Rishi De-Kayne

rishi.de-kayne@eawag.ch

Education:

EAWAG department of Fish Ecology & Evolution/University of Bern 2016-Present: PhD Candidate

- Topic: Speciation Genomics of the Alpine Whitefish

Imperial College London 2015-2016: MRes Tropical Forest Ecology – Distinction

- Thesis: 'Endophytic fungal, not bacterial, communities differ between sympatric palm species'

Imperial College London 2012-2015: BSc Biology – 1st Class Honours

- Final Year Project: 'Resolving the phylogeny of the sharks using 20 transcriptomes' (1st)

St. Michael's School (The Bryn, Llanelli)

- 2012: A Level Geography (A*), Biology (A), Chemistry (A), Maths (A)
- 2009/2010: GCSE (9A*, 1A)

Publications:

R De-Kayne, PGD Feulner (2018)
A European whitefish linkage map and its implications for understanding genome-wide synteny between salmonids following whole genome duplication.
bioRxiv 310136; doi: https://doi.org/10.1101/310136

OG Osborne*, **R De-Kayne***, MI Bidartondo, I Hutton, WJ Baker, Colin GN Turnbull, Vincent Savolainen (2017)
Arbuscular Mycorrhizal fungi promote coexistence and niche divergence of sympatric palm species on a remote oceanic island. New Phytologist 217 (3), 1254-1266; doi: https://doi.org/10.1111/nph.14850

PGD Feulner, **R De-Kayne** (2017)
Genome evolution, structural rearrangements and speciation. Journal of evolutionary biology 30 (8), 1488-1490; doi: https://doi.org/10.1111/jeb.13101

*authors contributed equally

Research Experience:

Field Technician – Savolainen Lab Imperial College London (Lord Howe Island): August-September 2015
This project aimed to determine whether *Howea* palms, a textbook example of sympatric speciation, are adapted to different soil types on Lord Howe Island. I was responsible for co-designing and implementing a large reciprocal transplant experiment on the island, which I set up singlehandedly and is on-going. I gained valuable skills in fieldwork logistics, experimental design, plant identification and soil analysis as well as further developing my interpersonal and communication skills by working closely with the local community.

Undergraduate Research Opportunity Placement (UROP) – Kew Gardens: July-September 2014

This project aimed to investigate the diversity and distribution of mycorrhiza across Europe. Whilst at Kew I independently processed and cleaned plant roots before identifying roots with mycorrhizal colonies. I then carried out DNA extractions, PCR, gel electrophoresis and DNA clean-up steps on these mycorrhizal roots. Additionally, I gained bioinformatic skills, including processing sequence data in Geneious.

Volunteer in Conservation/Research department - National Botanic Garden of Wales: Summer 2013 and 2011
This project aimed to DNA barcode all native flowering plants and conifers of Wales (DNA Barcoding the Native Flowering Plants and Conifers of Wales, de Vere et al. 2012). I was responsible for independently carrying out DNA extractions, PCR and gel electrophoresis to sequence the *rbcL* and *matK* regions for the 'Barcode Wales' database. I also gained fieldwork experience collecting samples for the 'Barcode Wales' database.

Skills:

- Proficient IT use including bioinformatics including Linux, python and R scripting and experience with specific software such as MEGA and Geneious.
- Lab experience producing RAD libraries, extracting high molecular weight DNA for genome sequencing.
- Fieldwork experience in a variety of habitats from broad biodiversity studies to species-specific collections.
- Aquarium experience breeding and rearing salmonid larvae
- Herbarium specimen preparation and organization.
- Possess a full, clean driving licence.
- Well-developed communication and interpersonal skills.

Leadership and management skills:

- President of Imperial College Handball club 2013-2015. Developed my organisational skills as responsible for all admin including league and tournament registrations and club financial transactions.
- Budgeted effectively to double our club grant from the university (to >£3500 per year).

Interests/Hobbies:

Sport:

- TOPsport Scholar at Imperial College London (2015) for playing handball for the Great Britain University squad.
- Enjoy a variety of outdoor activities including cycling and climbing.

Art:

- Painting and photography. I am an avid painter using a variety of media and enjoy taking and editing photographs.

References: (Available on request)

1. Professor Vincent Savolainen

- v.savolainen@imperial.ac.uk
- +44 20 7594 2374

2. Dr. Philine Feulner

- Philine.feulner@eawag.ch
- +41 58 765 2106