

## Esra DURMAZ MITCHELL, PhD

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### PERSONAL INFORMATION

Date/Place of birth	01 July 1986, Ankara, Turkey
Citizenship	Republic of Turkey
Languages	Turkish (native), English (advanced), French (intermediate), Danish (basic)
Programming Languages	R, Python, Bash

### EDUCATION

2013 – 2017	<b>Ph.D.</b> in Life Sciences, University of Lausanne, Department of Ecology and Evolution, Lausanne, Switzerland  <i>Effects of Clinal Polymorphisms on Drosophila Life History</i> <i>Advisors: Prof. Thomas Flatt &amp; Prof. Tadeusz Kawecki</i>
2009-2012	<b>M.Sc.</b> in Biology, Hacettepe University, Department of Biology, Ankara, Turkey  <i>A study of sexual maturity, offspring number and mating behavior characteristics in genetically different natural isofemale lines of Drosophila subobscura from Turkey</i> <i>Advisors: Ass. Prof. Ergi Deniz Özsoy &amp; Prof. Therese Ann Markow</i>
2004-2009	<b>B.Sc.</b> in Biology, Hacettepe University, Department of Biology, Ankara, Turkey

### RESEARCH AND WORK EXPERIENCE

2022 – now	<b>Post-Doctoral Fellow</b> , University of Southern Denmark, Department of Biochemistry and Molecular Biology
2022 – 2022	<b>Senior Researcher</b> , University of Fribourg, Department of Biology
2017 – now	<b>Teaching assistant</b> , University of Fribourg, Department of Biology
2017 – 2022	<b>Post-Doctoral Research Fellow</b> , University of Fribourg, Department of Biology
2014	<b>Visiting Scholar</b> , University of Pennsylvania, Department of Biology
2014	<b>Visiting Scholar</b> , Oxford Brookes University, Department of Biological and Medical Sciences
2013 – 2017	<b>PhD Candidate</b> , Department of Ecology and Evolution, University of Lausanne
2013 – 2017	<b>Teaching assistant</b> , University of Lausanne, Department of Ecology and Evolution

2010 **Visiting Scholar**, University of California San Diego, Division of Biological Sciences  
 2009 – 2012 **Teaching assistant**, Hacettepe University, Department of Biology

## **PUBLICATIONS**

### **IN PROGRESS**

Rodrigues MA, Paris M, Kapun M, **Durmaz E**, Kerdaffrec E, Flatt T. “The transcriptional underpinnings of the trade-off between reproduction and somatic maintenance in *Drosophila melanogaster*”, *pdf available upon request*.

Kapun M, **Durmaz E**, Kawecki T, Schmidt P, Flatt T. “An ancestrally tropical balanced inversion polymorphism confers global adaptation to warm climate”, *pdf available upon request*.

**Durmaz E**, DrosEU Consortium, et al. “Patterns of phenotypic variation in European populations of *Drosophila melanogaster*”, *in preparation*.

**Durmaz E**, Kapun M, Kawecki T, Flatt T. “Allelic competition and experimental evolution in *foxo*: how do clinal polymorphisms react to thermal adaptation?”, *in preparation*.

**Durmaz E**, Kerdaffrec E, Paris M, Katsianis G, Kapun M, Flatt T. “Testing evolutionary forces maintaining a clinal inversion polymorphism”, *in preparation*.

**Durmaz E**, Kerdaffrec E, Schmidt P, Flatt T. “Experimental evolution of an adaptive inversion polymorphism”, *in preparation*.

**Durmaz E**, Kerdaffrec E, Kittelmann S, Flatt T. “Transcriptional landscape and chromosome accessibility of a clinal chromosomal inversion in *Drosophila*”, *in preparation*.

Onder BS, **Durmaz E**, Demir E, Flatt T. “Seasonal reaction norms for pre-adult life history traits in *Drosophila melanogaster*”, *in preparation*.

