# **Christopher David Barratt**

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#### **Profile**

Evolutionary ecologist focusing on molecular (bioinformatic) and spatial (eco-informatic) analyses to understand biodiversity patterns and processes, and providing tools and insights to aid biodiversity and ecosystem management

#### Education

Sep 2013–Apr 2017	PhD (Summa cum laude): Biodiversity patterns and conservation of the coastal
	forests of Eastern Africa. University of Basel, Advisor: Dr. S. Loader, External examiner: Prof. N. Burgess (WWF, UNEP-WCMC)
Jul 2010–Jul 2012	MSc by research (Pass): Developing microsatellite markers for East African
	caecilian amphibians. University of Salford, Advisor: Dr. R. Jehle, External Examiner: Dr. A. Pernatta (University of Brighton)
Sep 2003-Jun 2007	BSc (1st class honours): Wildlife and Practical Conservation. University of Salford,
	Advisor: Dr. P.A. Rees

### **Professional Experience**

April 2020–March 2023	Postdoctoral Researcher, sDiv (Synthesis Centre for Biodiversity Science), part of the German Centre for Integrative Biodiversity Research (iDiv), Halle-Jena-Leipzig. Individual Postdoc grant 'Life on the edge: a new bioinformatic toolbox to conserve wildlife populations under threat from future global change' (Main PI)
Aug 2018-March 2020	<b>Postdoctoral Researcher</b> , German Centre for Integrative Biodiversity Research (iDiv), Halle-Jena-Leipzig. 'Dynamic aspects of chimpanzee diversification across Africa using paleoclimate and genomic data' (Main PI)
Nov 2017-May 2018	<b>Desk editor</b> (Scientific journals) Brill publishers, Leiden, Netherlands.
Sep 2016– Jun 2017	<b>Visiting scientist</b> , Biogeography and Macroecology group (Dr. W.D. Kissling), Institute for Biodiversity and Ecosystem Dynamics, University of Amsterdam. 'Population genomics and historical distributions of East African amphibians' (Main PI, part of PhD)
Dec 2011–Dec 2016	<b>Managing editor</b> , Herpetological Journal (freelance). <b>Production editor</b> , Wolters Kluwer publishing), London, UK (full time, Nov 2012–Sep 2013)
Sep 2010–Nov 2012	<b>Teaching Assistant</b> , School of Environment and Life Sciences, University of Salford, UK
Aug 2008–May 2009	Research Officer, Frontier Savannah Research Project, Kilombero valley, Tanzania
Aug-Dec 2005	Research officer, Corlett Maritima bird project, Principe Island, West Africa

## Periods of leave (2 children)

2020-21	- Paternity leave in Germany (3 months leave Aug-Oct, 8 months working at 75% Nov 2020-Apr
2021)	
2019	- Paternity leave in Germany (4 months working at 75% Jan-Apr)
2018	- Paternity leave in Germany (2 months leave Jun-Jul, 5 months working at 75% Aug-Dec)
2017-18	- Paternity leave in Netherlands (80% working contract while working for Brill publishers)

**Teaching** (Design and teaching of 4 workshops (~ 50h), Practical leader, lecturer, exam assessor for MSc course (~60h), Teaching assistant for BSc (~200 hours), Field instructor and mentor for BTEC (9 months FT)

Jun 2022 **Organiser and teacher** of 2 day yDiv workshop: "<u>Stacks 2 – from raw reads to genome-</u>wide genetic diversity, population structure and phylogeny" iDiv, Leipzig (25 MSc, PhD,

students technical staff)

course: "SDMs and phylogenetic indices for biogeography and conservation"

iDiv/University of Leipzia (10-15 MSc students)

Jun 2020-2022 Guest lecturer and exam assessor for Macroecology, Macroevolution and Global change

MSc course. Lecture topics: "Micro and Macro- evolution, Species Distribution Modelling, and Evolutionary data in biodiversity research" iDiv/University of Leipzig (10-15 MSc

students)

Oct 2019 Organiser and teacher of 2 day workshop: "Making sense of high-throughput sequencing

(short read) data: population structure, coalescent theory, demographic modelling" iDiv,

Leipzig (15 MSc, PhD, students technical staff)

Mar 2019 Organiser and teacher of 1 day workshop: "Generating and processing high-throughput

short read data (eg. RAD-seq, ddRAD) introduction: Important considerations for sampling design and some initial bioinformatics" iDiv, Leipzig (15 MSc, PhD, students technical staff)

Oct 2015 Organiser and teacher of two half-day workshops: "Spatial analysis in R" and "An

introduction to next generation sequencing in unix", at the Institute of Biogeography,

