

JOHN STEPHEN SPARKS

Curriculum Vitae

Curator-in-Charge and Curator
Professor Richard Gilder Graduate School
Department of Ichthyology
Division of Vertebrate Zoology
American Museum of Natural History
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https://dl.dropboxusercontent.com/u/23587807/Sparks_AMNH/Bio.html

EDUCATION:

- 1995-2001 Ph.D. Department of Ecology and Evolutionary Biology, University of Michigan, Ann Arbor, Michigan.
- 1995-1997 M.Sc. Department of Biology, University of Michigan, Ann Arbor, Michigan.
- 1984-1987 B.A. Economics, University of Michigan, Ann Arbor, Michigan.

RESEARCH AND PROFESSIONAL EXPERIENCE:

- 2012-present Curator-in-Charge & Curator of Ichthyology, Department of Ichthyology, American Museum of Natural History, New York.
- 2007-2012 Curator-in-Charge & Associate Curator of Ichthyology, Department of Ichthyology, American Museum of Natural History, New York.
- 2002-2007 Assistant Curator of Ichthyology, Department of Ichthyology, American Museum of Natural History, New York.
- 2007-present Adjunct Professor, CERC/EEEB, Columbia University, New York.
- 2002-2007 Adjunct Assistant Professor, CERC/EEEB, Columbia University, New York.
- 1998-2000 Carl L. & Laura C. Hubbs Research Fellow, Division of Fishes, University of Michigan Museum of Zoology, Ann Arbor, MI.
- 1998 Graduate Research Assistant, Laboratory of Molecular Systematics, University of Michigan Museum of Zoology.
- 1997-2001 Curatorial Research Assistant, Division of Fishes, University of Michigan Museum of Zoology (1997, 1999, 2000-2001).

EXTERNAL FUNDING:

- 2013 Funded: NSF preliminary proposal, DEB Systematic Biology: “Collaborative research: Diversification in the Deep-Sea and the Evolution of Fangs, Bioluminescence, Hermaphroditism, and Marine Habitat Transitions”, DEB 1221967, \$575,000, PIs: J. Sparks, AMNH, and M. Davis, FMNH, and Co-PI: W.L. Smith, FMNH.
- 2013 Funded: Dalio Marine Research Fund: “Evolution & Phylogenetic Distribution of Biofluorescence & Bioluminescence in Marine Fishes & Invertebrates”, \$508,000, Chief Scientist: J. Sparks, AMNH, Co-PIs: D. Gruber, Baruch College/CUNY, V. Pieribone, Yale University, M. Davis, FMNH, and W. L. Smith, FMNH.
- 2013 Pending: NSF preliminary proposal, DEB Systematic Biology: “Collaborative research: The Evolution, Diversification, and Function of Biofluorescence in Marine Fishes”, DEB 1327937, PI: J. Sparks, AMNH, Co-PIs: D. Gruber, Baruch College/CUNY, V. Pieribone, Yale University, M. Davis, FMNH, and W.L. Smith, FMNH.
- 2013 Pending: NSF Division of Molecular and Cellular Biosciences (MCD) : “Protein isolation and characterization from marine fishes”, PI: V. Pieribone, Yale University, Co-PIs : D. Gruber, Baruch College/CUNY, J. Sparks, AMNH.
- 2012-2014 Funded: National Science Foundation, DEB Systematic Biology, “Dissertation Research: Evolution of Asymmetry in Flatfishes (Pleuronectiformes: Percomorpha)”, DEB 1210663, \$14,714, PI: J. Sparks, Co-PI: Dawn Roje.
- 2012 Funded: National Geographic Waitt Foundation: “The Evolution of Biofluorescence in Marine Fishes: Field Studies in Madagascar and the Solomon Islands”, \$14,964, PI: J. Sparks.
- 2012 Pending: J.R.S. Biodiversity Foundation: “Madagascar’s Wetlands: Communicating Biodiversity and Livelihood Linkages”. PI: J. Mantilla-Contreras, Co-PIs: J. Sparks and others.
- 2011-2012 Funded: National Science Foundation, DRL: Informal Science Education, “The Hidden Fluorescent World of Coral Reefs: A Multimedia Presentation”, DRL 1007747, \$149,024, subaward to J. Sparks.
- 2010-2012 Funded: National Science Foundation, DEB Systematic Biology, “Dissertation Research: Interrelationships of Alepocephaliformes and Evolution of the Light-Organ System in Platytroctidae”, DEB 1011506, \$10,793, PI: J. Sparks, Co-PI: Zachary Baldwin.
- 2010 Accepted: National Science Foundation, DEB Emerging Frontiers, Innovations in Biological Imaging and Visualization (IBIV), DEB IBIV 1038507, Preliminary proposal accepted. PI: J. Sparks
- 2008-2014 Funded: National Science Foundation, Integrative Organismal Systems, "RUI: Collaborative Research: The origin and diversification of hearing in Malagasy and South Asian cichlids", IOS 0749943, \$581,029, PI: J. Sparks, Co-PI: C. Braun, Hunter/CUNY.
- 2007-2008 Funded: Niarchos Expedition Fund, “Systematics and Biogeography of the Blind Cave Fishes (Teleostei: Gobioidae) Endemic to Madagascar and Australia”, \$30,000, sole PI. Plus \$10,000 supplement 2010.

2005-2011 Funded: National Science Foundation, DEB Systematic Biology, “The Evolution and Diversification of a Symbiotic Bioluminescence Signaling System”, DEB 0444842, \$330,000, sole PI: J. Sparks.