### **PUBLISHED**

Rodrigues MA, Merckelbach A, **Durmaz E**, Kerdaffrec E, Flatt T. “Transcriptomic evidence for a trade-off between germline proliferation and immunity in *Drosophila*”, *Evolution Letters*, 2021; doi:10.1002/evl3.261.

Özsoy E, Yılmaz M, Patlar B, Emecen G, **Durmaz E**, Magwire MM, Zhou S, Anholt RRH, Mackay TFC. “Epistasis for head morphology in *Drosophila melanogaster*”, *G3 Genes|Genomes|Genetics*, 2021; 11:10–jkab285.

Betancourt N, Rajpurohit S, **Durmaz E**, Fabian DK, Kapun M, Thomas F, Schmidt P. Allelic polymorphism at *foxo* contributes to local adaptation in *Drosophila melanogaster*, *Molecular Ecology*, 2021; 00:1–14.

**Durmaz E**, Kerdaffrec E, Katsianis G, Kapun M, Flatt T. “How does selection act on chromosomal inversions?”, *eLS (Encyclopaedia of Life Sciences)*, 2020; 1, 307–315.

**Durmaz E**, Rajpurohit S, Betancourt N, Fabian DK, Kapun M, Schmidt P, Thomas F. A clinal polymorphism in the insulin signaling transcription factor *foxo* contributes to life-history adaptation in *Drosophila*, *Evolution*, 2019; 73-9(5):1774-1792.

**Durmaz E**, Benson C, Kapun M, Schmidt P, Flatt T. An inversion supergene in *Drosophila* underpins latitudinal clines in survival traits, *Journal of Evolutionary Biology*, 2018; 31(9):1354-1364.

**Durmaz E**. The Effects of Clinal Polymorphisms on *Drosophila* Life History, PhD Thesis, 2017; University of Lausanne Open Archive.

Kapun M, Schmidt C, **Durmaz E**, Schmidt PS, Flatt T. Parallel effects of the inversion *In(3R)Payne* on body size across the North American and Australian clines in *Drosophila melanogaster*, *Journal of Evolutionary Biology*, 2016; 29(5):1059-72.

Demirci B, **Durmaz E**, Alten B. Influence of Bloodmeal Source on Reproductive Output of the Potential West Nile Vector, *Culex theileri* (Diptera: Culicidae), *Journal of Medical Entomology*, 2014, 1;51(6):1312-6.

### **PRESENTATIONS AT CONFERENCES/ MEETINGS**

**Durmaz E**, Kerdaffrec E, Flatt T. “The forces maintaining a balanced inversion polymorphism”, ESEB 2022, August 2022, Prague, Czech Republic – poster presentation

**Durmaz E**, “Phenotyping WG updates – Analyses”, 12<sup>th</sup> DrosEU/DEST Workshop, June 2022, Belgrade, Serbia / online – invited speaker, chair

**Durmaz E**, “Phenotyping WG – Release of analyses”, DrosEU WG Meeting, February 2022, Switzerland / online – chair – *GitHub access available upon request*

**Durmaz E**, Kerdaffrec E, Flatt T. “Experimental Evolution of an Adaptive Inversion Polymorphism”, Evolution 2021, June 2021, USA / online – oral presentation

**Durmaz E**, “Phenotyping WG updates – data”, 11<sup>th</sup> DrosEU Workshop, June 2021, Europe / online – invited speaker, chair – *GitHub access available upon request*

Kerdaffrec E, **Durmaz E**, Katsianis G, Flatt T. “Testing evolutionary forces maintaining a clinal inversion polymorphism”, Evolution 2021, June 2021, USA / online – contribution, oral presentation

**Durmaz E**, Kerdaffrec E, Flatt T. “Experimental Evolution of an Adaptive Inversion Polymorphism”, 62nd Annual Drosophila Research Conference, March 2021, Genetic Society of America, USA / online – poster presentation

