

Maxwell J. Bernt

American Museum of Natural History

Email: mjbernt@gmail.com

Education

PhD in Environmental and Evolutionary Biology 2019

University of Louisiana at Lafayette

Dissertation: Phylogenetics, Taxonomy, and Historical Biogeography of the South American Ghost Knifefishes (Apterontidae, Gymnotiformes). Advisor: James Albert

Bachelors of Arts in Biology (Cum Laude) 2013

Carroll College – Helena, MT

Honors Thesis: Blood-Feeding Behavior of *Culex tarsalis* at Medicine Lake National Wildlife Refuge, Montana. Advisor: Grant Hokit

Professional Experience

Gerstner Postdoctoral Scholar. Department of Ichthyology, American Museum of Natural History (Supervisor: Melanie Stiassny) 2019- Present

Teaching Experience

Biology 221: Human Anatomy and Physiology Laboratory 2014-2019

Biology 221: Adjunct instructor 6/2018-8/2018

Biology112: Biological Principles Laboratory 2013-2014

Field instructor with the US Forest Service 5/2013-8/2013

Peer Reviewed Publications

Bernt, M.J., V.A. Tagliacollo, and J.S. Albert. 2019. Molecular phylogeny of the ghost knifefishes (Gymnotiformes: Apterontidae). *Molecular Phylogenetics and Evolution*. 135: 297-307.

Evans, K.E., **M.J. Bernt**, M.A. Kolmann, K. Ford, and J.S. Albert. 2018. Why the long face? Static allometry in the sexually dimorphic phenotypes of Neotropical electric fishes. *Zoological Journal of the Linnean Society*. 186(3): 633–649.

Bernt, M.J., W.G.R. Crampton, A.B. Orfinger, and J. S. Albert. 2018. *Melanosternarchus amaru*, a new genus and species of electric ghost knifefish (Gymnotiformes: Apterontidae) from the Amazon Basin. *Zootaxa*. 4378 (4): 451–479.

Bernt, M. J. and J.S. Albert. 2017. A new species of deep-channel electric knifefish (*Compsaraia*, Apterontidae, Gymnotiformes) from the Amazon River. *Copeia* 105(2), 211-219.

Tagliacollo V.A., **M.J. Bernt**, J. M. Craig, C. Oliveira, and J. S. Albert. 2016. Model-based total evidence phylogeny of Neotropical electric knifefishes (Teleostei, Gymnotiformes). *Molecular Phylogenetics and Evolution*. 95:20–33.

Alda, F., V.A. Tagliacollo, **M. J. Bernt**, B. T. Waltz, W. B. Ludt, B. C. Faircloth, M. E. Alfaro, J. S. Albert, and P. Chakrabarty. 2018. Resolving deep nodes in an ancient radiation of Neotropical fishes in the presence of conflicting signals from incomplete lineage sorting. *Systematic Biology*. 68(4): 573–593.

Book chapters

Bernt, M.J. and J. S. Albert. 2017. Family Apterontidae – Ghost knifefishes, Sarapós, and Cuchillo fantasmas. In: Field Guide to The Fishes of the Amazon: Fish Genera of the Amazon, Orinoco, and Guianas (Van der Sleen, P., and J. S. Albert. Eds.). University of Princeton Press, Princeton.

Manuscripts in preparation or review

Waltz, B.T., F. Alda, **M.J. Bernt**, J. M. Craig, V.A. Tagliacollo, K.J. Evans, P. Chakrabarty, J.S. Albert. 2018. Addressing the Achilles Heel of Biodiversity: Genome-wide markers uncover convergent origins of cryptic species in Neotropical electric fishes. *In prep.*

Bernt, M.J., A. H. Fronk, B. T. Waltz, and J. S. Albert. 2018. Radiation or Accumulation? Deep-channel habitats drive diversification of ghost knifefishes (Gymnotiformes: Apterontidae). *In prep.*

Presentations

Bernt, M. and J. Albert. Assessing the Amazonian Radiation of Ghost Knifefishes (Gymnotiformes: Apterontidae). Joint Meeting of Ichthyologists and Herpetologists (JMIH). Snowbird, UT. 7/27/2019.

Fronk, A., **M. Bernt**, and J. Albert. Using Landscape Evolution Models to Constrain Phylogenetic Time-calibration in Amazonian Fishes. Joint Meeting of Ichthyologists and Herpetologists (JMIH). Rochester, NY. 7/13/2018.

Waltz, B., **M. Bernt**, and J. Albert. Reproducibility crisis of species delimitation. II International Symposium on Phylogeny and Classification of Neotropical Fishes. Londrina, BR. 10/26/2017.

Bernt, M., V. Tagliacollo, and J. Albert. Historical Biogeography of the Ghost Knifefishes (Gymnotiformes: Apterontidae). II International Symposium on Phylogeny and Classification of Neotropical Fishes. Londrina, BR. 10/25/2017.

