

Telma G. Laurentino

Evolutionary biologist

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www.telma-laurentino.netlify.app

Interested in multidisciplinary studies on Evolution of natural populations & Holistic Inclusive Education

Natural selection • Adaptation • Genomics • Outreach • Diversity • Belonging

Education

Post-Doc

Sep. 2020 - Present

University of California, Berkeley, USA

Research: *Genomics of rapid & repeated adaptation*

Supervision: Prof. Erica Bree Rosenblum

Ph.D.

Jul. 2016 – Apr. 2020

University of Basel, Switzerland

Dissertation: *Adaptation genomics of three-spine Stickleback fish*

Supervision: Dr. Daniel Berner & Prof. Walter Salzburger

summa cum laude

MSc

Sep. 2012 – Sep. 2015

Faculty of Sciences, University of Lisbon, Portugal

Evolutionary biology and Development

Thesis: *Assessing the speciation continuum in the Iberian lizard Timon lepidus.*

Supervision: Prof. Octávio Paulo

Graded excellent

BSc

Sep. 2008 – Jun. 2012

Faculty of Sciences, University of Lisbon, Portugal

Biology - 3rd year specialization in EvoDevo

Grants & Approved research projects

Oct. 2021

500 USD

IB sci-comm mini-grants

The multisensory (hi)story of the White Sands lizards

Co-organized with Maggie Grundler (UC Berkeley, USA)

Mar. 2021 - present

81'500 CHF

SNSF Early Postdoc.Mobility fellowship (P2BSP3_195698)

"Dissecting the whole genome landscape of repeated rapid adaptation"

Post-Doc

Rosenblum Lab, ESPM, UC Berkeley, USA

Oct. 2019

1420 EUR

ESEB outreach initiative funds

"To the bones!" An haptic experience of vertebrate evolution

Co-authorship with Dr. Astrid Boehne (Museum Koenig, Germany)

Sep. 2019

317 CHF

Travel grant from the University of Basel

For two oral presentations at ESEB 2019, Turku, Finland

Sep. 2019

33' 086 CHF

Nikolaus und Bertha Burckhardt-Bürgin Stiftung for PhD thesis completion

PhD research extension (additional 8 months)

Jun. 2019

230 EUR

APBE Outreach grant

"Game of Branches : Extinction is coming"

Host: Hellen Keller inclusive school, Lisbon, Portugal

Feb. 2019

1000 CHF

Travel grant from the Swiss Zoological Society (SZS)

For conference attendance

Feb. 2019

1000 USD

Aug. 2018

1087 CHF

Jun. 2019

500 EUR

Mar. 2017

8000 CHF

Sep. 2017

710 CHF

Aug. 2015

200 GBP

Sep. 2013

3000 EUR

Oct. 2011 - Sep. 2012

1900 EUR

Jun. – Oct. 2011

2500 EUR

SSE grant for local and regional outreach

“evALLution: evolution for all, through multisensory activities”

Host: Association for the Teaching of the Blind, Lisbon, Portugal

Travel grant from the University of Basel

For an oral presentations at Stickleback'18, Kyoto, Japan

APBE Outreach grant

“evALLution: evolution for all!”

Host: Association for the Teaching of the Blind, Lisbon, Portugal

Career program antelope@university 20218

Excellence equity grant for skill development of female researchers

Travel grant from the University of Basel

For an oral presentations at ESEB XVI, Groeningen, The Netherlands

Travel scholarship from the British Ecology Society

For the TBA 2015 Tropical Ecology course, held in Uganda

ESEB organizer productivity prize

Totality of funds applied towards MSc genetic work

Student research Grant Universidade de Lisboa/Fundação Amadeu Dias

“Assessing the influence of Ranavirus on the Age structure of Bosca's newt using skeletochronology”

Host: CE3C – Center for Ecology, Evolution and Environmental Change, Lisbon, Portugal;