TEACHING EXPERIENCE:

Richard Gilder Graduate School, AMNH

2012 Grantsmanship and Ethics course (Fall 2012)
2011 Independent Study: Histological Techniques in Systematic Ichthyology
2010 Independent Study: Comparative Brain Morphology and Hearing in Fishes
2010 Independent Study: Digital Morphology of the Cichlid Hindbrain
2009 Independent Study: Methodologies in Functional Neurophysiology
2009, 2010, 2011, 2012 Lead DDIG workshop for RGGGS and affiliated students

2010, 2011, 2012 Lecture to Grantsmanship and Ethics Course on Animal Ethics/IACUC policies

Columbia University:

2004, 2007 EEEB G4660: Fish Biodiversity: Systematics and Evolution. Graduate level course in Systematic Ichthyology with laboratory component. Columbia University, New York, CERC/EEEB program.

University of Michigan:

1995-2001 Graduate Student Instructor, University of Michigan, Ann Arbor, Michigan. Taught laboratory and/or discussion sections of Introductory Biology, Genetics, Comparative Anatomy, and Evolution. Lecturer for Introductory Biology on phylogenetic systematics and conservation biology. Guest lectured in graduate level Ichthyology and Biogeography courses. Organized and taught laboratory portion of Chordate Anatomy and Phylogeny.

Madagascar Field Course:

1994 Ranomafana National Park, Madagascar. Lecturer for Linkage Grant Program Field Courses in Ichthyology and Limnology. Funded by U. S. Agency for International Development.

FIELD COLLECTING EXPERIENCE:

2013 (Sept.-Oct.) Solomon Islands: surveys of shallow reef and deep-water mesopelagic marine fishes, corals, and invertebrates, and field test novel UW camera equipment, housings, and lighting systems that we have designed and developed to capture bioluminescence and biofluorescence via SCUBA and submersibles.

2013 (April) Southern California: collecting and imaging of biofluorescent fishes

2012 (June-July) Solomon Islands: surveys of marine fishes, corals, and other invertebrates for biofluorescence using SCUBA and ROVs, and bioluminescence imaging via SCUBA

2011 (Dec.) Lee Stocking Island, Exumas, Bahamas: reef surveys to assess fish and coral biofluorescence, and bioluminescence imaging via SCUBA

2011 (May-June) Madagascar: Expedition funded by one of my current NSF awards (IOS-0749943). The goal of this study is to 1) survey the auditory sensitivity and range of native Malagasy cichlids in their natural habitats using novel AEP (auditory evoked potentials) techniques, and to record the ambient background noise characteristic of these habitats, and 2) explore karst habitats in northern Madagascar region for cavefishes.

2011 (April-May) Lee Stocking Island, Exumas, Bahamas: reef fish surveys in mesophotic zone; coral fluorescence and bioluminescence imaging via technical SCUBA

2011 Little Cayman Island, BWI: coral fluorescence and bioluminescence imaging via SCUBA; marine fish and coral collecting in mesophotic zone

2010 California: deep-sea trawling in San Diego trough: midwater and benthic surveys of marine fishes and invertebrates

2010 Vietnam, northern and southern coastal regions: survey nearshore marine fishes and freshwater taxa inhabiting coastal regions.

2010 Oman: survey nearshore marine fishes.

2010 Michigan, USA: inland freshwater fishes.

2009 California, USA: Freshwater fishes.

2009 Pennsylvania, USA: Freshwater fishes.

2009 Oregon, USA: Coastal marine fishes.

2008 Madagascar: survey cavefishes (gobioids) endemic to karst formations in southwestern and northwestern Madagascar.

2007 Indonesia: survey nearshore and mesopelagic marine fishes with focus on bioluminescent taxa.

2007 Sri Lanka: survey nearshore and mesopelagic marine fishes with focus on bioluminescent taxa.

2007 Malaysia: survey nearshore and mesopelagic marine fishes with focus on bioluminescent taxa.

2007 Thailand: survey nearshore and mesopelagic marine fishes with focus on bioluminescent taxa.

2007 Singapore: survey nearshore and mesopelagic marine fishes with focus on bioluminescent taxa.

2006, 2008 Taiwan: survey nearshore and deep-sea fishes with focus on bioluminescent taxa.

2005 Curacao: survey marine, brackish, and freshwater fishes collected primarily using SCUBA.

2003 Madagascar: nearshore marine fish surveys, focusing on coral reef fishes.

1994, 1996a, 1996b, 1997, 1998-present Madagascar: annual or biannual surveys of freshwater fishes. Survey and scientific collection of fresh and brackish water fishes throughout Madagascar.

1999 Ecuador: Team leader for limnological survey of the upper Rio Pastaza basin. Aquatic Rapid Assessment Program (AquaRap).

2000 Venezuela: Team leader for limnological survey of the Rio Caura basin. Aquatic Rapid Assessment Program (AquaRap).

1999 Michigan: Eastern Sand Darter (*Ammocrypta pellucida*) survey.

1991-1992 Western Australia: Ningaloo Reef Survey, Ningaloo Reef/Cape Range National Park, Exmouth, Western Australia. Research diver to assess coral damage caused by *Drupella cornus* infestations.

1991 Western Australia: Broome Bird Observatory, Broome, Western Australia. Trapping and daily species counts/surveys of wading birds.

1991 Australia, Northern Territory: Gouldian Finch Project. Mistnetting, trapping at nest sites, and banding to assess breeding success and overall population numbers.