**Durmaz E**. “The DrosEU phenotyping collaboration”, A community-based approach to understanding *Drosophila* Evolution through Space and Time (DEST) Workshop, 62nd Annual Drosophila Research Conference, March 2021, Genetic Society of America, USA / online – invited speaker, chair

**Durmaz E**. “Patterns of Clinal adaptation in *Drosophila*”, Behaviour, Ecology, Environment and Evolution Seminar, University of Zurich, March 2021, Zurich, Switzerland / online – invited speaker

**Durmaz E**. “*Drosophila*’da enlemişler ve adaptasyon” (in Turkish), University of Hacettepe, Department of Biology, January 2021, Ankara, Turkey / online – invited guest lecturer for Genetics

Kerdaffrec E, **Durmaz E**, Katsianis G, Flatt T. “Testing evolutionary forces maintaining a clinal inversion polymorphism”, The Swiss Conference for Organismic Biology 2020, February 2020, Fribourg, Switzerland – contribution, oral presentation

**Durmaz E**. “Clinal adaptation in *Drosophila*”, 14<sup>th</sup> Aykut Kence Evolution Conference, January 2020, Ankara, Turkey – invited speaker for academic session

**Durmaz E**. “Adaptasyon genetiği” (in Turkish), 14<sup>th</sup> Aykut Kence Evolution Conference, January 2020, Ankara, Turkey – invited speaker for public session

**Durmaz E**, Kerdaffrec E, Katsianis G, Flatt T. “Testing evolutionary forces maintaining a clinal inversion polymorphism”, European Drosophila Research Conference (EDRC), September 2019, Lausanne, Switzerland – poster presentation

Demir E, Yagli SS, **Durmaz E**, Onder BS. “Seasonal immune response in a *Drosophila melanogaster* population”, The Congress of the European Society for Evolutionary Biology (ESEB), August 2019, Turku, Finland – contribution, poster presentation

**Durmaz E**, Kerdaffrec E, Katsianis G, Flatt T. “Testing evolutionary forces maintaining a clinal inversion polymorphism”, The Congress of the European Society for Evolutionary Biology (ESEB), August 2019, Turku, Finland – poster presentation

**Durmaz E**, Benson C, Kapun M, Schmidt P, Flatt T. “An inversion supergene in *Drosophila* underpins latitudinal clines in survival traits”, The Swiss Conference for Organismic Biology 2019, February 2019, Zurich, Switzerland – poster presentation

**Durmaz E.** “A clinal polymorphism at *foxo* contributes to life-history adaptation in *Drosophila*”, Society of Molecular Biology and Evolution (SMBE) Satellite Meeting, February 2019, Vienna, Austria – oral presentation (canceled)

**Durmaz E.** “The effects of clinal polymorphisms on *Drosophila* life history”, University of Hacettepe, Department of Biology, January 2019, Ankara, Turkey / online – invited guest lecturer for Genetics

**Durmaz E**, Benson C, Kapun M, Schmidt PS, Thomas F. “A clinal inversion in *Drosophila* represents a life-history supergene”, II Joint Congress on Evolutionary Biology, August 2018, Montpellier, France – poster presentation

**Durmaz E**, Benson C, Kapun M, Schmidt PS, Thomas F. “A clinal inversion in *Drosophila* represents a life-history supergene”, Ecology and Evolutionary Biology Symposium, July 2018, Izmir, Turkey – oral presentation

**Durmaz E**, Benson C, Kapun M, Schmidt PS, Thomas F. “Effects of a clinal inversion on thermal life-history reaction norms in *Drosophila melanogaster*” 16th Congress of the European Society for Evolutionary Biology (ESEB), August 2017, Groningen, Netherlands – poster presentation

**Durmaz E**, Rajpurohit S, Betancourt N, Schmidt PS, Thomas F. “A clinal polymorphism in insulin signaling has pleiotropic effects on *Drosophila* life history” Evolution Meeting, June 2016, Austin, Texas, USA – oral presentation