University of Basel (8 students)

Sep 2010–2012 Teaching Assistant over 5 semesters: Population genetics, Systematics, Statistical

methods, Terrestrial and freshwater habitats, Hydrobiology, Laboratory techniques,

University of Salford (~150 BSc students)

Aug 08–May 09 BTEC in tropical habitat conservation mentor: Four lectures on biodiversity monitoring

techniques for 20 students and field instructor for ecological data collection (amphibians, birds, butterflies, small mammals, carnivores and large mammal tracking). Mentoring and project supervision of 5 BTEC student projects Frontier Savannah Research Project, see

past student supervision below

#### Student supervision

Ongoing (4 PhD students)

Nov 2021 – Marilia Souza Lucas (Co-supervisor, PhD, 2021–2024, "Harnessing the power of RADseq

data to achieve a more mechanistic understanding of rapid evolution"), Main supervisor:

Prof. Isabell Hensen (MLU Wittenberg-Halle)

Oct 2019– Francisco V. Puentes (Co-supervisor, PhD, 2019–2023, "Micro- and macro-evolutionary

dynamics of seasonally dry neotropical forests"). Main supervisor: Dr. Renske Onstein

iDiv. Leipzia)

Feb 2019– Jeprianto Manurung (Co-supervisor, PhD, 2018–2021, "Evolutionary ecology of

Lumnitzera racemosa and Lumnitzera littorea (Combretaceae)"), Main supervisor: Dr.

Alexandra Muellner-Riehl (University of Leipzig)

Sep 2018– Laura Mendez Cuellar (Co-supervisor, PhD, 2018–2021, "Genomic signatures of

megafaunal palms on Madagascar", Main supervisor: Dr. Renske Onstein (iDiv, Leipzig)

Past (2 MSc student theses, 3 MSc student projects, 1 BSc lab project, 5 BTEC projects)

Jan 2021-2022 Rebecca Strueber (Main supervisor, MSc thesis, 2021-2022), "Examining spatial shifts of

species occurrences through time: Past and future climate change impacts on the geographic distribution of *Enterolobium* (Fabaceae) in the Neotropics". MLU Wittenberg-

Halle/iDiv, Leipzig

Apr Jun 2021 Amelie Hauer, Anne Peter, Christian Weiss (Main supervisor, MSc student project 2021),

"The impact of new genetic information on species vulnerability to global change: The

African elephant as a case study". University of Leipzig/iDiv

Nov 2014–2015 Marco Crotti (Co-supervisor, MSc thesis, 2014–2015, "Empirical data from a species of

	African frog support the negative consequences of excluding missing data from RADseq
	analyses", Main supervisor: Dr. Jeffrey Streicher (Natural History Museum London)
Aug-Dec 2011	Jack Muskett (Co-supervisor, BSc lab project, 2011–2012, "Gene flow and metapopulation
	dynamics in <i>Triturus cristatus</i> ", Main supervisor: Dr. Robert Jehle (University of Salford)
Apr-May 2009	Richard Saunders-Irving (Main supervisor, BTEC in Tropical Habitat Conservation) "The
	effects of the Kilombero Valley Teak Company Mavimba sawmill site on large mammal
	movement" (Frontier Tanzania Savannah Research Project)
Jan-Mar 2009	Fred Griffith (Main supervisor, BTEC in Tropical Habitat Conservation) "Effects of seasonal
	burning on birds in African dry forest" (Frontier Tanzania Savannah Research Project)
Jan-Mar 2009	Sebastian Ngasoma (Main supervisor, BTEC in Tropical Habitat Conservation) "Bird
	diversity in the Kilombero Valley" (Frontier Tanzania Savannah Research Project)
Sep-Dec 2008	Camilla Hassing (Main supervisor, BTEC in Tropical Habitat Conservation) "Hunting
·	techniques of Carnivores" (Frontier Tanzania Savannah Research Project)
Sep-Dec 2008	Natalie Kay (Main supervisor, BTEC in Tropical Habitat Conservation) "How is butterfly
·	diversity affected by burning in miombo woodland?" (Frontier Tanzania Savannah
	Research Project)