Supervision: Dr. Gonçalo M. Rosa & Prof. Rui Rebelo

FCT Techni2cal assistant Grant

Genetics labwork and fish bioterium maintenance

“A genetic and environmental approach in the resolution of the sex paradox in the Squalius alburnoides complex”

Supervision: Prof. Dr. M. M. Coelho Trancoso & Dr. Isa Matos

Teaching & Mentorship

Aug. – Nov. 2021

Instructor

ESPM 139 “ The Environment and the Self: and Eco practicum”

UC Berkeley, USA

Student level: graduate

Guided discussion and reflection on scientific and philosophical material on engaging with the environmental crisis

Mar. - Apr. 2018

Supervisor

Block course of Zoology and Evolution

University of Basel, Switzerland

Student level: senior year Biology BSc

Supervision and guidance on project design, laboratory work and project presentation.

Apr. 2018 - Sep. 2019

Supervisor

MSc research project co-supervisor (with Dr. Daniel Berner)

University of Basel, Switzerland

Alicia Welti

‘The genetic basis of lateral plate height in stickleback fish’

Mar. - Apr. 2018

Supervisor

Block course of Zoology and Evolution

University of Basel, Switzerland

Student level: senior year Biology BSc

Supervision and guidance on project design, laboratory work and project presentation.

May. 2017 - Sep. 2018

**Assistant
supervisor**

MSc research project assistant supervisor (with Dr. Daniel Berner)

University of Basel, Switzerland

Mirjam Bissegger

'Widespread intersex differentiation across the stickleback genome – the signature of sexually antagonistic selection?'

Oct. – Dec. 2017

Instructor

General Biology “Einführung in die Biologie”

University of Basel, Switzerland

Student level: 1st year Biology BSc

Lectures on: molecular biology, heredity, cellular biology, development, ecology and evolution

Oct. 2015

Instructor

Introduction to population genomics – RADseq. approaches

Faculty of Sciences, University of Lisbon, Portugal

Student level: MSc in Computational biology & genomics

1 theoretical & practical lecture on population genomics and GWAS

Outreach activities

Jan./Feb. 2022

3rd GRADERS

Skype a Scientist

Virtual interactive lectures about the tree of life - adapted to class-specific 3rd grade curriculum

Sep. 2021

GENERAL PUBLIC

A Scientist just like me!

Primary Science Teaching Trust, UK

Virtual project to raise awareness of diversity in science-related jobs and to provide illustrated examples of a wide range of science-based careers

Jul. 2021

**CHILDREN WITH
BLINDNESS**

Feeling the White Sands' history

New Mexico School for the Blind, USA

Production of multisensory scripts for inclusive guided tours to the white sands national park

Jun. 2021

MIDDLE SCHOOL

The artistic Tree of Life

Hellen Keller inclusive school, Portugal

Virtual project of building a phylogeny with students' artistic depictions of endangered species and discussion of speciation & common ancestry

Feb. 2021

GENERAL PUBLIC

“I’m a Scientist” – virtual public gallery

To celebrate the international day of girls and women scientists & Black history month

@1mascientist on Instagram

Apr. 2020

CHILDREN

Skype a Scientist (COVID-19 relief efforts)

Interactive virtual lectures with children (5 to 12 y.o.)

Apr. 2020

GENERAL PUBLIC

Writer for Nature Ecology and Evolution ‘Behind the paper’ blog

Article titled “Chasing Selection”

Jun. 2018*

**PEOPLE WITH
BLINDNESS**

evALLution: a multisensory tree-of-life

Grant holder, project designer and main organizer of multisensory activities, making fundamental evolution concepts accessible to the blind community

(*ongoing: collabs so far: Association for the Teaching of the Blind; Helen Keller school)

Apr. 2020

GENERAL PUBLIC

Writer for the SSE (Society for the Study of Evolution) Community Blog

“evALLution: 3 lessons the blind community taught us about inclusive teaching of evolution”

May. 2017 to
Apr. 2019

GENERAL PUBLIC

Writer and creative for SciFive the University of Basel Medium platform

Several written articles and outreach comic book design

<https://medium.com/@telma.laurentino>

May. 2012

GENERAL PUBLIC

Jun. 2011 to
Mar. 2015

PRIMARY SCHOOL

Public communication

"Society without biodiversity: a XXI century dystopia"
Faculty of Sciences of the University of Lisbon.