AWARDS AND FELLOWSHIPS:

- 2001 American Society of Ichthyologists and Herpetologists, Honorable Mention, Stoye Award in General Ichthyology.
- 2000 Dissertation Thesis Grant, University of Michigan, Ann Arbor, MI.
- 1996, 1998 University of Michigan, Rackham Graduate School Discretionary Funds Award.
2000
- 1999 American Museum of Natural History Collection Study Grant.
- 1997-2000 Peter Olaus Okkelberg Award, University of Michigan.
- 1996-2000 Rackham Block Grant Award, University of Michigan, Department of Biology.
- 1998-present National Honor Society of Phi Kappa Phi Member.
- 1998-2000 Carl L. and Laura C. Hubbs Research Fellowship. University of Michigan, Museum of Zoology, Division of Fishes. Advisors: Gerald R. Smith and William L. Fink.
- 1998, 2001 University of Michigan Museum of Zoology, Hinsdale-Walker Research Award.
- 1997 Sokol International Summer Research Fellowship in the Sciences.
- 1996 Sigma Xi, Grants in Aid of Research.
- 1996 University of Michigan, Horace H. Rackham Spring/Summer Research Grant. 1996. With Curator Gerald R. Smith.
- 1994 Xerces Society, Logistical Support Grant for Survey of Masoala Peninsula, Northeastern Madagascar.
- 1994 Jordan Endowment Fund Award of the American Cichlid Association.
- 1994 Meta Hellwig Research Fellowship.

SERVICE:

- 2014 National Oceanic and Atmospheric Administration (NOAA) Office of Ocean Exploration and Research (OER) Program proposal review committee.
- 2014 *Exosuit* exhibition and project scientist. Temporary exhibition and events at AMNH, Feb.-March, 2014).
- 2014-present Explore21 and Niarchos Expedition proposal review committee.
- 2013-present Co-lead Curator (with Mark Siddall), *Extreme Creatures*, proposed traveling exhibition opening Spring 2015.

2013-2014 Appointments and Promotions Committee Member, American Museum of Natural History.

2013 Chairman's Circle Dinner speaker, *Alive and glowing: the covert world of marine biofluorescence*, June 5, 2013.

2013 Lead Curator (cinematographer, producer), *Reefs Illuminated* original film on biofluorescence, Milstein Science Series geodome, April-May 2013.

2013 Trustees talk on biofluorescence, March 2013.

2012-2013 *Creatures of Light: Nature's Bioluminescence* bilingual translation and copyediting for FMNH run of traveling exhibition.

2010-2013 Lead Curator, *Creatures of Light: Nature's Bioluminescence*, traveling exhibition on bioluminescence and biofluorescence scheduled to open March 31, 2012.

2012 Lead Curator, *Extreme Creatures*, incubation phase 1 and 2, proposed traveling exhibition.

2012 Board of Trustees presentation on *Creatures of Light: Nature's Bioluminescence*, March 2012.

2012 *Creatures of Light: Nature's Bioluminescence* collaborator meeting, participant and presenter, March 2012.

2012 Ornithology Curatorial Search Committee member: 2012

2011-present Reviser, IUCN Red List of threatened species for Malagasy freshwater fishes (ongoing).

2011 *SciCafe* on bioluminescence and biofluorescence for upcoming exhibit *Creatures of Light: Nature's Bioluminescence*, Nov. 2011.

2010-2011 *Picturing Science* exhibition, content contributor and collaborator.

2011 *Museum Expeditions: Insights Into Global Research* Panel Member, June 23, 2011.

2011 Microbial Systematist Curatorial Search Committee member: 2011

2011 CBPPC visiting site committee (substitute for absent committee member)

2011 Presentation for Ray Dalio, American Museum of Natural History.

2011 Presentation on Explore 21 to McCauleys, American Museum of Natural History.

2011 Presentation on Malagasy cavefishes to Niarchos foundation, American Museum of Natural History.

2010-present Performance Review Committee, Provost appointee, American Museum of Natural History.

2011-present Niarchos Expedition Fund review committee, Provost appointee.

2011 Admissions Committee, RGGs Comparative Biology Program Committee (CBPPC), American Museum of Natural History (replacement for Meng Jin).

2011 CBPPC Review Committee for Student Exam (replacement for committee member in conflict).

2010-present ArcLife Development Committee Participant: 2010-present.

2011 ArcLife Writing Group Committee member (Chair: DeSalle).

2010-present Finance and Compensation Review Committee, Scientific Senate.

2010 Science Policy Committee ArcLife Participant and Presenter, American Museum of Natural History (May 2010).

2010 National Science Foundation, Systematic Biology Panel, Arlington, VA. (April 2010).

2010 National Science Foundation, IBIV Ideas Workshop Invitee (May 2010).

2010 Vertebrate Zoology Coordinator, Children's Guide to Exhibition Halls, American Museum of Natural History.

2010 Diving Control Board, Co-edited first Dive Safety Manual, American Museum of Natural History.

2010 Tour for Prince of Japan, American Museum of Natural History.

2009-present Lead NSF DDIG yearly workshop for RGGGS and affiliated students, American Museum of Natural History.

2009 Marine Science Program, Presentation to Trustees (Dec. 2009)

2009-2011 Richard Gilder Graduate School Accreditation Panel/visiting Committee participant.

2008-present Curator-in-Charge, Department of Ichthyology, American Museum of Natural History.

2008-2009 Appointments and Promotions Committee Member, American Museum of Natural History.

2008-2010 Information Technology Committee, Scientific Senate, American Museum of Natural History.

2008-2010 Compensation Analysis and Review Committee (CARC), Scientific Senate, American Museum of Natural History.

2008-present Dive Control Board Founding Member, SCUBA Dive Safety Committee/Advisory Board, American Museum of Natural History.

2008-2009 Dive Control Board, SCUBA Dive Safety Officer Search Committee, American Museum of Natural History.

2008 National Science Foundation, Systematic Biology Doctoral Dissertation Improvement Grant Panel, Arlington, VA. (Feb. 2008).

2008 Marine Invertebrate Systematist Search Committee, American Museum of Natural History.

2008 AAM Review Panel participant, American Museum of Natural History.

2007-2010 Richard Gilder Comparative Biology Ph.D. Program Committee (CBPPC), American Museum of Natural History.

2007-2009 Academic Affairs and Fellowships Committee (AAFC), Richard Gilder Graduate School, American Museum of Natural History.