#### Publications (6 first authored, 3 second authored, Google scholar h-index = 10, citations = 311)

- 1. **Barratt CD**, Horsburgh GJ, Dawson, DA, Gower DJ, Wilkinson M, Loader SP, Jehle R (2012). Isolation and characterisation of nine polymorphic microsatellites for the caecilian amphibian *Boulengerula uluguruensis*, and cross-species amplification with four congeneric species. *Conservation Genetics Resources* 4, 225–229
- 2. O'Brien CD, Hall JE, Orchard D, **Barratt CD**, Arntzen JW, Jehle R. (2015). Extending the natural range of a declining species: Genetic evidence for native great crested newt (*Triturus cristatus*) populations in the Scottish Highlands. *European Journal of Wildlife Research* 61, 27–33
- 3. Sala-Bozano M, Mariani S, **Barratt CD**, Sacchi H, Boufana B, Coscia I. (2015). Spatio-temporal variability in the population structure in North-East Atlantic stocks of horse mackerel (*Trachurus trachurus*). *Proceedings of the Royal Irish Academy: Biology and Environment* 115, 211–220
- 4. Bwong BA, Nyamache JO, Malonza PK, Wasonga DV, JM Ngwava, **Barratt CD**, Nagel P, Loader SP (2017). Amphibian diversity in Shimba Hills National Reserve, Kenya: a comprehensive list of specimens and species. *Journal of East African Natural History* 106, 19–46
- 5. Zimkus B, Lawson L, Barej M, **Barratt CD**, Channing A, Dehling JM, Gehring S, Greenbaum E, Gvodzik V, Harvey J, Kielgast J, Kusamba C, Nagy Z, Pabijan M, Penner J, Du Preez L, Rödel MO, Vences M, Weber K, Lötters S. (2017). Leapfrogging into new territory: how Mascarene ridged frogs have diversified across Africa. *Molecular Phylogenetics and Evolution* 106, 254–269
- 6. Bittencourt-Silva GB, Tolley K, Lawson LP, Portik DM, **Barratt CD**, Nagel P, Loader SP (2017) Impact of species delimitation and sampling on niche models and phylogeographic inference: a case study of the East African reed frog *Hyperolius substriatus* Ahl 1931. *Molecular Phylogenetics and Evolution* 114, 261–270
- 7. **Barratt CD**, Lawson LP, Bittencourt-Silva GB, Doggart N, Morgan-Brown T, Nagel P, Loader SP (2017). A new, narrowly distributed, and critically endangered species of spiny-throated reed frog (Anura: Hyperoliidae) from a highly threatened coastal forest reserve in Tanzania. *Herpetological Journal* 27, 13–24
- 8. **Barratt CD**, Bwong BA, Onstein RE, Rosauer DF, Menegon M, Doggart N, Nagel P, Kissling WD, Loader SP (2017). Environmental correlates of phylogenetic endemism in amphibians and the conservation of refugia in the coastal forests of Eastern Africa. *Diversity and Distributions* 23, 875–887
- 9. Jongsma G, Barej M, Barratt CD, Burger M, Conradie W, Greenbaum E, Hirschfeld M, Leache A, Penner J, Portik DM, Rödel MO, Blackburn D (2018). Diversity and biogeography of frogs in the genus *Amnirana* (Anura: Ranidae) across sub-Saharan Africa. *Molecular Phylogenetics and Evolution* 120, 274–285
- 10. **Barratt CD**, Bwong BA, Jehle R, Liedkte HC, Onstein RE, Nagel P, Portik DM, Streicher JW, Loader SP (2018). Vanishing refuge? Testing the forest refuge hypothesis in coastal East Africa using genome-wide sequence data for seven amphibians. *Molecular Ecology* 27, 4289–4308
- 11. Crotti, M, **Barratt CD**, Loader SP, Gower DJ, Streicher JW (2019). Causes and analytical impact of missing data in RADseq phylogenetics: insights from an African frog (*Afrixalus*). *Zoologica Scripta* 48, 157–167