**Durmaz E**, Rajpurohit S, Betancourt N, Schmidt PS, Thomas F. “A clinal polymorphism in insulin signaling has major pleiotropic effects on *Drosophila* life history” The Swiss Conference for Organismic Biology 2016, February 2016, Lausanne, Switzerland – poster presentation

**Durmaz E**, Rajpurohit S, Betancourt N, Schmidt PS, Thomas F. “A clinal polymorphism in insulin signaling has major pleiotropic effects on *Drosophila* life history”, European Society for Evolutionary Biology (ESEB) XV meeting, August 2015, Lausanne, Switzerland – oral presentation

**Durmaz E**, Rajpurohit S, Betancourt N, Schmidt PS, Thomas F. “A clinal polymorphism in insulin signaling has major pleiotropic effects on *Drosophila* life history”, Swiss *Drosophila* Meeting, 2015 April, Lausanne, Switzerland – poster presentation

**Durmaz E**, Rajpurohit S, Betancourt N, Schmidt PS, Thomas F. “Testing the Life History Effects of SNP Polymorphisms as Identified by an NGS Analysis of a Latitudinal Cline in *Drosophila*”, Eukaryotic –Omics: Exploring and testing with next-generation sequencing, April 2014, Geneva, Switzerland – invited speaker

Hiroto Kameyama H, **Durmaz E**, Hanna G, Markow T. “Sperm length predicts female sperm loads in *Drosophila* species in the wild”, 54th Annual *Drosophila* Research Conference, April 2013 Washington, DC. USA – contribution, poster presentation

**Durmaz E**, Ozsoy E, Markow T. “The effect of mating status on environmental stress factors in genetically different natural populations of *Drosophila subobscura* (*Drosophilidae*, *Diptera*)”, 21th National Congress of Biology, September 2012, Izmir, Turkey – poster presentation

## **TEACHING RESPONSIBILITIES**

2018 – now	Experimental Ecology – University of Fribourg
2018 – 2020	Advanced Topics in Ecology and Evolution – University of Fribourg
2018 – 2019	Biological Invasions and Trophic Interactions – University of Fribourg
2017	Introduction to Scientific Writing, Experimental Design, Evolution of Life History and Aging – University of Lausanne
2016	Molecular Genetics, Zoology, Microbiology, Introduction to Scientific Writing, Experimental Design, Evolution of Life History and Aging – University of Lausanne
2015	Molecular Genetics, Zoology, Introduction to Scientific Writing, Experimental Design, Evolution of Life History and Aging – University of Lausanne

- 2014 Molecular Genetics, Zoology, Introduction to Scientific Writing, Evolution of Life History and Aging – University of Lausanne
- 2013 Molecular Genetics, Zoology – University of Lausanne

### **SCHOLARSHIPS AND AWARDS**

- 05/2016 Travel grant, Fondation l'Université de Lausanne

### **MEMBERSHIP IN PROFESSIONAL SOCIETIES/CONSORTIA**

- DrosEU (European Drosophila Population Genetics Consortium)
- ESEB (European Society for Evolutionary Biology)
- EKOEVO (Ecology and Evolutionary Biology Society of Turkey)
- 500WS (500 Women in Science Fribourg/Bern Pod)
- SMBE (Society of Molecular Biology and Evolution)

### **TRAINING AND SUPERVISION OF STUDENTS**

- 2022 Charlotte Suter, B.Sc. Thesis Project, University of Fribourg
- 2021 Cécile Spichtig, B.Sc. Thesis Project, University of Fribourg
- 2019 – 2021 Thibault Schowing, Training for lab assistantship, University of Fribourg
- 2020 Sarah Descloux, Training for lab assistantship, University of Fribourg
- 2020 Florian Baumgartner, B.Sc. Thesis Project, University of Fribourg
- 2019 – 2020 Ekin Demir, M. Sc. Thesis co-advisor, Hacettepe University
- 2019 Virginie Thieu, Training for lab assistantship, University of Fribourg
- 2018 Jeanne Bruelhart, B.Sc. Thesis Project, University of Fribourg
- 2016 - 2017 Clare Benson, Erasmus Program M.Sc. Placement, University of Lausanne