Didactic activities on biodiversity, nature conservation and evolution

Main focus: reptiles, amphibians, evolution
Public: children (3-10 y.o.)
EB1/JI Jorge Mineiro, Portugal

Invited talks

Jan. 2022

Faculty of Sciences, University of Lisbon, CE3C

Seminars in Evolutionary Biology and Development (MSc)
"Into the genomic wild! What can we learned about natural selection from a release-recapture experiment"

Oct. 2019

Federal University of Viçosa, Brazil

Invited seminar
"Evolutionary forces and biodiversity – the role of Selection"

Oct. 2018

Museum of Vertebrate Zoology @ Berkeley University, California

MVZ lunch seminar
"Observing evolution: Adaptation stories told by the genomes of lizards and stickleback fish"

Apr. 2016

Zoological Institute @ University of Basel, Switzerland

Invited seminar
"Dorsos are green, eyespots are blue, does natural selection shape you?"

Conference contributions

Dec. 2021

TALK

XVII ENBE 2021, Portugal (virtual)

"evALLution: translating evolution into touch, making evolution accessible for people with blindness"

Aug. 2019

TALK

ESEB 2019, Turku, Finland

I) *"Wild wild test: Release-recapture genomic experiment reveals within-generation polygenic adaptation in stickleback fish"*

II) *"evALLution: Can we make fundamental evolution concepts accessible to the blind community?"*

Jul. 2018

TALK

Stickleback'18, Kyoto, Japan

"Watching evolution: Exploring the tempo and mode of adaptation by combining historical and real-time genomic shifts in lake-stream stickleback"

Aug. 2017

TALK

ESEB 2017, Groningen, The Netherlands

"Into the genomic wild: exploring real-time selective allele frequency shifts in stickleback through a release experience"

Feb. 2017

POSTER

Biology'17, Bern, Switzerland

"Into the genomic wild: exploring real-time selective allele frequency shifts in stickleback through a release experience"

Feb. 2016

TALK

Biology'16, Lausanne, Switzerland

"Dorsos are green. Eyespots are blue. Does natural selection shape you?"

Dec. 2015

POSTER

XI ENBE, Lisbon, Portugal

"May the Selection be with you" The interplay of evolutionary forces in the speciation of Timon lepidus"

Dec. 2014

POSTER*
Best poster award

CE3C junior researcher meeting, Lisbon, Portugal

"Dorsos are green. Eyespots are blue. Does natural selection shape you?"

Dec. 2012

POSTER

TiBE: Integrative Approaches in Evolutionary Biology, Porto, Portugal

*"Influence of Ranavirus on the age structure of Bosca's newts (*Lissotriton boscai*)"*

Conference organization

Apr. 2016

II Darwin's legacy tea party @ Faculty of Sciences, University of Lisbon

Main organizer, Fund raiser, scientific content curator, delegate assistance, event outreach

Content: 6 multidisciplinary talks, final debate

https://www.youtube.com/watch?v=Z6dxix3_RW4&t=114s

Oct. 2015

Public debate: Does evolutionary theory need a re-think?