- 12. Portik DM, Bell RC, Blackburn DC, Bauer AM, **Barratt CD**, Branch WR, Burger M, Channing A, Colston TJ, Conradie W, Dehling JM, Drewes RC, Ernst R, Greenbaum E, Gvoždík V, Harvey J, Hillers A, Hirschfeld A, Jongsma GFM, Kielgast J, Kouete MT, Lawson LP, Leaché AD, Loader SP, Lötters S, van der Meijden A, Menegon M, Müller S, Nagy ZT, Ofori-Boateng C, Ohler A, Papenfuss TJ, Rößler D, Sinsch U, Rödel M-O, Veith M, Vindum J, Zassi-Boulou AG, McGuire JA (2019). Sexual Dichromatism Drives Diversification Within a Major Radiation of African Amphibians. *Systematic Biology* 68, 859–875
- 13. Onstein RE, Vink D, Veen J, **Barratt CD**, Flantua S, Wich S, Kissling D (2020). Fruit colours determine the broad-scale distribution and diversification of primate vision. *Proceedings of the Royal Society B* 287, 20192731
- 14. Kalan A, Kulik L, Arandjelovic M, Boesch C, Haas F, Dieguez P, Barratt CD, Abwed EE, Agbor A, Angedakin S, Aubert D, Ayimisin EA, Bailey E, Bessone M, Brazzola G, Buh VE, Rebecca Chancellor R, Cohen H, Coupland C, Curran B, Danquah E, Deschner T, Dowd D, Eno-Nku M, Fay JM, Goedmakers A, Granjon A-C, Head J, Hedwig D, Hermans V, Jeffery KJ, Jones S, Junker J, Kadam P, Kambi M, Kienast I, Kujirakwinja D, Langergraber KE, Lapuentea J, Larson B, Lee KC, Leinert V, Llana M, Marrocoli S, Meier AC, Morgand B, Morgan D, Neila E, Nicholl S, Normand E, Ormsby LJ, Pacheco L, Piel A, Preece J, Robbins M, Rundus A, Sanz C, Sommer V, Stewart F, Taggn N, Tennie C, Vergnes V, Welsh A, Wessling EG, Willie J, Wittig RM, Yuh YG, Zuberbühler K, Kühl HS (2020). Environmental variability supports chimpanzee behavioural diversity. Nature communications 11, 4451
- 15. Bwong BA, **Barratt CD**, Loader SP, Nyamache JO, Menegon M, Malonza PK, Nagel P, Lawson LP (2020) Systematics of *Hyperolius mitchelli* Loveridge, 1953 and H. rubrovermiculatus Schiøtz, 1975 (Anura: Hyperoliidae) and assignment of populations from northern Tanzania. *African Journal of Herpetology* 69, 165–181
- 16. Ngwava JM, Barratt CD, Bwong BA, Boakes E, Wasonga V, Muchai V, Nguku J, Nyamache J, Malonza PK, Channing A, Owen N, Couchman O, Loader SP (2021). Species-specific or assemblage-wide decline? The case of *Arthroleptides dutoiti* Loveridge, 1935 and the amphibian assemblage of Mount Elgon, Kenya. *African Journal of Herpetology* 70, 53–60
- 17. Lester JD, Vigilant L, Gratton P, Barratt CD, McCarthy MS, Boesch CD, Kuhl H, Dieguez P, Aebischer T, Agbor A, Álvarez-Varona P, Angedakin S, Assumang AK, Aubert F, Ayimisin EA, Bailey E, Bamba A, Barubiyo D, Bessone M, Bonnet M, Brazzola G, Chancellor R, Cipoletta C, Cohen H, Corogenes K, Coupland C, Curran B, Danquah E, Dengui JC, Deschner T, Dilambaka E, Dowd D, Dunn A, DupaiN J, Egbe VE, Eno-Nku M, Goedmakers A, Granjon AC, Head J, Heilman A, Hedwig D, Hermans V, Imong I, Jeffery KJ, Jones S, Junker J, Kadam P, Kaiser M, Kalan AK, Kambere M, Kambi M, Kehoe L, Kienast I, Kujirakwinja D, Langergraber KE, Lapeyre V, Lapuente J, Larson B, Laudisoit A, Lee K, Leinert V, Llana M, Manasseh EN, Maretti G, Marrocoli S, Martín R, Masozera M, Meier A, Morgan D, Muhanguzi G, Mulindahabi F, Murai M, Neil E, Nicholl S, Nixon S, Niyigaba P, Normand E, Ntare N, Nzeheke A, Orbell C, Ormsby LJ, Orume R, Pacheco L, Piel A, Preece J, Regnaut S, Robbins M, Rundus A, Sanz C, Sciaky L, Siaka AM, Sommer V, Städele V, Stewart F, Tagg N, Telfer P, Terrade E, Tickle A, Ton E, van Schijndel J, Vanleeuwe H, Vergnes V, Vyalengerera MK, Wessling EG, Willie J, Wittig RM, Ginath Y, Yurkiw K, Zuberbuehler K, Arandjelovic M (2021) Recent genetic connectivity and clinal variation in chimpanzees. Nature Communications Biology 283
- 18. Perino A, Pereira HM, Felipe-Lucia M, Kim H, Kühl HS, Marselle MR, Meya JN, Meyer C, Navarro LM, van Klink R, Albert G, **Barratt CD**, Bruelheide H, Cao Y, Chamoin A, Darbi M, Dornelas M, Eisenhauer N, Essl F, Farwig N, Förster J, Freyhof J, Geschke J, Gottschall F, Guerra C Haase P, Hickler T, Jacob U, Kastner T, Kim H, Korell L, Kühn I, Lehmann GUC, Lenzner B, Maes J, Marques A, Motivans E, Quintero LC, Pacheco A, Popp A, Rouet-Leduc J, Schnabel F, Siebert J, Staude IR, Trogisch S, Švara V, Svenning JC, Pe'er G, Raab K, Rakosy D, Vandewalle M, Werner AS, Wirth C, Xu H, Yu D, Zinngrebe Y & Bonn A (2021). Biodiversity Post-2020: Closing the gap between global targets and national-level implementation. *Conservation Letters* e12848
- 19. Barratt CD, Lester JD, Gratton P, Onstein RE, Kalan AK, McCarthy MS, Bocksberger G, White LC, Vigilant L, Dieguez P, Abdulai B, Aebischer T, Agbor A, Assumang AK, Bailey E, Bessone M, Buys B, Carvalho JS, Chancellor R, Cohen H, Danquah E, Deschner T, Dongmo ZN, Doumbe O, Dupain J, Duvall CS, Eno-Nku M, Etoga G, Galat-Luong A, Garriga R, Gatti S, Ghiurghi A, Goedmakers A, Granjon A, Hakizimana D, Head J, Hedwig D, Herbinger I, Hermans V, Jones S, Junker J, Kadam P, Kambi M, Kienast I, Kouakou CI, Kouame PN, Langergraber KE, Lapuente J, Laudisoit A, Lee KC, Maisels F, Mirghani N, Moore D, Morgan B, Morgan D, Neil E, Nicholl S, Nkembi L, Ntongho A, Orbell C, Ormsby LJ, Pacheco L, Piel AK, Pintea L, Plumptre AJ, Rundus A, Sanz C, Sommer V, Sop T, Stewart FA, Sunderland-Groves J, Tagg N, Todd A, Ton E, van Schijndel J, Vanleeuwe H, Vendras E, Welsh A,