Kim, L., K. Evans, **M. Bernt**, and J. Albert. Diversification of lineages and functional phenotypes in the Neotropical electric fish Apterontidae. II International Symposium on Phylogeny and Classification of Neotropical Fishes. Londrina, BR. 10/24/2017.

Waltz, B., F. Alda, **M. Bernt**, P. Chakrabarty, and J. Albert. Addressing the Achilles heel of biodiversity: UCEs indicate cryptic speciation in the Neotropical electric fish *Eigenmannia macrops*. II International Symposium on Phylogeny and Classification of Neotropical Fishes. Londrina, BR. 10/24/2017.

Bernt, M. and J. Albert. Tempo of Diversification in Ghost Knifefishes (Gymnotiformes: Apterontidae). Joint Meeting of Ichthyologists and Herpetologists (JMIH). Austin, TX. 7/14/2016.

Alda, F., C. McMahan, V. Tagliacollo, **M. Bernt**, B. Waltz, W. Ludt, J. Albert, and P. Chakrabarty. Phylogenomic analyses of two major Neotropical freshwater fish radiations. Joint Meeting of Ichthyologists and Herpetologists (JMIH). New Orleans, LA. 7/9/2016.

Bernt, M. Diversification in deep channels: a molecular phylogeny of the ghost knifefishes (Gymnotiformes: Apterontidae). Joint Meeting of Ichthyologists and Herpetologists (JMIH). New Orleans, LA. 7/8/2016.

Bernt, M., V. Tagliacollo, K. Evans. Neogene Revolution: Rapid diversification of Neotropical ghost knifefishes. Annual meeting of the Society for the Study of Evolution. Guarujá, Sao Paulo, BR. 6/28/2015.

Bernt M. The *Apteronotus bonapartii* species group (Apteronotidae: Gymnotiformes): A Widespread Phenotype across the South American Platform. Joint Meeting of Ichthyologists and Herpetologists (JMIH). Chattanooga, TN. 7/31/2014.

Bernt, M. Blood Feeding Behavior of *Culex tarsalis* at Medicine Lake National Wildlife Refuge, MT. Murdock Science Research Conference. Whitman College, Walla Walla, WA. 10/26/2012.

Bernt, M. and B. McIsaac. Mapping the abundance of *Culex tarsalis* to environmental variables in Montana. Montana State University MSGC Student Research Symposium. Bozeman, MT. 4/18/2012.

Grants and Funding

Gerstner Scholars Postdoctoral Fellowship (\$136000) 2019

“Diversification in African Airbreathing Catfishes: an Integrative Approach”

Rolex Explorer Grant (\$10000) 2018

“Diversity of deep-channel knifefishes in the Rio Negro and Amazon Rivers.”

Small Grants

University of Louisiana Graduate Student Organization Research Grants (**\$1280**) 2013-2018

Travel grants

Edmund B. Stueben award for Graduate Student Support (**\$350**) 2014

University of Louisiana Graduate Student Organization Travel Grants (**\$1800**) 2014-2017

Society Affiliations

2017-Present Sociedade Brasileira de Ictiologia

2015-Present Society for the Study of Evolution

2014-Present American Society of Ichthyologists and Herpetologists

Field Experience

Loreto, Peru. Extensive dip net and seine sampling of small terra firme streams and sampling of deep river channels and flooded beaches in the Amazon, Itaya, and Nanay rivers using trawls and large purse seines. 6/2014, 1/2015, 1/2016, 1/2017

Apure, Venezuela. Trawl and seine sampling of the main channel and beaches of the Apure River. 4/2015

Pará and Paran, Brazil. Trawl and gill net sampling in the channels and flooded margins and beaches of the Amazon and Tapajos rivers near Santarem, Brazil. Trawl sampling of the Parana River near Porto Rico. 6-7/2015

Itapa, Paraguay. Trawl and seine sampling of the Parana River near Obligado. Electrofishing and dip net sampling of small streams near Hoenau, Obligado, and Capitan Meza. 8/2016

Amazonas and Roraima, Brazil. Trawl sampling of the deep channels of the middle Rio Negro and its tributaries in the vicinity of Barcelos. 8/2018

Summary of collections

Locality, number of lots, specimens, tissue samples, permitting agency, museum of deposition

2018 Rio Negro, Brazil, 356, 965, 278, UNESP, ANSP/LBP

2017 Iquitos, Peru, 63, 305, 24, DirePro, ANSP/MUSM

2016 Itapa, Paraguay, 52, 131, 39, MNHNP, MNHNP

2016 Iquitos, Peru, 51, 205, 30, DirePro, ANSP

2015 Brazil, 101, 292, 92, UNESP, ANSP/FMNH

2015 Apure, Venezuela, 233, 932, 276, UNELLEZ, ANSP

2015 Iquitos, Peru, 20, 45, 10, DirePro, MUSM

2014 Iquitos, Peru, 59, 259, 48, DirePro, ANSP/MUSM

Total, all locations: 935, 3134, 797.

Journal Reviewer

2019	Acta Amazonica
2018	Biological Conservation
2017	Zootaxa