Alice Caroline POIRIER

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Education

2019 **PhD in Behavioral Ecology**
Anglia Ruskin University, School of Life Sciences, Cambridge, UK

2010 **MSc in Biodiversity, Ecology, Evolution & Environment**
University of Montpellier, France (Hons.)

2008 **BSc in Cell Biology & Physiology**
University of Bordeaux, France (Hons.)

Key skills & competences

Field methods in behavior, ecology & conservation

- Collection of behavioral & ecological data on free-ranging primates & big felines
- Collection of non-invasive biological samples: urine, feces, secretions, hair, saliva
- Capture-and-release techniques for arboreal primates & big felines
- Radio-telemetry, camera-trap surveys & GIS techniques
- Conservation issues in South America

Laboratory skills

- Chromatography techniques: gas chromatography-mass spectrometry, solid-phase microextraction
- Organic chemistry techniques: preparation & storage of solutions
- Molecular biology techniques: DNA extraction, PCR, spectrophotometry, gel electrophoresis, molecular labeling
- Knowledge of BSL-2 measures & regulations

Computing skills

- Microsoft Office
- R programming language
- Quantitative analysis of behavioral & chemical data
- Chromatography software: ChemStation, AMDIS, NIST, TurboMass, Openchrom
- Bioinformatics : online tools for gene sequence alignment & comparison, technical software for DNA analyses

Leadership & project management

- Design of research project
- Setting up & managing collaborative projects at international level
- Managing project budget & equipment
- Logistics of equipment, transportation & activities in the field
- Training & supervision of field research assistants

Communication & teamwork

- Teaching/learning new techniques to/from colleagues & collaborators
- Initiative in making connections with potential collaborators across disciplines
- Excellent record keeping of research activities & ability to work in a team
- Presentation of research findings at conferences, seminars, & through scientific publications

Research experience

Primate sensory ecology

2020–current **Postdoctoral scholar** – University of Calgary, AB, Canada
Investigate the role of olfactory communication in primate social and reproductive systems. Study primate feeding ecology and the coevolution between tropical fruit trees and frugivorous mammals. PI: Dr Amanda Melin (www.amandamelin.com)

2016–19 **PhD project:** "*Scent-marking behaviour and semiochemistry in the Callitrichidae (New World primates)"* – Anglia Ruskin University, UK
Examined social, reproductive & environmental aspects influencing scent-marking behavior in callitrichids (marmosets & tamarins). Established existence of unique chemical signals of species, groups, sex, reproductive status, & the individual in callitrichid scent samples; identified putative semiochemicals. Compared *in situ* & laboratory techniques for chemical analysis of mammalian scents.
Advisors: Dr Andrew Smith, Prof. John Waterhouse & Dr Jacob Dunn (ARU-behavioural-ecology)

Field research assistant & coordinator in primatology, tropical mammal ecology & conservation in southeastern Peru

2011–15 **Field research coordinator:** *"Demography, feeding ecology, social behavior and parasitism of free-ranging callitrichine primates"* – Field Projects International
Collection of individual spatial & behavioral data on free-ranging tamarins (*Saguinus* spp.). Logistics & implementation of annual capture-and-release program. Collection & analysis of biological samples. Training & coordination of research assistants. PIs: Drs. Mini & Gideon Erkenswick Watsa, Dr Jennifer Rehg (www.fieldprojects.org)

2012–14 **Field research coordinator:** *"Long-term monitoring of Amazonian mammals implemented to conservation strategies"* – Fauna Forever
Monitoring of terrestrial & arboreal mammals via line-transects, camera-trapping & behavioral follows (primates). Vegetation surveys & habitat assessments. Involvement in local conservation planning. Training & coordination of field assistants. PI: Dr Chris Kirby (www.faunaforever.org)

2012 **Field research assistant:** *"Risk perception and anti-predator strategy in Amazonian primates"* – Ohio State University
Collection of spatial & behavioral data on free-ranging saki monkeys (*Pithecia rylandsi*). Marking & monitoring of ocelots (*Leopardus pardalis*) via radio-telemetry & camera-trapping. PI: Dr Dara Adams (www.darabadams.com)

2011 **Field research assistant:** *"Ecology and demography of the Amazonian mega fauna"* – WWF & San Diego Zoo Global
Capture-and-release of jaguars (*Panthera onca*) & pumas (*Puma concolor*). Collection of biological samples. Monitoring via radio-tracking & camera-trapping. PI: Dr George Powell & Dr Mathias Tobler (AREASAmazonia)

Research internships in evolutionary biology & genetics

2010 **MSc. Year 2 internship in Evolutionary Genomics & Bioinformatics**: *"Study of the evolution of sex chromosomes and their role in the reproductive isolation of house mouse subspecies"* – Montpellier Evolutionary Sciences Institute, France (6 months)
Implemented Bayesian modeling tools on genomic data in R to retrace the history of the reproductive isolation in the house mouse. Advisor: Dr Pierre Boursot

2009 **MSc. Year 1 internship in Behavioral & Evolutionary Biology**: *"Study of sperm competition adaptation in response to sexual conflicts in the bruchid beetle"* – Exeter University Centre for Ecology & Conservation, UK (4 months)
Examined the influence of population size & genetic variability on the evolution of adaptations to sperm competition and their impact on the rate of evolution of reproductive isolation, using experimental crosses between different polyandrous lines of the bruchid beetle (*Callosobruchus maculatus*). Advisors: Dr Tom Tregenza & Dr Laurène Gay

2008 **BSc. internship in Molecular Cytogenetics**: *"Characterization of the Pacific oyster genome by the cytogenetic Primed in Situ (PRINS) labeling method"* – French Research Institute for Exploitation of the Sea (IFREMER), France (1.5 month)
Developed PRINS labeling method for rapid detection of numeric & structural chromosome anomalies in the Pacific oyster (*Crassostrea gigas*). Advisor: Dr Abdellah Benabdelmouna