Main organizer, delegate assistance, event outreach and promotion

https://www.youtube.com/watch?v=l39d_Fortzg&t=23s

Apr. 2015

Darwin's legacy tea party @ Faculty of Sciences, University of Lisbon

Main organizer, Fund raiser, scientific content curator, delegate assistance, event outreach

Content: 13 multidisciplinary talks, book presentation, final debate

Jul. – Sep. 2013

XIV ESEB – European Society for Evolutionary Biology, Lisbon, Portugal

Congress staff, signage design, childcare service, poster-printing service, collaborators team supervisor (30 people) and delegate assistance

Publications

- **Laurentino TG**, Boileau N, Ronco F, Berner D

The EDA receptor (EDAR) is a candidate gene for lateral plate number variation in stickleback fish

(submitted to G3: Genes, Genomes, Genetics)

- **Laurentino TG**, Xavier M, Ronco F, Pina-Martins F, Domingues I, Penha B, Dias M, de Sousa A, Carrilho T, Rodrigues L, Pinheiro C*, Rato D*, Balata D*, Ayala G*, Matos M M*, Campelo M*, Botelho R*

evALLution: making basic evolution concepts accessible to people with visual impairment through a multi-sensory tree of life

Evolution: education and outreach (2021) 14:5; * Equal contribution

- Haenel Q, Oke KB, **Laurentino TG**, Hendry AP, Berner D

Clinal genomic analysis reveals strong reproductive isolation across a steep habitat transition in stickleback fish

Nature Communications (2021) 12, 4850

- **Laurentino TG**, Moser D, Roesti M, Ammann M, Frey A, Ronco F, Kueng B, Berner D

Genomic release-recapture experiment in the wild indicates within-generation polygenic selection in stickleback fish

Nature Communications (2020) 11, 1928

- Bissegger M, **Laurentino TG**, Roesti M, Berner D

Widespread intersex differentiation across the stickleback genome – the signature of sexually antagonistic selection?

Molecular ecology (2019) 29(2), 262-271

- **Laurentino TG**, Baur J, Usui T, Eichhorn M

Liana abundance and relationships to sapling and tree hosts in an East African Primary Forest

African journal of ecology (2019) 57(1), 130-136

- Zéle F¹, Matos G¹, Figueiredo A, Eira C, Pinto C, **Laurentino TG**, Sucena E², Magalhães S²

Spider mites escape bacterial infection by avoiding contaminated food

Oecologia (2019) 189(1), 111–122; ¹ co-first authorship; ² co-last authorship

- Silva SE, Seabra SG, Carvalheiro LG, Nunes VL, Marabuto E, Mendes R, Rodrigues ASB, Pina-Martins F, Yurtsever S, **Laurentino TG**, Figueiredo E, Rebelo MR, Paulo OS

Population genomics of *Bombus terrestris* reveals high but unstructured genetic diversity in a potential glacial refugium

Biological Journal of the Linnean Society (2019) blz182

- **Laurentino TG***, Haenel Q*, Roesti M, Berner D

Meta- analysis of chromosome-scale crossover rate variation in eukaryotes and its significance to evolutionary genomics

Molecular ecology (2018) 27 (11), 2477-2497

- co-authorship, alphabetical order

top 10% of most read papers in Molecular Ecology (2018-2019)

- Seabra S, Silva S, Nunes VL, Sousa VC, Martins J, Marabuto E, Rodrigues AS, Pina-Martins F, **Laurentino TG**, Rebelo MT, Figueiredo E, Paulo OS
Genomic signatures of introgression between commercial and native bumblebees, *Bombus terrestris*, in western Iberian Peninsula – implications for conservation and trade regulation
Evolutionary applications (2018)
- Costa GJ, Nunes VL, Marabuto E, Mendes R, **Laurentino TG**, Quartau JA, Paulo OS, Simões P **Morphology, songs and genetics identify two new cicada species from Morocco : *Tettigettalna afroamissa* sp. nov. and *Berberigetta dimelodica* gen. nov. & sp. nov. (Hemiptera: Cicadettini)**
Zootaxa (2017) 4237(3), 517-544
- Rosa GM, Sabino-Pinto J, **Laurentino TG**, Martel A, Pasmans F, Rebelo R, Griffiths RA, Stöhr AC, Marschang RE, Price SJ, Garner TWJ, Bosch J
Impact of asynchronous emergence of two lethal pathogens on amphibian assemblages Scientific Reports(2017) 7, 43260
- **Laurentino TG**, Pais MP, Rosa GM
From a local observation to a european-wide phenomenon: Amphibian deformities in Serra da Estrela Natural Park, Portugal
Basic and Applied Herpetology (2016) 30, 7-23
- Rosa GM, **Laurentino TG**, Madeira M
Field observation of foraging behavior by a group of adult diving beetles *Agabus* (*Gaurodytes*) *bipustulatus* preying on an adult *Lissotritton boscai*.
Entomological Science(2012) 15: 343-345