### **REVIEWER SERVICE**

*Scientific Reports, Molecular Ecology, Evolution, Evolution – Digests, Entomological Science, Molecular Genetics and Genomics, Journal of Gerontology*

### **ADVANCED TRAINING**

- 03/2022 Train the trainer, ELIXIR-GOBLET-SIB, Switzerland
- 06/2021 Increase your assertiveness in institutional power games, REGARD, Switzerland
- 02/2021 Facilitation techniques for working groups, REGARD, Switzerland
- 01/2021 Version control with Git, Swiss Institute of Bioinformatics, Switzerland
- 11/2015 Project Management for Research, Lausanne, Switzerland

03/2015	Time Management and Effectiveness, Lausanne, Switzerland
12/2014	Scientific Writing Clinic, Neuchatel, Switzerland
09/2014	Visiting scientist at McGregor Lab, training on embryonic injections and CRISPR/Cas9 genome editing techniques, Oxford Brookes University, Oxford, UK
04/2014	Visiting scientist at Schmidt Lab, training in geometric morphometric techniques, University of Pennsylvania, PA, USA

### **OTHER RESPONSIBILITIES**

2022 – now	Member of Transcriptomics and Protein Evolution Working Group, DrosEU
08/2022	Co-organiser of “Integrating -omics approaches for eco-evolutionary research” Summer School, DrosEU/European Society of Evolutionary Biologist Special Topics Network, Prague, Czech Republic
2020	Student/Postdoc Interview Committee for Professorship position at the Department of Biology, University of Fribourg
2019 – now	Co-Leader of e-bulletin Working Group, EKOEVO
2019 – now	Co-Leader of Finances Working Group, 500WS Fribourg/Bern Pod, Switzerland
2019 – now	Co-Founder of 500WS Fribourg/Bern Pod, Switzerland
2018 – now	Co-Leader of Phenotyping and Functional Genetics Working Group, DrosEU
2018 – now	Member of Clinal and Seasonal Variation Working Group, DrosEU
2018 – now	Member of Population Genetics Working Group, DrosEU
2018 – now	Member of Gender Equality Working Group, EKOEVO
2019 – 2020	Organizational help for The Swiss Conference for Organismic Biology 2020
2019	Co-organiser of “The temporal dynamics of evolution” Symposium, Fribourg Ecology and Evolution Days, Fribourg, Switzerland
2018	Organizational help for The Annual Swiss <i>Drosophila</i> meeting, Fribourg, Switzerland
2015- 2017	PhD Representative on the behalf of University of Lausanne, CUSO DPEE
2015	Organizational help for European Society for Evolutionary Biology (ESEB) XV meeting, Lausanne, Switzerland
2014-2015-2016	Mysteres de UNIL, Lausanne, Switzerland – Participation in public outreach event organization
2011-2012	Co-organiser of the 1 <sup>st</sup> /2 <sup>nd</sup> Student Congress of Evolutionary Biology, Hacettepe University, Ankara, Turkey

**ACADEMIC REFEREES AND MENTORS**

**Prof. Thomas Flatt**

Department of Biology, University of Fribourg  
Chemin du Musée 10 CH-1700 Fribourg, Switzerland  
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phone: +41 26 300 8833

**Prof. Josefa González**

Institute of Evolutionary Biology (CSIC-UPF)  
Passeig Marítim de la Barceloneta 37-49/ 08003 Barcelona, Spain  
e-mail : josefa.gonzalez@ibe.upf-csic.es  
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**Dr. Martin Kapun**

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Burgring 7, 1010 Wien, Austria  
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