2007-present Annual Institutional Animal Care and Use Committee (IACUC) inspection of Southwestern Research Station, Portal, AZ, American Museum of Natural History.

2007-present Chair, Institutional Animal Care and Use Committee (IACUC), American Museum of Natural History.

2007-present Collaborator, Digital Fish Library, UCSD/Scripps Institution of Oceanography, San Diego, CA.

2006-2010 Education Committee, Scientific Senate, American Museum of Natural History.

2006 National Science Foundation, Systematic Biology Panel, Arlington, VA. (Oct. 2006).

2006 Graduate School Dean Search Advisory Committee, American Museum of Natural History.

2005-2006 Scientific content for tree of life interactive, *Hall of Human Origins* exhibit.

2006 Herpetologist Search Committee, American Museum of Natural History.

2006 Scientific Senate Rules Committee, American Museum of Natural History.

2005 Graduate School Site Visit Faculty Participant, American Museum of Natural History.

2005-2006 Graduate School Curriculum Committee, American Museum of Natural History.

2004-2006 Secretary of the Scientific Senate, American Museum of Natural History.

2004-2006 Executive Committee, Scientific Senate, American Museum of Natural History.

2004-2007 Systematics Seminar Series, American Museum of Natural History, Coordinator (with L. Prendini).

2004-present Lerner-Gray Committee, American Museum of Natural History.

2003-2004 Grants and Fellowships Committee, American Museum of Natural History.

2004 Microbial Systematist Search Committee, American Museum of Natural History.

2004 Reviser, IUCN Red List of threatened species for Malagasy freshwater fishes (with Melanie Stiassny, AMNH).

2001-2002 Systematic Discussion Group, Organizer and Moderator, University of Michigan, Museum of Zoology.

2000-2001 Systematics and Evolution of Land Plants Search Committee, Biology Department, University of Michigan.

2000-present Madagascar Fauna Group (MFG) Participant.

1998-2001 Special Event Lectures and Tours of Division of Fishes to Donors and Public, University of Michigan, Museum of Zoology.

Reviewer:

NSF External Reviewer (DEB Systematic Biology, Biotic Surveys and Inventories, AToL, and Office of International Science and Engineering programs; IOS-Organism-Environmental Interactions).

National Oceanic and Atmospheric Administration (NOAA) Office of Ocean Exploration and Research (OER) Program proposal review process (2014).

Fishbase for Africa reviewer for Madagascar freshwater fishes (2014).

Journals (ad hoc reviewer): *Annals of the Missouri Botanical Garden*, *Biological Journal of the Linnean Society*, *BMC Evolutionary Biology*, *Copeia*, *Cladistics*, *Cybius*, *Genetics and Molecular Biology*, *Ichthyological Exploration of Freshwaters*, *Ichthyological Research*, *Journal of Fish Biology*, *Journal of Molecular Evolution*, *Journal of Vertebrate Paleontology*, *Madagascar Conservation and Development*, *Marine Biology*, *Miscellaneous Publications of the Museum of Zoology*, *Neotropical Ichthyology*, *University of Michigan*, *Molecular Phylogenetics and Evolution*, *Occasional Papers of the Museum of Zoology*, *University of Michigan*, *PLoS ONE*, *Proceedings of the Biological Society of Washington*, *Proceedings of the National Academy of Sciences*, *Proceedings of the Royal Society, London*, *Science*, *Systematic Biology*, *Zoological Journal of the Linnean Society*, *Zootaxa*.

Books: Dorling-Kindersley, Oxford University Press, University of California Press, Wiley-Blackwell.

EDITORIAL SERVICE:

Editor, Pisces, Marine and Estuarine Fishes, *Zootaxa* (2012-present)

Editor, Editorial Board, *Madagascar Conservation and Development* (2010-present)

Founding Editor (With David Gruber) of journal specializing in bioluminescence and biofluorescence. Taylor and Francis. In development (2013-present).

Sparks, J. S. 2006. Editor and Consultant, Scientific content. *Oceans: The world's last wilderness revealed*, Dorling-Kindersley, London, 1-512.

Sparks, J. S. 2008. Editor and Consultant, Scientific content. *Animal Life*, Dorling-Kindersley, London, 1-512.

PUBLICATIONS:

79. Davis, M. P., Holcroft, N. I., Wiley, E. O., **Sparks, J. S.**, and W. L. Smith. 2014 (In press). Species-specific bioluminescence facilitates speciation in the deep sea. *Marine Biology*.

78. **Sparks, J. S.**, Schelly, R. C., Smith, W. L., Davis, M. P., Tchernov, D., Pieribone, V. A., and D. F. Gruber. 2014. The covert world of fish biofluorescence: a phylogenetically widespread and phenotypically variable phenomenon. *PLoS ONE* 9(1): e83259.

77. McMahan, C. D., Chakrabarty, P., **Sparks, J. S.**, Smith, W. L., and M. P. Davis. 2013. Temporal patterns of diversification across global cichlid biodiversity (Acanthomorpha: Cichlidae). *PLoS ONE* 8(8): e71162.

76. de Carvalho, M. R., Ebach, M. C., David M. Williams, D. M., Nihei, S. S., Rodrigues, M. T., Grant, T., Silveira, L. F., Zaher, H., Gill, A. C., Schelly, R. C., **Sparks, J. S.**, Bockmann, F. A., Séret, B., Ho, H-C., Grande, L., Rieppel, O., Dubois, A., Ohler, A., Faivovich, J., Assis, L. C. S., Wheeler, Q. D., Goldstein, P. Z., de Almeida, E. A. B., Valdecasas, A. G., and G. Nelson. 2013. Does counting species count as taxonomy? On misrepresenting systematics, yet again. *Cladistics* 2013: 1–8.