- Wenceslau JFC, Wessling EG, Willie J, Wittig R, Yoshihiro N, Yuh YG, Yurkiw K, Boesch C, Arandjelovic M, Kühl HS (2021). Quantitative estimates of glacial refugia for chimpanzees (*Pan troglodytes*) since the Last Interglacial (120,000 BP). *American Journal of Primatology*, e23320
- 20. **Barratt CD**, Zizka A, Duarte Ritter C, Joerger-Hickfang T, Zizka V (2021). Existing approaches and future directions to link macroecology, macroevolution and conservation prioritization. *Ecography* (https://doi.org/10.1111/ecog.05557, under consideration for the E4 award)

#### In review

- 1. Ramsay MS, Sgarlata G, **Barratt CD**, Salmona J, Andriatsitohaina B, Kiene F, Manzi S, Ramilison ML, Chikhi, Lehman SM, Radespiel (in review). Effects of forest fragmentation on connectivity and genetic diversity in an endemic and an invasive rodent in northwestern Madagascar. *PLOS Biology*
- 2. Manurung J, **Barratt CD**, Andrés BMR, Schnitzler J, Jönsson BF, Susanti R, Durka W, Muellner-Riehl AN (in review). Deep phylogeographic splits and limited mixing by sea surface currents govern genetic population structure in the mangrove genus *Lumnitzera* across the Indonesian Archipelago. *Journal of Systematics and Evolution*

