

# Samuel Thompson

PHD STUDENT

School of Biological Sciences, University of Western Australia

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## About me

I use novel sampling methods, computers and large data sets to answer biological questions, especially in marine vertebrates. My research has focused on the development and deployment of a novel sampler capable of collecting environmental DNA (eDNA), stereo-video imagery and oceanographic data, along with a new family-specific eDNA metabarcoding primer set targeting Lutjanidae (snapper). I investigate the spatial distribution of marine vertebrate species in the context of anthropogenic change; especially the presence of restricted-access marine areas.

## Education

### University of Western Australia

Perth, Australia

PHD

2020-present

- eDNA metabarcoding PhD with the Marine Ecology Fisheries Research Group and the Jarman lab
- Developed a sampling system capable of collecting 360-degree stereo-video, water samples and oceanographic data at depths up to 600m
- Designed a family-specific metabarcoding primer set for Lutjanidae (snapper)
- Worked extensively with industry (BHP)

### University of Southampton

Southampton, United Kingdom

MASTER OF BIOLOGICAL OCEANOGRAPHY

2017-2018

- Studied all forms of oceanography with a focus on biological oceanography and deep-sea ecology
- In my final project I worked on characterising the abyssal megafauna of the Kiribati region from ROV imagery (published in Frontiers in marine science 2019)

### University of Kent

Kent, United Kingdom

BACHELOR OF BIOCHEMISTRY (WITH HONOURS)

2008-2012

- Studied general life sciences with a focus on microbiology/genetics
- In my final project I worked on genome duplication events in the marine chordate Amphioxus

## Employment

### Minderoo

Perth

RESEARCH ASSISTANT (PART-TIME)

2021-present

- Research assistant with the Minderoo OceanOmics team during offshore expeditions
- Working onboard the Pangea Ocean Explorer, conducting eDNA sampling, extraction, amplification, purification and sequencing
- Has provided me with a unique opportunity to conduct end-to-end sampling to sequencing on an offshore vessel

### University of Western Australia

Perth

LABORATORY DEMONSTRATOR (PART-TIME)

2021-present

- BIOL1131: Plant and Animal Biology
- Laboratory demonstrator and tutor for both face-to-face and online delivery formats
- Marker for marine component
- Guest Lecturer: Amphioxus: A model for developmental biology

### RPS MetOcean

Perth

OCEANOGRAPHER

2019-2019

- Working in the data resources department
- Work processing, QCing and interpreting large oceanographic datasets through a linux environment and the command line
- Data from instruments including: ADCPs, CTDs, LIDAR buoys, Wave rider buoys

### Royal Perth Yacht Club

Perth

WINDSURFING AND SAILING INSTRUCTOR (PART-TIME)

2019-2020

- Working as a dual qualified windsurfing and sailing instructor at a revered Perth yacht club
- Delivering both practical and theoretical lessons to groups of all ages and abilities including as young as 8 years old and as old as 70

## Mylan

Kent, United Kingdom

ANALYTICAL CHEMIST

2015-2017

- Key R&D team member during the ANDA submission to the FDA for a generic Advair equivalent. Inhalation-specific lab techniques including aerodynamic particle size distribution, dissolution and emitted dose testing. Use, calibration, maintenance and troubleshooting of analytical chemistry instrumentation including HPLC and Raman spectrometers. Worked abroad in Dublin training new staff and setting up equipment in a new, purpose built QC lab for Mylan's European inhalation manufacturing facility

## Other Skills

### Coding languages

R, BASH, PYTHON

- Familiar with wide variety of R packages, especially for ecological statistics and downstream analysis of genetic data
- Shell scripting; building and running pipelines for processing large bioinformatic and oceanographic datasets
- Proficient with the configuration and operation of both native and virtual Linux environments (WSL2)
- Python

### Practical Skills

ELECTRICAL (12V), MECHANICAL, WOODWORK, ROPEWORK, BOATWORK

- Highly proficient with building and troubleshooting 12v automotive/marine systems
- Highly proficient at troubleshooting software/hardware related PC issues; I have built multiple desktop PCs
- Intermediate mechanical knowledge; especially 4x4 and automotive systems
- Basic carpentry/joinery skills from building multiple campervans
- Basic Ropework / Winch skills
- I have participated >1000 deployments of various marine sampling equipment on a variety of vessel types from the Southampton Solent to the Southern Ocean

## Licenses & certifications

### Advanced resuscitation

PADI

OXYGEN PROVIDER AND CPR

2022-2023

### First Aid

PADI

2021-2024

### 4WD training

Drive Safe WA

RIIVEH201D: OPERATE LIGHT VEHICLE, TLIC1051: OPERATE COMMERCIAL VEHICLE, TLIC2025: OPERATE FOUR WHEEL DRIVE

VEHICLE, TLIF2010: APPLY FATIGUE MANAGEMENT STRATEGIES, RIIVEH305E: DRIVE AND RECOVER A FOUR WHEEL DRIVE

2020

VEHICLE, PMASUP236: OPERATE VEHICLES IN THE FIELD

### Recreational skippers ticket

DOT

2020

### Advanced Open Water Diver

PADI

2017

### Dinghy sailing instructor

RYA

2014

### Safety boat

RYA

2013

### Powerboat level 2

RYA

2012

### Start windsurfing instructor

RYA

2012

## Presentations

### Amphioxus: A model for developmental biology

UWA - BIOL1131: Plant and Animal Biology

GUEST LECTURER

2021

## Research update

STUDENT PRESENTER

UWA - School of biological sciences  
postgraduate retreat

2021

## Research proposal

PHD RESEARCH PROPOSAL

UWA- School of Biological sciences  
friday seminar series

2020

## Awards and Funding

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### Grant: Biodiversity and societal benefits of restricted access marine areas

BHP/UWA

WITH PROF. JULIAN PARTRIDGE, PROF. SIMON JARMAN, PROF. GARY KENDRICK, DR. TIM LANGLOIS, DR MATT NAVARRO. TOTAL

2020-2024

FUNDING: AUD\$ 666,524.

## Publications

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### Preliminary observations of the abyssal megafauna of Kiribati

Frontiers in Marine Science

E SIMON-LLEDÓ, S THOMPSON, A YOOL, A FLYNN, C POMEE, J PARIANOS, ...

2019