75. Chakrabarty, P. and **J. S. Sparks**. In press. Leiognathidae. Pp. XXX-XXX in: P. C. Heemstra and J. E. Randall (eds.), *Marine Fishes of the Western Indian Ocean*. SAIAB, 2011 (revised publication date June 2013).

74. Chakrabarty, P., M. P. Davis, and **J. S. Sparks**. 2012. First reported case of a trans-oceanic sister-group relationship between obligate troglobites. *PLoS ONE* 7(8): e44083.

73. **Sparks, J. S.**, and P. Chakrabarty. 2012. Revision of the endemic Malagasy cavefish genus *Typhleotris* (Teleostei: Gobiiformes: Milyeringidae), with discussion of its phylogenetic placement and description of a new species. *American Museum Novitates* 3764: 1–28.
72. **Sparks, J. S.**, and D. F. Gruber. 2012. A new mesophotic clingfish (Teleostei: Gobiesocidae) from the Bahamas. *Copeia* 2012(2): 251–256.
71. **Sparks, J. S.**, P. V. Loiselle, and Z. H. Baldwin. 2012. Rediscovery and phylogenetic placement of the endemic Malagasy cichlid *Ptychochromoides itasy* (Teleostei: Cichlidae: Ptychochrominae). *Zootaxa* 3352: 17–24.
70. Wainwright, P. C., Smith, W. L., Price, S. A., Tang, K. L., **Sparks, J. S.**, Ferry, L. A., Kuhn, K. L., and Near, T. J. 2012. The evolution of pharyngognath: A phylogenetic and functional appraisal of the pharyngeal jaw key innovation in Labroidae and beyond. *Systematic Biology* 61: 1001-1027.
69. **Sparks, J. S.**, and Z. H. Baldwin. 2012. A new species of *Parapercis* (Teleostei: Pinguipedidae) from Madagascar. *Zootaxa* 3204: 31–39.
68. Baldwin, Z. H., and **J. S. Sparks**. 2011. A new species of *Secutor* (Teleostei: Leiognathidae) from the Western Indian Ocean. *Zootaxa* 2998: 39-47.
67. Chakrabarty, P., M. P. Davis, W. L. Smith, Z. H. Baldwin, and **J. S. Sparks**. 2011. Is sexual selection driving diversification of the bioluminescent ponyfishes (Teleostei: Leiognathidae)? *Molecular Ecology* 20: 2818-2834.
66. Chakrabarty, P., Davis, M. P., W.L. Smith, Berquist, R., Gledhill, K., Frank, L., and **J. S. Sparks**. 2011. Evolution of the light organ system in ponyfishes (Teleostei: Leiognathidae). *Journal of Morphology* 272: 704-721.
65. **Sparks, J. S.**, and R. C. Schelly. 2011. A new species of *Paretroplus* (Teleostei: Cichlidae: Etoplinae) from northeastern Madagascar, with a phylogeny and revised diagnosis for the *P. damii* clade. *Zootaxa* 2768: 55-68.
64. Ho, H.-C., P. Chakrabarty, and **J. S. Sparks**. 2010. Review of the *Halieutichthys aculeatus* species complex (Lophiiformes: Ogocephalidae), with descriptions of two new species. *Journal of Fish Biology* 77: 841-869.
63. Irwin, M.T, Wright, P.C., Birkinshaw C., Fisher, B.L., Gardner, C.J., Glos, J., Goodman, S.M., Loiselle, P., Rabeson, P., Raharison, J.-L., Raheirilalao M.J., Rakotondravony, D., Raselimanana, A., Ratsimbazafy, J., **Sparks, J.S.**, Wilmé, L., Jörg U. Ganzhorn, J.U. 2010. Patterns of species change in anthropogenically disturbed forests of Madagascar. *Biological Conservation* 143: 2351-2362.
62. Jones, C. C., W. L. Smith, and **J. S. Sparks**. 2010. A new species of rainbowfish (Teleostei: Melanotaenioidei: Bedotiidae) from the Makira Region of northeastern Madagascar. *Copeia* 2010(2): 284-291.
61. Chakrabarty, P., J. Chu, L. Nahar, Z. H. Baldwin, and **J. S. Sparks**. 2010. Geometric morphometrics reveals a new species of ponyfish (Teleostei: Leiognathidae: *Equulites*), with comments on the taxonomic status of *Equula berbis* Valenciennes. *Zootaxa* 2427: 15-24.
60. Chakrabarty, P., **J. S. Sparks**, and Ho, H.-C. 2010. Taxonomic review of the ponyfishes (Perciformes: Leiognathidae) of Taiwan. *Marine Biodiversity* 40: 107-121.
59. **Sparks, J. S.**, and M. L. J. Stiassny. 2010. A new species of *Ptychochromis* from northeastern Madagascar (Teleostei: Cichlidae), with an updated phylogeny and revised diagnosis for the genus. *Zootaxa* 2341: 33-51.
58. Chakrabarty, P., T. Amarasinghe, and **J. S. Sparks**. 2009. Redescription of ponyfishes (Teleostei: Leiognathidae) of Sri Lanka and the status of *Aurigequula* Fowler, 1918. *Ceylon Journal of Science (Biological Sciences)* 37(2): 143-161.

