

Dr. Raffael Ernst

Museum of Zoology

Senckenberg Natural History Collections Dresden

Königsbrücker Landstr. 159

D-01109 Dresden

Germany

ph.: +49 (0) 351-7958 41-4315

E-mail: raffael.ernst@senckenberg.de

Date of Birth: 28.07.1975



Research Interests

In its most general sense, my research seeks to elucidate and understand the origin, maintenance, and consequences of biological diversity within and between local communities and across different gradients (spatial, habitat, and disturbance). The ultimate goal is to reach a more profound understanding of ecosystem processes at large scales and to improve the effectiveness of current ecosystem management strategies. This involves theory and practice of community ecology and phylogenetics, population ecology, animal ecology and tropical biology, conservation biology, ethology, taxonomy, and biology of amphibians and reptiles, as well as the development of statistical models and standard methods for assessing and monitoring tropical amphibian communities.

Education & Qualification

03/14

HABILITATION TU BERLIN

Technische Universität Berlin, Fakultät VI, Institute of Ecology, Prof. I. Kowarik

Facultas docendi: Biodiversity Dynamics & Ecosystem Science

Title of thesis: "The Evolution and Dynamics of Biological Communities in Changing Ecosystems - From Species to Functional Diversity"

Since 04/10

CURATOR AND HEAD OF HERPETOLOGY SECTION

Museum of Zoology, Senckenberg Natural History Collections Dresden

04/07- 04/10

SCIENTIFIC ASSISTANT

Department of Biodiversity Dynamics, Technische Universität Berlin (chair: Prof. Dr. F. Dziöck)

Duties and responsibilities: Graduate and undergraduate teaching in animal ecology, biodiversity dynamics, and ecological statistics. Scientific projects on anthropogenic drivers of biodiversity change; animal ecology in conservation and landscape planning. Supervision of PhD and BSc. theses.

03/05 – 03/07

SCIENTIFIC INTERN

Department of Zoology, Staatliches Museum für Naturkunde Stuttgart, Forschungsmuseum Schloss Rosenstein (deputy director of the SMNS and head of department: Dr. A. Schlüter)

Focus: scientific projects in taxonomy, ecology and biodiversity of tropical herps (mainly West Africa and northern South America); coordination of externally funded projects (e.g. GBIF geo-referencing initiative); organization of conferences (DGHT-AG Anuren); guided tours through collection and exhibition; courses for undergraduate and graduate level students; CITES consultant for conservation authorities, customs, and police, digitizing, compilation and administration of online data base of herpetological holdings

11/02 – 07/06 **Ph.D. (GERMAN “PROMOTION”, GRADE A)**

Department of Animal Ecology and Tropical Biology Julius-Maximilians-University Würzburg (chair: Prof. Dr. K.E. Linsenmair)

Titel of thesis (supervision: Prof. K.E. Linsenmair & Prof. M.-O. Rödel

University Würzburg & Prof. W. Hödl, University Vienna):

“Amphibian Communities on the Cutting Edge - Patterns and Processes in Altered Tropical Forests Studies from the Guiana Shield & West Africa”

Field work in Guyana 11/02 – 10/04 funded through a doctoral scholarship of the German Academic Exchange Service (DAAD)

11/98 – 02/01 **M.Sc. – BIOLOGY (GERMAN „DIPLOM“ GRADE A)**

Department of Animal Ecology and Tropical Biology Julius-Maximilians-University Würzburg (chair: Prof. Dr. K.E. Linsenmair)

Animal Ecology & Tropical Biology, Experimental Ecology & Geobotany, Microbiology, Palaeontology, Physical Geography

Titel of thesis (supervision: Prof. K.E. Linsenmair, Prof. H.J. Poethke & Dr. M.-O. Rödel, University Würzburg):

„Anuran assemblages of the leaf litter of primary and secondary forest habitats in Taï National Park, Côte d'Ivoire – Independent populations or distinct species assemblages?”

04/97 – 10/98 **B.Sc. (GERMAN „VORDIPLOM“ GRADE A)**

Johannes Gutenberg-Universität Mainz & Philipps-Universität Marburg/L.

Basic studies in Physics, Chemistry, Mathematics, Zoology, Botany, Genetics, and Microbiology

1995 **GERMAN HIGH SCHOOL DIPLOMA („ABITUR“ GRADE A)**

Jakob-Grimm-Schule, Rotenburg/F., Germany

1992 - 1993 **REGULAR HIGH SCHOOL DIPLOMA**

Onalaska High School, Onalaska, Wisconsin, U.S.A.

(Scholarship from the Parliamentarian Partnership Program –U.S. Congress / German Bundestag – PPP)

Teaching

FLORIDA INTERNATIONAL UNIVERSITY, U.S.A

03/ 2012 **GUEST LECTURER & SEMINAR SPEAKER**

Graduate School Research Colloquium (UGSRC)

Seminar on Amphibian Ecology and current research organized by FIU Biology Graduate Student Association (BGSA)

ANTON DE KOM UNIVERSITEIT PARAMARIBO, SURINAME

03/ – 04/2011 **GUEST LECTURER**

Lectures & Tutorials

Ecological data analysis and biodiversity statistics

Courses for students in Master Conservation Biology and train the trainer component for faculty in agricultural and life sciences

TECHNISCHE UNIVERSITÄT BERLIN, DEPARTMENT OF BIODIVERSITY DYNAMICS

2007 – 2010 **SCIENTIFIC ASSISTANT**

(since 2011 guest lectures)

Compulsory modules (B.Sc.)

