

CATHARINA KARLSSON

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Advanced R coding skills. Specialized in statistical ecology, from regression and mixed-effect models to network analysis, as well as different types of Species Distribution Models. Experienced in R code for GIS in simulation studies on High Performance Clusters. Performed analyses of larger datasets using machine learning and Artificial Intelligence based classification, specifically for acoustic and environmental sensor data. Responsible for multiple projects during the PhD - from idea development, grant applications and management to execution and successful delivery. Two major ones involved the development of a Raspberry Pi based acoustic and environmental sensor systems using Python. Have worked as a teaching assistant over four years in Singapore as well as mentoring BSc and Masters students on their thesis projects.

EDUCATION & QUALIFICATIONS

- 2018 PhD, Biological Science. National University of Singapore.
Ecology and Conservation of the Amphibians on Mount Kinabalu.
- 2014 MSc. Biology. Uppsala University, Sweden.
Does avian malaria affect the provisioning rate of the Collared Flycatcher (*Ficedulla albicollis*)?
- 2011 M.Res. Ecology, Evolution and Conservation. Imperial College London.
1: Systematics, Ecology and Conservation of Cameroon Caecilians (Gymnophiona).
2. Assessment of the genetic variation within and between populations of *Centarium scilloides* (Genetianaceae).
- 2010 B.Sc. Hons. Ecology and Conservation. Anglia Ruskin University.
Group Stability and Vigilance direction in male Alpine Ibex (*Capra ibex*).

PUBLICATIONS

- Karlsson, E. C. M., Bickford, D., Imbun, P., Chisholm, R. Acoustic and environmental monitoring using open-source hardware and software. (*In prep*).
- Karlsson, E. C. M., Chisholm, R., Sheridan, J. A., Karraker, N., Lakim, M., Das, I., Imbun, P., L. H. Bickford, D. Altitudinal shift of amphibian species over 80 years on Mount Kinabalu, Borneo. (*In prep*).
- Karlsson, E. C. M., Bickford, D., Imbun, P. The effect of habitat variables on occupancy of *Ansonia platysoma* on Mount Kinabalu, Borneo. (*In review*)
- Karlsson, E. C. M., Mitchell, A. E., Imbun, P., Bickford, D. P., 2018. *Kalophrynus baluensis* (Kinabalu Sticky Frog). Reproduction and vocal description. *Herpetological Review*, 49 (1), pp.96-97.
- Hawkins, D., Gallacher, E., Gammell, M., 2013. Statistical power, effect size and animal welfare: recommendations for good practice. *Animal Welfare*. 22, pp. 339-344.

SHOLARSHIPS AND GRANTS

- 2017 ***Lu Yinru Travel Scholarship*** (travel award).
\$ 1000
American Society of Ichthyologists and Herpetologists (travel award).
\$ 800
- 2016 ***Wildlife Reserves Singapore Conservation Fund.***
Automated Acoustic Monitoring in Singapore
\$ 46,480
Idea Wild – Equipment grant for Sennheiser microphone
\$ 800
World Congress of Herpetology Scholarship (travel award).
\$800
CDL scholarship – Award to attend the ATBC-SCB Asia 2016 conference
\$250
National Geographic Society Conservation Grant Asia

- Automatic Acoustic Monitoring on Mount Kinabalu
 US \$ 28,290
Mohamed bin Zayed Species Conservation grant
 Habitat effects on *Ansonia platysoma*.
 \$12,000
- 2015 **International Congress for Conservation Biology** (travel award)
 \$500
CEED/QAECO Travel Fellowship – Three-month lab exchange with
 Melbourne University and Australia National University.
 \$ 2270
- 2014 **SINGA Scholarship** – PhD scholarship with National University of Singapore.
 2010 **Research internship** - Anglia Ruskin University
 \$ 2660

CONFERENCE ATTENDANCE

* denotes poster presentation

- 2018 **Association for Tropical Biology and Conservation**
 Bioacoustics of the amphibian community in Kinabalu Park and the use of open
 source resources for passive acoustic monitoring.
 *Altitudinal shifts of amphibian species over 80 years on Mount Kinabalu, Borneo.
- The Digital Naturalism Conference**
 LoRa technology for data relay of acoustic data.
- 2017 **Southeast Asian Gateway of Evolution** – Joint Keynote:
 New biodiversity monitoring techniques: Where is technology taking us and
 how can we utilize it?
 Symposia organiser: Biomonitoring
- Joint Meeting of Ichthyologists and Herpetologists**
 Temporal partitioning in calling activity of the amphibian community in Kinabalu Park.
- 2016 **World Congress of Herpetology**
Ansonia platysoma, the effect of habitat variables on occupancy.
- Conservation Asia**
 Automated acoustic monitoring: current use and challenges.
- 2015 **Biological Sciences Graduate Student Congress**
 *Optimal time allocation between sites under limited time and differing detection rates.
- ICCB-ECCB Montpellier** – Speed presentation:
 Training region effects on Species Distribution Models
- 2014 **SCB Asia**
 Statistical Power in Conservation.

TEACHING EXPERIENCE

Workshop:

Bioacoustic analysis – Association for Tropical Biology and Conservation 2018

Teaching Assistant:

Biodiversity LSM2252 – National University of Singapore. 2014,2015,2017

Field Studies in Biodiversity LSM4263 – National University of Singapore 2014, 2015, 2016, 2017

Animal Behaviour LSM1303 – National University of Singapore 2014, 2017

Biomeasurement – Anglia Ruskin University 2011

REVIEWER

Ethology 2018
 Herpetological Conservation and Biology 2018

FIELD EXPERIENCE

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| Amphibian data collection. Singapore. | 2018 |
| Amphibian data collection, Mount Kinabalu, Borneo. Malaysia. | 2016,2017 |
| Nest box monitoring of birds on the island of Öland. Sweden. | 2013 |
| Behaviour observations of Alpine Ibex in the Dolomites of the Alps. Italy. | 2009 |

EMPLOYMENT EXPERIENCE

Extended list on website

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| 2013 - 2013 | Field assistant – Uppsala University, Öland field site, Sweden. |
| 2011 - 2012 | Sales assistant – Rohan Travel Clothing, Cambridge, UK. |
| 2011 | Teaching assistant – Anglia Ruskin University, Statistical module. |
| 2007 - 2010 | Cashier – Sainsbury's, UK. |

COMMUNITY SERVICE

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| Presentation - Anglia Ruskin University MSc course in Conservation | 2016 |
| World Congress of Herpetology, Student Committee Member | 2016-2020 |
| Intern, IUCN ASG Amphibian RLA, red listing of amphibian species | 2013-current |
| International Student Representative, Imperial College London Student Union | 2010-2011 |
| Presentation – on further education for former High School in Sweden | 2008 |
| Anglia Ruskin University Wildlife Society, Treasurer | 2007-2010 |