57. Smith, W. L., P. Chakrabarty, and **J. S. Sparks**. 2008. Phylogeny, Taxonomy, and Evolution of Neotropical Cichlids (Teleostei: Cichlidae: Cichlinae). *Cladistics* 24: 625-641.
56. **Sparks, J.S.** 2008. Madagascar Eastern highlands; Madagascar Eastern lowlands; Northwestern Madagascar; Western Madagascar; and Southern Madagascar. Freshwater Ecoregions of the World. Revised and published online by The World Wildlife Fund and The Nature Conservancy: www.feow.org/ecoregion_details.php?eco=582
55. **Sparks, J. S.**, and M. L. J. Stiassny. 2008. Les poissons d’eau douce. Pp. 283-309 in: S. M. Goodman (ed.), *Paysages Naturels et Biodiversité de Madagascar*. Publications Scientifiques Muséum national d'Histoire naturelle (MNHN), Paris.
54. **Sparks, J. S.** 2008. Editor and Consultant, Scientific content. *Animal Life*, Dorling-Kindersley, London, 1-512.
53. Ng, H. H., **J. S. Sparks**, and P. V. Loiselle. 2008. A new species of catfish of the genus *Gogo* from northeastern Madagascar (Siluriformes: Anchariidae). *Copeia* 2008(2): 395-400.
52. Chakrabarty, P., and **J. S. Sparks**. 2008. Diagnoses for *Leiognathus* Lacepède 1802, *Equula* Cuvier 1815, *Equulites* Fowler 1904, *Eubleekeria* Fowler 1904, and a new ponyfish genus (Teleostei: Leiognathidae). *American Museum Novitates* 3623: 1-11.
51. **Sparks, J. S.** 2008. Phylogeny of the cichlid subfamily Etroplinae and taxonomic revision of the Malagasy cichlid genus *Paretroplus* (Teleostei: Cichlidae). *Bulletin of the American Museum of Natural History* 314: 1-151.
50. Chakrabarty, P. and **J. S. Sparks**. 2007. Relationships of the New World cichlid genus *Hypsophrys* Agassiz 1859 (Teleostei: Cichlidae), with diagnoses for the genus and its species. *Zootaxa* 1523: 59-64.
49. Chakrabarty, P., and **J. S. Sparks**. 2007. Phylogeny and taxonomic revision of *Nuchequula* Whitley 1932 (Teleostei: Leiognathidae), with the description of a new species. *American Museum Novitates* 3588: 1-25.
48. Smith, W. L., and **J. S. Sparks**. 2007. Case 3383. *Gobius lagocephalus*: Pallas 1770 (currently *Sicyopterus lagocephalus*: Teleostei, Gobiidae): Proposed suppression of the specific name. *Bulletin of Zoological Nomenclature* 64(2): 1-5.
47. **Sparks, J. S.**, and P. Chakrabarty. 2007. A new species of ponyfish (Teleostei: Leiognathidae: *Photoplagios*) from the Philippines. *Copeia* 2007(3): 622-629.
46. Smith, W. L., and **J. S. Sparks**. 2007. *Gobius lagocephalus*: The World's most widespread *nomen dubium*. *Molecular Phylogenetics and Evolution* 43: 696-698.
45. **Sparks, J. S.** 2007. Review of *Coastal Fishes*. *Copeia* 2007(1): 238.
44. **Sparks, J. S.** 2006. A new species of ponyfish (Teleostei: Leiognathidae: *Photoplagios*) from Madagascar, with a phylogeny for *Photoplagios* and comments on the status of *Equula lineolata* Valenciennes. *American Museum Novitates* 3526: 1-20.
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TECHNICAL REPORTS AND INTERNET PUBLICATIONS:

Gruber, D. F., and **J. S. Sparks**. *Luminescent Labs* website (design and launch Spring 2013). Articles and information on bioluminescence and biofluorescence, including interactives. <http://www.luminescentlabs.org/>

Sparks, J. S. 2012. Collaborator with Exhibitions Department on *Creatures of Light: Nature's Bioluminescence* iPad app. Nominated for Webby Award 2013.

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Riseng, K. J., and **J. S. Sparks**. 1995. A survey of the fresh and brackish water fishes of the Masoala Peninsula, northeastern Madagascar. Project Masoala, Maroanetra, Madagascar, and the Wildlife Conservation Society and C.A.R.E., Washington, D. C.

POPULAR ARTICLES AND PRESENTATIONS:

Guest on *Leonard Lopate Show*, WNYC, *Fish that Glow Underwater*, discussion of biofluorescence in marine fishes, Jan. 23, 2014. Podcast available at: <http://www.wnyc.org/story/fish-glow-underwater/>

Biofluorescence research on marine fishes featured on NSF website, *Fish aglow: Hidden colors in the sea* http://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=130105

Media coverage and interviews surrounding publication of PLoS ONE paper showing that biofluorescence is both phylogenetically widespread and phenotypically variable in marine fishes. Research results featured on AMNH news/press site and interviews and coverage in *Nature*, *Science*, *New York Times*, *L.A. Times*, *ABC News*, *CNN*, *NSF website*, *National Geographic*, *Livescience*, *Science Friday*, *WNYC*, etc.

Field research on biofluorescence and bioluminescence in marine fishes and corals as part of the 2013 Explore21 Solomon Islands expedition featured in *Rotunda* (Winter 2014 edition).

Luminescent Labs website (design and launch Spring 2013). Since launch site has been featured on Tumblr science page due to number of hits. <http://www.luminescentlabs.org/>

Wilder Quarterly article on bioluminescence (Nov. 2012)

Media coverage and interviews surrounding publication of PLoS ONE paper showing sister group relationship between Malagasy and Australian obligate cavefishes featured on AMNH news/press site, *BBC*, *NBC news*, *Science Daily*, *Live Science*, *New Science*, *Caving News*, etc.

Creatures of Light: Nature's Bioluminescence weekly blog posts on various aspects of the new exhibit for the AMNH Exhibition website (Feb.-March 2012). <http://www.amnh.org/news/tag/blogging-behind-the-scenes/>

New York Times, *Scientist at Work* series, May-June 2011, bi- and tri-weekly posts from Madagascar on cavefish exploration and the evolution of hearing in cichlid fishes. <http://scientistatwork.blogs.nytimes.com/author/john-sparks/>

Guest on *Leonard Lopate Show*, *Please Explain* series, WNYC, *Bioluminescence*, discussion of bioluminescence, May 4, 2012. Podcast available at: <http://www.wnyc.org/story/206175-please-explain-bioluminescence/>

Field research on bioluminescence, cavefishes, and biofluorescence featured in *Rotunda* (Spring 2012 edition).

