** (\* Current)

- \* Dr. Chris Clements, Postdoc, University of Zurich (2014)
- \* Dr. Mollie Brooks, Postdoc, University of Zurich (2013)
- \* Dr. Cindy Canale, Postdoc, University of Zurich (2013)
- \* Dr. Gabriele Cozzi, Postdoc, University of Zurich (2013)
- Dr. Raluca Bancila, Postdoc, University of Zurich (2013)
- \* Stefan Sommers, Research assistant, University of Zurich (2013)
- \* Sam Cruickshank, PhD student, University of Zurich (2014)
- \* Nino Maag, PhD student, University of Zurich (2014)
- \* Jerome Guelat, PhD student, University of Zurich (2013)
- \* Tina Cornioley, PhD student, University of Zurich (2013)
- \* Koen van Benthem, PhD student, University of Zurich (2013)
- \* Hedwig Ens, PhD student, University of Zurich (2013)
- \* Hannelore Brandt, MSc student, University of Zurich (2014)
- \* Chloé Nater, MSc student, University of Zurich (2014)
- \* Tobias Weber, MSc student, University of Zurich (2014)
- Florin Kunz, MSc student, University of Zurich (2014)
- Cristina Colucci, MSc student, University of Zurich (2013)
- Ruth Fiechter, MSc student, University of Zurich (2013)
- Hannah Froy, MSc student, Imperial College London (2010)
- Sebastien Perceau-Wells, MSc student, Imperial College London (2010)
- Laura Kubasiewicz, MSc student, Imperial College London (2009)
- Shane Donnelly, MSc student, Imperial College London (2009)
- Naomi Zweerus, Undergraduate intern, University of Zurich (2013)
- Conor Waldock, Undergraduate intern, University of Zurich (2013)
- Natalia Borrego, Undergraduate intern, University of Florida (2005)

#### **TEACHING**

Population Ecology (BIO311) – University of Zurich (Spring 2014)

Animal Movement Ecology (ECO304) – University of Zurich (Summer 2013)  
Analysis and Management of Biological Populations (UWW231) - University of Zurich (Fall 2012/13/14)  
Reproduction Biology (BIO361) – University of Zurich (Fall 2012/13)  
Demography & Management - Imperial College London (Fall 2009)  
Wildlife Population Modeling (WIS6466) - University of Florida (Spring 2006)  
Wildlife Population Ecology (WIS4501) - University of Florida (Spring 2004, 2005/07)  
Advanced Topics in Population Ecology (WIS6455) – Uni. of Florida (Spring 2004/05)  
Quantitative Wildlife Ecology (WIS4601C) - University of Florida (Spring 2005/07)  
Generalized Linear Modeling in R – Imperial College London (Spring 2009)  
Analysis and Management of Animal Populations – Uni. of Florida (Spring 2004/06)  
Wildlife Issues (WIS2040) - University of Florida (Fall 2005)  
Quantitative Data Analysis - Bosphorus University (Fall 2001)  
Models & Concepts in Ecology - Bosphorus University (Spring 2000)

### **PROFESSIONAL REVIEWS**

Associate Editor for *Ecology and Evolution*, *Frontiers in Ecology and Evolution*

Reviewed manuscripts for *American Naturalist*; *Biological Conservation*; *Biological Reviews*; *Biology Letters*; *Biotropica*; *Chelonian Conservation and Biology*; *Ecology*; *Ecoscience*; *International Journal of Biometeorology*; *Journal of Animal Ecology*; *Journal of Applied Ecology*; *Journal of Mammalogy*, *Journal of Wildlife Management*; *Landscape Ecology*; *Oecologia*; *Oikos*; *Proceedings of the Royal Society B*; *Wildlife Biology*

Reviewed grants for *EarthWatch*; *Netherlands Organisation for Scientific Research (NWO)*.

### **PHD COMMITTEE MEMBERSHIPS**

Benedikt Gehr (supervised by Lukas Keller)  
Timothee Bonnet (supervised by Erik Postma)  
Christian Kolb (supervised by Marcelo Sanchez)  
Philipp Becker (supervised by Erik Postma)  
Debbie Leigh (supervised by Lukas Keller & Andreas Wagner)  
Wilfredo Falcón (supervised by Dennis Hansen)  
Elizabeth Wiley (supervised by Amanda Ridley, Uni. Of Western Australia)  
Gretchen Wagner (supervised by Michael Griesser)

### **SEMINARS**

*Population responses to environmental change*

2014 BES Annual Symposium  
2014 University of Edinburgh  
2014 University of Amsterdam, Inst for Biodiversity and Ecosystem Dynamics  
2014 University of Göttingen, Dept. Ecology & Ecosystem Research  
2013 Inaugural Talk, University of Zurich

*Coupled dynamics of populations and phenotypic traits in changing environments*  
2013 Mathematics Village, Şirince, İzmir