Tutorials Urban Ecology

Compulsory optional modules (B.Sc., Master & Diplom)

Mathematical and statistical methods in ecology and environmental sciences

Lectures & Tutorials Animal Ecology (B.Sc., Master & Diplom)

Ecological Projects (B.Sc.)

Ecological Projects (Diplom)

Elective modules (Master & Diplom)

Lecture Ecology & Society

Various topics, e.g.: The sixth extinction – Anthropogenic change and the global biodiversity crisis; Darwin's dangerous idea – Evolution in an age of rapid anthropogenic change.

E-Learning & online teaching

All modules and projects are designed as integrated e-learning courses using a modular object-oriented dynamic learning environment (moodle)

*STAATLICHES MUSEUM FÜR NATURKUNDE STUTTGART,
DEPARTMENT OF ZOOLOGY*

2006 – 2007 **SCIENTIFIC INTERN**

Lectures & Tutorials

The role of scientific collections in Biodiversity Research

Ecology and field identification of European reptiles and amphibians

Guided Tours for Students

1001 Species – Biological Diversity or why are there so many species?

Life at the Limit: Amphibian Diversity between Arctic and Equator.

*PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ, INSTITUTO DE
ESTUDIOS AMBIENTALES*

11/05 – 12/05 **GUEST LECTURER**

Lectures & Tutorials

Lecture Animal Ecology

Lecture & Tutorial Biodiversity: Concepts & Measurement

Field Course

Assessment and monitoring methods for tropical amphibians and reptiles

Field identification of amphibians and reptiles

*UNIVERSITÄT WÜRZBURG, DEPARTMENT OF ANIMAL ECOLOGY &
TROPICAL ECOLOGY*

1999 – 2004 **TEACHING ASSISTANT & TEACHING APPOINTMENT**

Tutorials & Seminars

Advanced Tutorial: Animal Ecology

Seminar & Tutorial: Taxonomy and Phylogenetics in Biodiversity Research
with an Introduction to Biodiversity Statistics

Teaching Appointment

Advanced Tutorial and Excursions: Animal Ecology and Systematics

Grants & Scholarships

1992-1993	Parlamentarisches Patenschaftsprogramm (PPP), German Bundestag & US Congress exchange program
2002-2004	DAAD doctoral scholarship (German Acad. Exch. Service)
2005	DAAD guest lectureship grant (German Acad. Exch. Service)
2006-2007	HerpNET-GBIF geo-referencing grant (Global Biodiversity Information Facility)
2007	DFG congress travel grant ER 589/1-1 (German Research Foundation)
2007	Peter Dornier Stiftung research travel grant
2009-2012	DFG research grant ER 589/2-1 (German Research Foundation)
2010	Project Grant Stiftung Artenschutz (Species Conservation Foundation) Amphibian Conservation Projects call 2010
2012-2016	BMBF grant BMBF 01LL0904A (Federal Ministry of Education and Research)
2012	Project Grant Stiftung Artenschutz (Species Conservation Foundation) Amphibian Conservation Projects call 2012
2014	Paul Ungerer Stiftung research grant

Professional Memberships

Since 2013	Guiana Shield Foundation for Biodiversity (GSFBIO) & International Society of Biodiversity of the Guiana Shield (IBG)
since 2010	Diversitas e.V.
since 2009	Association for Tropical Biology and Conservation (ATBC)
since 2008	International Herpetological Committee
since 2008	Kaule e.V. Organisation for Socially Sustainable Agro-Projects
2001-2005	Society for the Study of Amphibians and Reptiles (SSAR)
since 1996	Society for Tropical Ecology (gtö)
since 1988	German Herpetological Society (DGHT)

Service as a Reviewer

Funding agencies and conservation organizations

Alexander von Humboldt Foundation, Deutsche Forschungsgemeinschaft
National Research Foundation South Africa, National Geographic Research
Grants, DGHT Wilhelm-Peters-Fonds, IUCN-Red List, IUCN-SOS

Intergovernmental Panels

Intergovernmental Panel on Climate Change (IPCC) Expert Reviewer for WGII
AR5 (WG Impacts, Adaptation and Vulnerability)

Journals & books

Book reviewer for Oxford University Press, Brill Publishing
Journals: Acta Oecologica, African Journal of Ecology, Amphibia-Reptilia,
Animal Conservation, Biodiversity and Conservation, Biotropica, Cladistics,
Conservation Biology, European Journal of Forest Research, Global Ecology
and Biogeography, Herpetologica, Integrative Zoology, Journal of Animal
Ecology, Journal of Biogeography, Journal of Herpetology, Journal of Natural
History, Journal of Tropical Ecology, Journal of Zoology, Organisms, Diversity
& Evolution, Phyllomedusa, PlosOne, Revue d'Ecologie, Salamandra, Studies
on Neotropical Fauna and Environment, Vertebrate Zoology, Web Ecology,
Zoologischer Anzeiger, Zootaxa