Interviews and media coverage (2011-2012) for new exhibit, *Creatures of Light: Nature's Bioluminescence* (*Gawker io9* (Fall 2011), *Science* (Jan. 2012), *Discover Magazine* (Feb. 2012), *The Bergen Record* (Feb. 2012), *New Scientist* (March 2012), plus others).

Interviewed for *New York Magazine* (featured profile) on career in science (Feb. 2012)

Interviewed for *New York Times* (Fall 2011) on general bioluminescence and research on ponyfishes

Story featuring marine fieldwork and series of interviews for *Scholastic Magazine* (Feb.-March 2012)

Biofluorescence work featured on Research.gov website (NSF subaward coral fluorescence grant) <http://www.research.gov/research-portal/>

Biofluorescence work featured on *Live Science* website (2012)

Research work on coral and fish biofluorescence with collaborator David Gruber featured on CUNY website (CUNY.com) (Spring 2012)

SciCafe on bioluminescence and biofluorescence research and discoveries (Nov. 2011, AMNH)

Deep diving mesophotic work covered on *National Geographic Waitt Foundation* website (Fall 2011) ; Conquering the Abyss: <http://waittfoundation.org/michael-lombardi-conquering-the-abyss>

Media coverage (2011-2012) specifically focusing on cleared-and-stained fish images contributed to *Picturing Science* temporary exhibit (*New York Times*, *Scientific American*, *Discover Magazine*, *Biotechniques*, *Wired Science*, *Conservation Magazine*, *NYCgo.com*, *Popular Mechanics*, plus many others).

Media coverage (Summer 2011) surrounding the *Top 10 Species of the Year* listing of a new batfish species (Ho, Chakrabarty, and Sparks, 2010) discovered and described from the Gulf oil spill area (*BBC*, *Audubon*, *Science News*, *Outside Magazine*, *The New Scientist*, *Science Daily*, *Popular Science*, *Conservation Magazine*, *Sciencercay*, *Wikipedia*, plus many others).

Interviewed for *The Science Show* (2010), Australian Broadcasting Company, regarding work on Malagasy cavefishes and marine bioluminescence (podcast available at *The Science Show* online).

Media coverage (Summer 2010) around the discovery and description of new species of batfish from the Gulf of Mexico oil Spill area and Gulf health in general (Ho, Chakrabarty, and Sparks, 2010) including *National Geographic*, *USA Today*, *Reuters*, *Science News*, *Popular Science*, *Fox Sports*, *About.com*, *Our Amazing Planet*, *BBC*, *Audubon*, *Outside Magazine*, *Discovery News*, *The New Scientist*, *Science Daily*, *Wikipedia*, *US News and World Report*, plus many others.

Madagascar cavefish collecting expeditions featured in Conservation International's E-Newsletter ("*The Cave Systems of Madagascar*") and appeared on Biodiversity Hotspots web page: www.maildogmanager.com/page.html?p=0000015Fu8vsFB4kwsOm6e+Hzw85NfeE0/rQ

Aglow in the Dark: Artists & Scientists on Bioluminescence, Jan. 25, 2007, speaker and panel member. Art/Science Collision, AMNH Public Event on bioluminescence in science and the arts (event covered by NPR and NY Academy of Sciences).

Sparks, J. S. 2003. Madagascar. *Natural History* (Spring 2003 Travel Issue), p. 62.

PRESENTATIONS AT PROFESSIONAL MEETINGS AND SYMPOSIA:

Braun, C. B., and **J. S. Sparks**. 2013. A Phylogenetic Definition of “Specialization:” Hearing-Enhancing Morphologies in Malagasy-South Asian Cichlids. “50 Years of Underwater Bioacoustics”, EBF special symposium, Mote Marine Laboratory and Aquarium, Sarasota, FL, May 25, 2013.

Braun, C. B., Baldwin, Z., and **J. S. Sparks**. 2012. Diversity of Auditory Abilities and Hearing-Enhancing Morphologies in Malagasy-South Asian Cichlids. Tenth International Congress of Neuroethology.

Schelly, R. C., and **J. S. Sparks**. 2011. A New Species of *Kaupichthys* (Anguilliformes: Chlopsidae), and a Morphological Assessment of Chlopsid Relationships. Joint Meeting of the American Society of Ichthyologists and Herpetologists, Minneapolis, MN, United States, July 2011. (Oral Presentation).

Davis, M. P., Chakrabarty, P., Smith, W. L., Baldwin, Z., and **J. S. Sparks**. 2011. Is Sexual Selection Driving Diversification of the Bioluminescent Ponyfishes (Teleostei: Leiognathidae)? Joint Meeting of the American Society of Ichthyologists and Herpetologists, Minneapolis, MN, United States, July 2011. (Oral Presentation).

Sparks, J. S., Baldwin Z. H., and C. B. Braun. 2010. Anatomical Specializations and Auditory Ability in Malagasy-South Asian Cichlids. Joint Meeting of the American Society of Ichthyologists and Herpetologists, Providence, RI, United States, July 2010. (Oral Presentation).

Schelly, R. C., Baldwin, Z. H., and **J. S. Sparks**. 2010. Madagascar’s nearshore marine fishes: depauperate fauna or inadequate sampling? Joint Meeting of the American Society of Ichthyologists and Herpetologists, Providence, RI, United States, July 2010. (Poster).

Sparks, J. S., and W. L. Smith. 2010. Madagascar’s freshwater fishes: Ancient origins and dispersing continents. NSF Austral Portals Workshop, Aug. 2010. Publication available online at: www.australportals.com (Oral Presentation).