#### **Grants awarded** (>€600,000 as main PI, \*>€260,000 represented as co-PI)

Apr 2022	iDiv (German Centre for Integrative Biodiversity Research) Halle-Jena-Leipzig – Flexpool Support Fund " <u>Cryptic diversity under global change: the case of the <i>Hyperolius mitchelli</i> <u>African reed frog species complex</u>" (€10,000)</u>
Apr 2022*	iDiv (German Centre for Integrative Biodiversity Research) Halle-Jena-Leipzig – Flexpool Support Fund "The suitability of road verges for protected grassland plant species assessed at the gene level". (co-PI, main PI: Sabrina Traeger, €10,000)
Apr 2022 <sup>*</sup>	iDiv (German Centre for Integrative Biodiversity Research) Halle-Jena-Leipzig – Flexpool Support Fund " <u>Human impact on biodiversity: How anthropogenic factors influence the genetic diversity and stress hormone levels of the critically endangered crested macaques across Indonesia" (co-PI, main PI: Marlen Kuecklich, €10,000)</u>
Nov 2020 <sup>*</sup>	iDiv (German Centre for Integrative Biodiversity Research) Halle-Jena-Leipzig - Flexible Pool PhD grant [4 years] " <u>Harnessing the power of RADseq data to achieve a more mechanistic understanding of rapid evolution</u> " – as co-PI, main applicant: Isabell Hensen, University of Halle (€240,000)
Jun 2020	iDiv (German Centre for Integrative Biodiversity Research) Halle-Jena-Leipzig – sDiv Individual postdoc grant [3 years]: "Life on the edge: a new bioinformatic toolbox to conserve wildlife populations under threat from future global change" (€223,000)
May 2018	DFG (Deutsche Forschungsgemeinschaft) via iDiv Halle-Jena-Leipzig – Flexible pool postdoc grant [3 years]: ' <u>Dynamic aspects of chimpanzee diversification across Africa</u> using paleoclimate and genomic data' (€210,000)
Apr 2018	Society for the Study of Evolution – Travel to Evolution 2018 in Montpellier (\$500 USD)
Oct 2016	FAG Basel – PhD extension grant [6 months] (12,000 CHF)
Feb 2016	Swiss Zoological Society – Travel grant to attend International Biogeography Society conference in Tucson, AZ, US (1000 CHF)
Jan 2015	Departement Umweltwissenschaften, University of Basel – Travel grant to attend International Biogeography Society conference in Bayreuth, Germany (600 CHF)
Aug 2014	European Science Foundation ConGenOmics short grant – Specimen work at Natural History Museum London and Museo Delle Scienze, Trento (€1350 EUR)
May 2014	Departement Umweltwissenschaften, University of Basel – Travel grant to attend 16th African Amphibian Working Group meeting, Bwindi, Uganda (800 CHF)
Apr 2014	FAG Basel – Fieldwork grant for Tanzania (3500 CHF)
Sep 2013	Humer Foundation for Academic Talent – PhD grant [3 years] (150,000 CHF)

#### Scientific services

#### **Editorships**

Associate editor for Herpetological Bulletin (2011-2017)

#### Reviews (>30 manuscripts, 2 grant proposals, here is my Publons profile)

- Reviewer for: Molecular Ecology, Evolution, Ecography, Journal of Biogeography, Biological Conservation, Ecology and Evolution, Molecular Phylogenetics and Evolution, Nature Scientific Data, Conservation Genetics Resources, Biological Indicators, Current Zoology, Journal of Zoological Systematics and Evolutionary Research, Asian Herpetological Research, Ecological Indicators, Zootaxa, African Zoology
- Grant reviews for GEO-BON-Microsoft Joint call (EBVs on the cloud) and Agence Nationale de la Recherche.

#### **Conference Organisation**

- Symposium organiser (with Dr. Renske Onstein) at the ATBC 2019 meeting in Antananarivo,
   Madagascar entitled "Broad-scale determinants of tropical diversification and community assembly"
- Symposium chair for 'Historical and Paleobiogeography' (Jan 2019 at IBS Malaga)

#### **Boards and Committees**

- iDiv <u>associate member</u> (2022-)
- yDiv (Graduate School for young biodiversity researchers, iDiv) postdoc rep board member (2019-)
- iDiv Internationalization committee (2021-)
- Research area co-organiser "Biodiversity as driven by evolutionary and adaptive processes from species to populations" at the German Centre for Integrative Biodiversity Research. Together with Sebastian Steinfartz, Martin Schlegel, Ekatarina Shelest, and Renske Onstein (2019-)
- Research area contributor ("iM2M: integrating meso to macro scales") at the German Centre for Integrative Biodiversity Research (2018– present). (2018-)

#### Working group memberships

- African Amphibian Working Group (2011-)
- Amphibian Specialist Group (2016-), including IUCN red list assessment East African amphibians (2016)
- GEO-BON Genetic Composition Working group (2020-)
- <u>sEngimas</u>, sDiv working group (2021-)

#### **Current society memberships**

- Association for Tropical Biology and Conservation (2019-)
- International Biogeography Society (2014-)
- Society for the Study of Evolution (2016-)

#### Training and courses attended

June 2022	Teaching in Higher Education – improving didactic delivery (2 day workshop), iDiv, Leipzig
Com 2024	Germany  Conson 2021, Consoniation Constitute Population Consonies, and Molecular Foolers'
Sep 2021	Congen 2021: Conservation Genetics, Population Genomics, and Molecular Ecology. University of Montana (online)
Jan 2020	How can biodiversity science contribute to the CBD post-2020 framework? Leipzig, Germany
Sep 2019	Introduction to Transcriptomics, Helmholtz Centre for Environmental Research (UFZ), Leipzig, Germany
Jan 2019	sdm: a reproducible and extensible R package for species distribution modeling. International Biogeography Society biennial, Malaga, Spain
Nov 2018	How to become a Junior Research Group Leader. iDiv (German Centre for Integrative