Peer reviewing work for Herpetological Notes; Ecology and Evolution; Integrative and Comparative Biology

Courses and Workshops

Oct. 2021	Othering and Belonging 2021 conference workshops <ul style="list-style-type: none">• Cultural strategies for belonging• Breaking Patterns & Heirlooms and Accessories: Using Arts to Look at Lineage and Narrative (<i>Studio Pathways</i>)
Aug. 2021	Authentic academic Guided reflections for a transformative and inclusive academic culture (<i>Prof. Bree Rosenblum</i>)
Apr. 2021	Science Storytelling Berkeley SciComm, University of California, Berkeley, USA
Mar. – Oct. 2018	Antelope@University workshops <ul style="list-style-type: none">• How to become a more efficient researcher (<i>Tress & Tress GbR</i>)• Negotiate with success (<i>Negoservices, Inc.</i>)• Action! The making of a video abstract (<i>Hoppenhaus & Grunze</i>)
Jun. 2017	Evolutionary Biology in Guarda University of Basel and ETH, Switzerland Evolution • Project design • Grant proposal writing
Aug. 2015	Tropical Ecology field course, Uganda Tropical Biology Association, Kibale research station & Queen Elizabeth National Park Tropical Ecology • Data collection • Project design • Data analysis
Aug. 2014	EcoEvoDevo summer school Department of Biological and Medical Sciences, Oxford Brooks University EvoDevo theory • Field work • CRISPR/Cas9 • In situ hybridization

Awards & Honors

- **Student elected representative** of the MSc in Evolutionary Biology and Development (2012-2014)
- **Invited spokesperson** for APBE-Portuguese Association of Evolutionary Biology (2015)

- **Best poster award** @ CE3C junior researcher meeting (2014)
- First author of one of the **most read papers of Molecular Ecology** (2018-2019)
- SSE **Sponsorship Highlight** (2019) [Link](#)

Media engagement

Fev. 2013 & Mar. 2017
Terras da Beira

Newspaper article featuring research on local amphibian epidemiology
'13 [Link](#) '17 [Link](#)

Apr. 2021
Expresso do Oriente

Newspaper article featuring evALLution work with people with blindness
[Link](#)

Apr. 2020
Science Daily

Article featuring PhD research work on genomics of adaptation in stickleback fish
[Link](#)

Additional skills

Languages

Portuguese native • **English** C1

Spanish B1 • **German** A1+

R > Unix shell > Slurm > Python user
in bioinformatics context
(Data parsing and analysis)

Lab

Genomics (Rad & Pool seq)

Genetics (PCR, primer design,
Sanger seq...)

**Skeletochronology, CT scanning,
3D printing, collection specimen
prep.** (Basics)

Field

Lizards (tomahawk traps
& lasso)

Birds (>50 ringed passerines)

Fish (Electrical, rod, under-water
gillnet and minnow trap)

Arthropods (net sampling: butterflies,
bumblebees, cicadas)

Amphibians (net sampling, Chytrid
swabbing)

Certified in field hygiene protocols & ethical handling of field and laboratory animals (rat, mouse, reptiles, amphibians).

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