Teaching experience

UK Higher Education Academy

2018 **Associate Fellow of the Higher Education Academy**, Cambridge, UK
Theoretical & practical training for teaching university students

2016–18 **Teaching assistant** at Anglia Ruskin University, Cambridge, UK
Introduction to biology (BSc), Animal behavior (BSc), Molecular biology (BSc & MSc), Biostatistics (BSc), Primate behavior & conservation (MSc), Research methods (MSc)

Field Courses

2019 Tropical Ecology & Conservation BSc field trip in Uganda (Kibale National Park, Queen Elisabeth National Park) – Anglia Ruskin University

2014 & 2017 Tropical Ecology & Primatology field course in Peru (Los Amigos Biological Station) – Field Projects International

2014 & 2015 Natural, Cultural & Economic history of the Amazon rainforest field course in Peru (Tambopata National Reserve) – Wasaí Lodge & Expeditions
Workshop for middle school level & high school students with special needs

Student supervision

2012–15 **Field coordinator** – Fauna Forever & Field Projects International
Co-supervision of interns from American & European universities conducting data collection in Peru for their MSc/BSc research projects

2021 **Supervisor, Summer undergraduate research project** – University of Calgary, Canada

Scholarships & awards

2018 **Association for the Study of Animal Behaviour travel grant** for conference attendance (£400). Wrote proposal independently

2017 **Cambridge Philosophical Society travel grant** for conference attendance (£360)
Wrote proposal independently

2017 **Primate Society of Great Britain research grant** for field work in Peru (£1 000)
Wrote proposal independently

2016 **Anglia Ruskin University PhD scholarship** covering registration fees, research material & a stipend for 3 years (£56 300). Wrote & secured scholarship independently

2011 **Poitou-Charentes young professionals award** (Bourse de la Découverte) covering travel/living expenses for a first professional experience abroad (€3 000). Wrote & secured award independently

Publications

Poirier AC, Dunn JC, Watsa M, Erkenswick GA, Melin AD, Waterhouse JS & Smith AC. Captivity and olfactory communication: comparative analysis of scents from wild and captive tamarins. *Manuscript in preparation. J. of Zoo and Aquarium Research.*

Tang J*, **Poirier AC***, Duytschaever G, Moreira LAA, Nevo O, Melin AD (2021). Assessing urinary odours across the oestrous cycle in a mouse model using portable and benchtop gas chromatography-mass spectrometry. *Royal Soc. Open Sci.* 8(9):210172. https://doi.org/10.1098/rsos.210172.

Poirier AC, Waterhouse JS, Dunn JC, Smith AC (2021) Temporal stability of primate scent samples. *SN Appl. Sci.* 3:456. https://doi.org/10.1007/s42452-021-04455-1

Poirier AC, Waterhouse JS, Dunn JC, Smith AC (2021) Scent Marks Signal Species, Sex and Reproductive Status in Tamarins (*Saguinus* spp., Neotropical Primates). *Chem. Senses* March:1–10. https://doi.org/10.1093/chemse/bjab008

Poirier AC, Waterhouse JS, Watsa M, et al (2021) On the trail of primate scent signals: A field analysis of callitrichid scent-gland secretions by portable gas chromatography-mass spectrometry. *Am. J. Primatol.* 83:1–12. https://doi.org/10.1002/ajp.23236

Souza-Alves JP, Mourthe I, …, **Poirier AC**, …, Hilário RR, et al (2019) Terrestrial Behavior in Titi Monkeys (Callicebus, Cheracebus, and Plecturocebus): Potential Correlates, Patterns, and Differences between Genera*. Int. J. Primatol.* 40(4-5):553-572. https://doi.org/10.1007/s10764-019-00105-x

Watsa M, Erkenswick G, Halloran D, Kane EK, **Poirier A**, Klonoski K, …, Zuniga A (2015). A Field Protocol for the Capture and Release of Callitrichids. *Neotropical Primates*, *22*(2), 59–68.

* co-first authors

Conference presentations

'Sniffing out primate scent communication' (2018). 9th European Conference on Behavioural Biology, Liverpool, UK. Poster presentation

'Sniffing out primate scent signals: the first field analysis of callitrichine scents by portable GC-MS' (2018). Primate Society of Great Britain Spring meeting, Portsmouth, UK. Oral presentation

'First field analysis of primate scents using a portable GCMS' (2017). 14th Meeting of the Chemical Signals in Vertebrates group, Cardiff, UK. Oral presentation

'Making sense of scents: deciphering primate olfactory communication' (2017). Anglia Ruskin Faculty of Science & Technology research conference, Chelmsford, UK. Poster presentation

Outreach activities

2018	Documentary series 'Animals Decoded' – The Smithsonian Channel (US) & Love Nature: episode 'Invisible Communication' featuring my research work on primate chemical communication. Collaboration with Dr Stefano Vaglio, University of Wolverhampton, UK
2016–18	Treasurer of the Wildlife Society at Anglia Ruskin University, UK
2017	Volunteer at the Mammal Society conference in Cambridge, UK Registration of conference attendants, information desk, sales assistant
2012	Volunteer at WWF Earth Hour in Peru as scientific presenter
Summers 2005–09	Sailing instructor in France: lessons for children & adults; organization of nautical events & environmental manifestations

Additional skills & certificates

Languages	French native language English & Spanish fluent written & spoken
First aid	First aid training certificate (re-validated Aug. 2019)
Licenses	Valid driving license since 2006 Valid motorboat license since 2005

Tree climbing practice (applied to radio-telemetry techniques)