	Biodiversity Research), Leipzig, Germany
Jan 2017	Cleaning Biodiversity Data. International Biogeography Society biennial, Tucson, AZ, US
Jul 2016	Bioinformatics of long-read sequencing – getting ready for the third generation, Swiss Institute for Bioinformatics/University of Bern, Switzerland
Feb 2016	Bioinformatics for Adaptation Genomics Winter School, Swiss Federal Institute of
	Technology, Weggis, Switzerland
Oct 2015	Introduction to high performance computing cluster use. Swiss Institute for Bioinformatics/ University of Basel, Switzerland
Jun 2015	Genotyping by Sequencing. The Genome Analysis Centre, Norwich, UK
Oct 2014	Genomics of the speciation continuum. University of Fribourg, Switzerland
Mar 2004	Short course in African wildlife management, Mweka college, Moshi, Tanzania

# Visits in other Labs and Fieldwork

Institute	Year	Duration	Purpose
University of Leipzig and iDiv (GEOBON) Essential Biodiversity Variables and Nature Futures Indicators for 2020 and beyond, Leipzig (Germany)	2020	1 week	Refining and selecting Essential Biodiversity Variables for the GEOBON inputs to the CBD post-2020 framework and Nature Futures
Xishuangbanna Tropical Botanical Garden and Kunming Institute of Botany, Chinese Academy of Sciences (China)	2017	2 weeks	Collaboration at Biogeography & Ecology group and data collection. Funded and invited by Prof. Yaowu Xing
Grenoble University, Grenoble (France)	2016	1 week	Workshop funded by French-Berkeley fund, invited by Prof. Brent Mishler and Dr. Wilfried Thuiller
University of Roehampton (UK)	2016	1 week	Invited talk and project proposal writing (invited by Dr. Simon Loader)
University of Basel (Walter Salzburger Lab)	2015	1 week	RAD-seq library preparation supervision of MSc student Marco Crotti
University of Basel (Walter Salzburger Lab)	2014	2 weeks	Library preparation for RAD-seq project (PhD)
Natural History Museum, London (UK)	2014	1 week	Data collection (museum sampling) funded by ESF ConGenomics grant
Museo Delle Scienze, Trento (Italy)	2014	1 week	Data collection (museum sampling) funded by ESF ConGenomics grant
Fieldwork in Tanzania (PhD project)	2014- 2015	8 months	Data collection (amphibian sampling) - Coastal Forests of Eastern Africa
Tanzania Savannah Research Programme, Kilombero Valley, (Tanzania)	2008	9 months	Research officer to record and monitor biodiversity and mentor volunteers
Corlett Maritima, Santo Antonio (Principe Island)	2005	3 months	Data collection for BSc placement
Mweka Wildlife College, Moshi (Tanzania)	2004	2 weeks	Short course in African wildlife management and contribution to large mammal field surveys in Ngorongoro crater

<b>Presentations</b>	(10 conference talks,	*10 invited talks)

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Apr 2022	Life on the edge: assessing intraspecific vulnerability to global change by integrating environmental, ecological and molecular data, iDiv annual conference, Leipzig (online)
Feb 2022*	Environmental genomics to understand past and future biodiversity responses to global change, Florida Museum of Natural History seminar series, USA (online)
Feb 2020	Long-term environmental stability, genomic diversity and demographic history of Pan- African chimpanzee populations, 4th Annual meeting in Conservation Genetics 2020, Senckenberg World of Biodiversity, Frankfurt, Germany
Feb 2020 <sup>*</sup>	Long-term environmental stability, genomic diversity and demographic history of Pan-African chimpanzee populations, Laboratoire Evolution & Diversité Biologique, Université Paul Sabatier, Toulouse, France
Dec 2019 <sup>*</sup>	Using genomic data to understand biodiversity patterns and processes, Molecular Evolution and Systematics of Animals Research Group, University of Leipzig, Germany
Dec 2019 <sup>*</sup>	Population history and conservation of chimpanzees, Institute for Zoology, University of Veterinary Medicine, Hannover, Germany
Nov 2019 <sup>*</sup>	Chimpanzee population diversification using genomic and paleoclimate data, Molecular Evolution and Plant Systematics Research Group, University of Leipzig, Germany
Sep 2019	Afrotropical biodiversity and conservation using high throughput and genomic data, German Zoological Society annual meeting, Jena, Germany
Aug 2019	Elucidating diversification mechanisms in tropical biodiversity hotspots, Association for Tropical Biology and Conservation, Antananarivo, Madagascar
Jan 2019	Elucidating diversification mechanisms in tropical biodiversity hotspots, International Biogeography Society biennial, Malaga, Spain
Aug 2018	Elucidating intraspecific diversification processes in the Afrotropics, iDiv conference, Leipzig
Aug 2017*	Spatial phylogenetics for biodiversity conservation in East Africa. Xishuangbanna Tropical Botanical Gardens, Xishuangbanna, Yunnan Province, China
Aug 2017*	Spatial phylogenetics for biodiversity conservation in East Africa. Xishuangbanna Tropical Botanical Gardens, Kunming Institute of Botany, Kunming, Yunnan Province, China
Jan 2017	Drivers of phylogenetic endemism and the conservation of centres of endemism in the coastal forests of Eastern Africa. International Biogeography Society, Tucson, USA
Apr 2016*	A phylogenetic approach to explain endemism in the East African coastal forests. Estación Biológica de Doñana, Seville, Spain
Apr 2016*	Linking phylogenies and spatial data to explain amphibian endemism in the East African coastal forests. Natural History Museum of Bern, Switzerland
Mar 2016 <sup>*</sup>	Using Next Generation Sequencing and DNA barcoding to reveal the biodiversity value of the Coastal forests of Eastern Africa. Department of Life Sciences, University of Roehampton, UK
Dec 2015	Phylogenetic Endemism of a highly threatened biodiversity hotspot. Young Systematists Forum, Natural History Museum, London, UK.
Mar 2014	Vanishing refuge: The Coastal Forests of Eastern Africa. 16th African Amphibian Working Group conference, Bwindi, Uganda
Apr 2011	Newly developed microsatellite markers for the East African caecilian, <i>Boulengerula uluguruensis</i> and their utility in congeneric species. British Herpetological Symposium, Bangor, Wales
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# **Posters** (10 poster presentations at conferences/workshops)

