Ignacio Paulin Montes

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Professional Experience

Max Planck Institute of Animal Behavior — Konstanz, Germany
Research Assistant, Behavior Evolution Research Group — 03/2024 - Present

- Conducting Master's thesis on the *Evolution of behavioral courtship signals in Trinidadian guppies.* Recorded courtship displays of wild males across rivers differing in predation pressure, and applying image detection and behavioral decomposition to analyze the postural dynamics of the mating display.
- Assisting with various research projects in the lab.
- Supervising a Bachelor's thesis student.

The Guppy Project — Trinidad and Tobago
Field station Manager — 01/2023 - 11/2023 and 07/2024 - 04/2025

- Oversee project planning and research station function in a long-term evolutionary research program utilizing natural populations of guppies (*Poecilia reticulata*) in Trinidad and Tobago to investigate key processes such as adaptation, natural selection, life-history evolution, and eco-evolutionary dynamics in response to environmental pressures.
  – Managed data collection across a database of 115.000 individuals
  – Supervise international teams of up to 15 people
  – Ensure compliance with protocols
  – Facilitate collaboration across international stakeholders to achieve research objectives efficiently
  – Field sampling in remote locations under harsh weather conditions
  – Off road driving
  – Car maintenance

Max Planck Institute of Animal Behavior — Konstanz, Germany
Research Assistant, Migration Department — 02/2024 - 05/2024

- Analyse camera trap imagery to study wildlife behaviour, population dynamics, and species interactions.
- Contribute to large scale projects such as 'Snapshot Europe'
- Annotation for automatic image detection software using Wildlife Insights

IGP Ternera Asturiana — Asturias, Spain
Lab technician — 07/2022 - 12/2022

- Molecular analysis using microsatellites to evaluate the proper management of a protected veal breed, encompassing the entire process from DNA extraction to sequencing and data analysis.

OMA, Marine Observatory — Asturias, Spain
Research Assistant — 2020

- Percebes Project: The project employs a range of methods to identify, assess and develop a set of tools to forecast the implications of spatial management options on productivity, biodiversity and connectivity for an optimized marine spatial planning.
- Estimation ecosystem recovery rates after implementation of protection or fallow periods.

Research projects

Max Planck Institute of Animal Behavior

Evolution of behavioral courtship signals in Trinidadian guppies — Ongoing

– Recorded courtship displays of wild male guppies across rivers in Trinidad with varying predation levels. Using image detection and behavioral decomposition to analyze the postural dynamics of the sigmoid display and understand how courtship behavior has been shaped by ecological and evolutionary pressures.

Impact of ornamentation on courtship display in Trinidadian guppies - a novel approach using machine learning

– **BSc Thesis supervisor**

– Investigating whether asymmetrical ornamentation in wild male guppies correlates with lateralized courtship behaviour. Using a novel machine learning–based approach to quantify body posture and assess the relationship between ornamentation patterns and display orientation.

Mapala Baboon Reseacrh Project, Kenya

Effect of environmental conditions in the sleeping behaviour of Olive baboons (*Papio anubis*) — 2025

– Studied huddling behavior in wild baboons using thermal imaging to investigate how environmental conditions influence sleep. Developed and implemented a detection model to estimate sleeping positions and analyzed their relationship with ambient factors.

- YoloV5 detection
- Thermal imaging

University of Konstanz

First come, first served: exploring priority effect in algal communities — 2024

– Experimental Ecology study using 320 algal communities to study priority effect. I automated sample collection and imaging pipetting and microscope robots, programming them to optimize workflow. I also implemented machine learning techniques for cell counting and species identification, allowing a more precise and quantitative analysis of the large number of communities.

- Opentron pipetting robot

University of Oviedo

Ethology analysis of an invasive fish (*Gambusia holbrooki*) using self-made video analysis tools — 2021

– Leadership and shoaling behavior in novel environments study using an invasive fish species (*G. holbrooki*).

Education

University of Konstanz

Master's in Biological Sciences: Ecology, Evolution and Animal Behaviour — 04/2024 - present

University of Oviedo

Bachelor's in Biology — 09/2017 - 07/2021

– Applied Ecology
– Applied Zoology
– Environmental Consulting
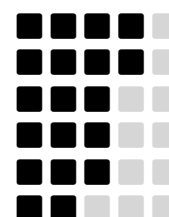– Applied Physiology

Technical Skills

RStudio

Wet lab

ImageJ

QGiS

3D modelling

LatEx

Misc.

- Driving license (manual transmission)
  – Off-road experience
- Scuba diving license (CMAS B1E)
- Jet-ski and recreational boat license
- Drone pilot (3D mapping)

Langauges

- Spanish: native
- English: Cambridge C1 Advance