Additional Work Experience, Project Involvement & Administration

2012 (ongoing) **PRINCIPAL INVESTIGATOR / MODUL COORDINATOR**

BMBF project Innovate "Interplay among multiple use of water reservoirs via
innovative coupling of substance" SP4 Biodiversity: Linking amphibian
diversity and arthropod-pest species abundance in agro-ecosystems under
land-use and climate change

2011 (ongoing) **MEMBER OF SCIENTIFIC ADVISORY BOARD**

Scientific advisor for biodiversity issues, Iwokrama International Centre for
Rainforest Conservation and Development

2009 (start up) **PARTICIPATING SCIENTIST**

Proyectos de investigación en Ecología y Biología de la Conservación -
Diversidad críptica en la Amazonía e implicaciones para la conservación
(funded through BBVA Ayudas a la investigación en Ecología y Biología de la
Conservación)

2008 - Ongoing **INTERNATIONAL HERPETOLOGICAL COMMITTEE**

World Congress of Herpetology member of IHC and associated sub committees

2008 - Ongoing **SCIENTIFIC ADVISOR**

Kaule e.V. - Organisation for Socially Sustainable Agro-Projects

2007 - Ongoing **INVITED PARTICIPANT**

BioGuiana (www.BioGuiana.org)

2008 **SEARCH COMMITTEE MEMBER**

Member of search committee: W3 professorship in ecological impact research and ecotoxicology at the Institute of Ecology, TU Berlin

2006 – 2007 **SCIENTIFIC COORDINATOR**

GBIF-HerpNET Georeferencing Initiative Scientific coordinator of the subproject at the Staatliche Museum für Naturkunde Stuttgart. Application of GIS-tools for georeferencing of herpetological collection.

2001 – 2005 **PROJECT RESEARCHER**

BIOTA West Africa W08: "Amphibian diversity and diversity changes in West Africa: Global, regional or local Causes?" German Federal Ministry of Education and Science (BMB+F).

2001 – 2004 **SCIENTIFIC AIDE**

BIOTA West Africa: Statistical data analysis and taxonomic work at the Zoological Institute, Department of Ecology Johannes Gutenberg-University, Mainz, Germany.

01/97 – 03/97 **INTERNSHIP**

Agency for Regional Development, Landscape Planning and Agriculture. Internship with focus on: environmental policy development, implementation of regional conservation concepts, ground validation of map data, mediation between stakeholders.

International Work Experience

03/11 – 04/11 **GUEST LECTURER**

Anton de Kom Universiteit Paramaribo, Suriname, (1 month funded by Capaciteitsfonds Bos & Natuur CBN, Tropenbos International & Dutch government)

Focus: Ecological data analysis & biodiversity statistics for MSc. Level students in Conservation Biology & training for faculty agricultural & life sciences

11/05 – 12/05 **GUEST LECTURER**

Instituto de Estudios Ambientales, Pontificia Universidad Católica del Perú, Lima, Perú (2 months funded by a DAAD guest lecturer grant);

Focus: Ecology and Biodiversity, Field assessment and monitoring methods

11/02 – 10/04 **SCIENTIFIC FIELD WORK AND CONSULTANCY**

Guyana und Suriname (PhD and consultant for FSC & WWF Guianas)

10/03 – 11/03 **RAPID ASSESSMENT /CONSULTANCY**

Ghana, scientific consultant for Conservation International, Washington D.C.

2002 – 2009 **FIELD TRIPS AND EXCURSIONS**

Indonesia (Java, Sulawesi) visit to STORMA-Project and Philippines (Cebu, Bohol, Panay) Visit to field station of the Zoological Society Frankfurt/M, Mali, Burkina Faso, Niger, Sénégal, Gambia (visits within BIOTA and other projects, e.g. ENDA), Brazil, Perú visit to field station of PUCP at Tambopata, Cuba, Myanmar, various herpetological field trips to European countries (among others: Greece, Portugal, Italy)

1999-2001 **SCIENTIFIC FIELD WORK AND CONSULTANCY**

Côte d'Ivoire (BIOTA-West and MSc), consultant for BirdLife International and Conservation International

1996 **FIELD TRIPS AND EXCURSIONS**

Venezuela, Colombia und Ecuador visits to scientific field stations: Hato El Frio- Venezuela, Fundacion Jatun Sacha (Jatun Sacha, Bilsa, Guandera)- Ecuador Estacion Biologica Charles Darwin- Galapagos, Ecuador

Public & Social Service

- | | |
|---------------|---|
| since 1993 | Advisor and contact for foreign exchange students with American Field Service Intercultural Society, Germany (AFS-Germany) |
| 07/95 – 08/96 | Social service advisor at the public support centre for asylum seekers, war refugees, and immigrants (German Workers Welfare Association) |
-