April 2022	Insights from the PanAf project: Long-term environmental stability, genomic diversity and
	demographic history of chimpanzee populations, iDiv annual conference, Leipzig
Aug 2018	Genome-wide data sheds light on amphibian diversification in the coastal forests of
	Eastern Africa. Evolution 2018, Montpellier, France
Jun 2017	Drivers of Phylogenetic Endemism and the Conservation of Centres of Endemism in the
	Coastal Forests of Eastern Africa. Evolution 2017, Portland, Oregon, US
Feb 2016	Are the Coastal forests of Eastern Africa a source area of diversity? Biology 16, Swiss

	Zoological Society, University of Lausanne, Switzerland
Aug 2015	Are the Coastal forests of Eastern Africa a source area of diversity? Systematics
	Association biennial, Oxford, UK
Jul 2015	Are the Coastal forests of Eastern Africa a source area of diversity? Amphibian
	Conservation Research Symposium, University of Cambridge, UK
Jun 2015	Are the Coastal forests of Eastern Africa a source area of diversity? Genotyping By
	Sequencing course, The Genome Analysis Centre, Norwich, UK
Feb 2015	Speciation patterns in the Coastal Forests of Eastern Africa. Biology 15, Swiss Zoological
	Society, Dubendorf, Switzerland
Jan 2015	Speciation patterns in the lowland forests of Eastern Africa. International Biogeography
	Society conference, University of Bayreuth, Germany
Sep 2014	Speciation patterns in the lowland forests of Eastern Africa. Genomics of the speciation
·	continuum workshop, University of Fribourg, Switzerland

#### **Skills**

Technical: Wet laboratory skills for DNA extraction/PCR, genetic labwork (genetic, microsatellites),

and genomic library preparation. Competence in bioinformatics (population genomics and phylogenomics, Genotype-Environment Association analysis) and ecoinformatics (spatial data analysis, species distribution modelling). Database use and analysis of large genomic datasets (exome, whole genome) and population analyses. Programming skills in R, bash and python, advanced HPC cluster use – see <a href="here">here</a> for a list of tools that I regularly use in

my work

Communication: Strong communicator, presenting complex information in a simple and digestible manner to

a wide audience (see teaching, presentations and posters). Open minded, optimistic and diplomatic, collaborative with strong problem-solving abilities. Native speaker in English,

A2/B1 Dutch, A2 French, A1 Italian, A2 German, A2 Swahili

Additional skills: Driver's Licence for class B vehicles, Graphic design skills

#### **Referees** (further referees available upon request)

- Dr. Hjalmar Kuehl. PanAf Project coordinator. German Centre for Integrative Biodiversity Research (iDiv), Halle-Jena-Leipzig, Deutscher Platz 5e, 04103 Leipzig, Germany (hjalmar.kuehl@idiv.de)
- Dr. Simon Loader. Principal Curator in charge of Vertebrates, Natural History Museum, Cromwell Road, London, UK, SW7 5BD (<u>simon.p.loader@gmail.com</u>)