- 2013 CNRS Center, Chize  
 2013 Swiss Federal Institute of Aquatic Science and Technology (EAWAG)  
 2013 University of Fribourg, Department of Biology  
 2013 University of Vienna, Department of Integrative Biology and Evolution  
 2013 University of Lausanne, Department of Ecology and Evolution  
 2013 Swiss Ornithological Institute (Vogelwarte), Sempach  
 2011 Darwin College, Cambridge  
 2011 Microsoft Research, Cambridge  
 2011 University of Sheffield, Animal and Plant Sciences  
 2011 University of Cambridge, Department of Zoology  
 2011 University of Zurich, Evolutionary Biology and Environmental Studies  
 2011 University of Montana, Wildlife Biology Program  
 2011 Brown University, Ecology & Evolutionary Biology
- Demographic and phenotypic signals of impending population change*  
 2013 Evolutionary Demography Symposium, Odense  
 2013 European Research Council, Brussels  
 2013 Eco-evolutionary Dynamics Workshop, Lorentz Center, Leiden  
 2011 Natural Environment Research Council, Swindon
- Linking trait and group dynamics in social breeders*  
 2011 University of Cambridge, Department of Zoology
- A spatially-structured matrix population model: Vec-permutation matrix approach*  
 2013 University of Zurich, Animal Movement Ecology Workshop  
 2010 Imperial College London, Spatial Ecology Workshop
- Bio-demographic methods in population ecology and evolutionary biology*  
 2012 Istanbul University, Ecology & Evolution Workshop  
 2009 Istanbul Technical University, Ecology & Evolution Workshop  
 2009 Istanbul Technical University, Dept. of Molecular Biology & Genetics
- The dynamics of phenotypic change and the shrinking sheep of St. Kilda*  
 2009 University of Aberdeen, Inst. of Biological and Environmental Sciences  
 2009 University of Florida, Dept. of Wildlife Ecology and Conservation  
 2009 University of Lyon, Ecology and Evolution Dept.  
 2009 Imperial College London, Center for Population Biology  
 2008 Bosphorus University, Environmental Sciences Dept.  
 2008 University of Cambridge, Department of Zoology
- Influence of local demography on asymptotic and transient dynamics of a yellow-bellied marmot metapopulation*  
 2008 "Populations Under Pressure" Symposium, Imperial College London (Poster)  
 2007 Ecological Society of America Meeting, San Jose, California  
 2005 Ph.D. Exit Seminar, University of Florida
- Effects of upper respiratory tract disease in gopher tortoise populations in Florida - populations in transition*  
 2006 Ecology of Infectious Diseases - NSF Meeting, Atlanta, Georgia (Poster)
- Spatiotemporal variation in vital rates: Implications for population dynamics of yellow-bellied marmots*  
 2006 Florida Wildlife Society Meeting, Cocoa Beach, Florida (by Borrego N)  
 2005 Ecological Society of America Meeting, Montreal, Canada  
 2005 Wildlife Graduate Student Seminar, University of Florida
- Patch occupancy dynamics of a yellow-bellied marmot metapopulation*  
 2004 Florida Wildlife Society Meeting, Mount Dora, Florida  
 2004 Rocky Mountain Biological Laboratory, Gothic, Colorado
- Demography of fluctuating vole populations*  
 2003 Ecological Society of America Meeting, Savannah, Georgia  
 2003 Florida Wildlife Society Meeting, Vero Beach, Florida  
 2003 Rocky Mountain Biological Laboratory, Gothic, Colorado  
 2003 Wildlife Graduate Seminar, University of Florida

*Population distribution of cave-dwelling bats and conservation status of underground roosts in NW Turkey*

2002 Wildlife Graduate Seminar, University of Florida

2001 MSc Exit Seminar, Bosphorus University, Istanbul

1999 BP Conservation Programme, London, UK

1999 European Bat Research Symposium, Krakow, Poland (Poster)

1999 'Research and Development in Turkey' Symposium, Istanbul, Turkey (Poster)

## **WORKSHOPS**

2013 "Evolutionary Mathematics" Workshop, Mathematics Village, Şirince, İzmir

2013 "Animal Movement Ecology" Workshop, University of Zurich

2013 Teaching Workshop for Starting Professors, University of Zurich

2013 "Eco-evolutionary Dynamics in a Changing World" Workshop, Lorentz Center, Leiden

2012 Ecology & Evolution Workshop, Istanbul University

2011 Evolutionary Adaptations to Environmental Change, University of Zurich

2010 Spatial Ecology Workshop, Imperial College London

2009 Ecology & Evolution Workshop, Istanbul Technical University

2009 Planning for an Academic Career, Imperial College London

2008 Ecology & Evolution Seminar Series (Organizer), Imperial College London

2008 Linking Ecological and Evolutionary Dynamics II, Imperial College London

2008 Populations Under Pressure, Imperial College London

2008 Linking Ecological and Evolutionary Dynamics I, Imperial College London

2007 IFAS Grant Writing Workshop, University of Florida

2007 Analysis and Management of Animal Populations, Uni. of Florida

2006 Teaching Excellence Workshop, University of Florida

2006 Model Selection and Inference in Ecology, University of Central Florida

1999 Wildlife Management Workshop - The Society for Protection of Nature, Adana, TR

1999 Biological Surveys Workshops, Expedition Advisory Centre, London, UK

## **PUBLISHED PHOTOGRAPHY**

Wildlife photography work ([www.arpac.net/randfx](http://www.arpac.net/randfx)) published in several scientific journals (Ecology, Ecological Applications, Science, Nature, TREE, Functional Ecology, Cell, Evolutionary Biology, Molecular Ecology) and over 300 international newspapers and magazines (incl. BBC, CNN, New York Times, Time, Guardian, The Scientist, Encyclopædia Britannica).

## **POPULAR ARTICLES**

**Ozgul A** (2013) What has evolution got to do with maths? Cumhuriyet Bilim ve Teknoloji Magazine [Turkish]

**Ozgul A** (2010) Backyards of ecology and evolution. NTV Bilim Magazine 19: 52-56 [Turkish]

**Ozgul A** (1998) Peynirlikönü Sinkhole Expedition: 7<sup>th</sup> deepest cave of the world (-1377m). Atlas Magazine 41: 57-71 [Turkish]