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Sparks, J.S. 2010. Phylogenetic Relationships and Evolution of the Light-Organ System in Ponyfishes. Institute for Marine Environment and Resources (IMER), Hai Phong, Vietnam. 3 March, 2010. (Plenary speaker; Invited symposium)

Baldwin, Z.H, **Sparks, J.S.** 2010. MRI technology and its application to the study of hearing in Malagasy-South Asian cichlids and the evolution of the ponyfish light-organ system. Institute for Marine Environment and Resources (IMER), Hai Phong, Vietnam. 3 March, 2010. (Invited symposium speaker)

Sparks, J. S., Z. H. Baldwin, C. B. Braun, and P. Chakrabarty. 2009. Using MRI technology to study the evolution of hearing in cichlids and diversification of the light-organ system in ponyfishes. University of California, San Diego, School of Medicine, August 26, 2009. (Invited talk).

- Baldwin, Z. H., C. B. Braun, and **J. S. Sparks**. 2009. Diversification of the gas bladder–inner ear mechanical linkage in Malagasy cichlids. Joint Meeting of the American Society of Ichthyologists and Herpetologists, Portland, Oregon, United States, July 2009. (Poster).
- Chakrabarty, P., P. Willink, and **J. S. Sparks**. 2009. Blind cave gobies from opposite ends of the Indian Ocean reveal an ancient Gondwanan connection. Joint Meeting of the American Society of Ichthyologists and Herpetologists, Portland, Oregon, United States, July 2009. (Oral presentation).
- Braun, C. B., **J. S. Sparks**, B. R. Abraham, and J. Xiao. 2008. The evolution of hearing abilities in Malagasy cichlids. 38th annual meeting of the Society for Neuroscience, abstract published online. Washington, D.C. 15-19 November.
- Chu, J., Nahar, L., **Sparks, J. S.**, Chakrabarty, P. 2008. Taxonomic status of *Photoplagios leuciscus* Gunther 1860 (Teleostei: Leiognathidae). High School Science Research Program, Poster Session. American Museum of Natural History (May 24, 2008).
- Chakrabarty, P., **Sparks, J. S.** 2008. The influence of sexual selection in the diversification of Leiognathidae. Joint Meeting of Ichthyologists and Herpetologists, Montreal, Quebec, Canada. 28 July 2008.
- Chu, J., Nahar, L., **Sparks, J. S.**, Chakrabarty, P. 2008. Taxonomic status of *Photoplagios leuciscus* Günther 1860 (Teleostei: Leiognathidae). Joint Meeting of Ichthyologists and Herpetologists, Montreal, Quebec, Canada. 25 July 2008. (Poster)
- Chakrabarty, P., Smith, W. L., **Sparks, J. S.** 2008. Testing the Role of Sexual Selection in the Evolution of Ponyfishes. Hennig XXVII - A summit of Cladistics. Willi Hennig Society, Tucuman, Argentina, 29 October, 2008. (Invited talk)
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- Chakrabarty, P., W. L. Smith, and **J. S. Sparks**. 2007. Phylogenetic relationships of ponyfishes (Teleostei: Leiognathidae) with a discussion of the evolution of their light organ system. Contributed paper, 87th annual meeting, American Society of Ichthyologists and Herpetologists, St. Louis, Missouri, July 11-16.
- Cracraft, J. L., R. Moyle, **J. S. Sparks**, and W. L. Smith. 2006. A reinterpretation of Indian Ocean and Malagasy paleogeography and paleobiogeography. Joint annual meetings, Society for the Study of Evolution/Society of Systematic Biologists, SUNY Stony Brook, June 23-27.
- Anderson, C. L., J. L. Van Tassell, D. R. Robertson, S. Piontek, P. Hoetjes, **J. S. Sparks**, G. Van Buurt, and A. Kramer. 2006. Preliminary list of fishes from the Smithsonian Tropical Research Institute expedition to Curacao, with comparison to previously formulated lists. Contributed poster, 86th annual meeting, American Society of Ichthyologists and Herpetologists, New Orleans, LA, July 12-17.
- Sparks, J. S.**, and W. L. Smith. 2005. The origin of Madagascar's freshwater fishes: a case of dispersing continents. Contributed paper, 85th annual meeting, American Society of Ichthyologists and Herpetologists, Tampa, Florida, July 6-11.
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Schelly, R., and **J. S. Sparks**. 2005. African and Malagasy regions. Fish Barcode of Life Workshop and Conference. University of Guelph, Ontario, Canada, June 5-8. Invited symposium.

Sparks, J. S., P. V. Dunlap, and W. L. Smith. 2005. Evolution and diversification of a sexually dimorphic luminescent system in ponyfishes (Teleostei: Leiognathidae), including diagnoses for two new genera. Poster, 7th Indo-Pacific Fish Conference, Taipei, Taiwan, May 16-20.

Sparks, J. S. 2003. Phylogeny and biogeography of the Malagasy and Australasian rainbowfishes: Gondwanan vicariance and evolution in freshwater. Contributed paper, 83rd Annual Meeting of the American Society of Ichthyologists and Herpetologists, Manaus, Brazil.

Smith, W.L., and **Sparks, J. S.** 2003. The origin of Madagascar's freshwater fishes. New directions for molecular analyses symposium. Willi Hennig Society Annual Meeting, New York, NY, 23 July 2003. Invited talk. Published: 2004 Cladistics 20: 79.

Sparks, J. S. 2001. Phylogeny and biogeography of the Malagasy and South Asian Cichlid Fishes: Testing alternative hypotheses of macroevolutionary process with multiple data sets. Contributed paper, 81st Annual Meeting of the American Society of Ichthyologists and Herpetologists, University Park, Pennsylvania.

Stiassny, M. L. J. and **Sparks, J. S.** 2001. Origins, relationships and biogeography of Madagascar's freshwater fishes. Contributed paper, 81st Annual Meeting of the American Society of Ichthyologists and Herpetologists, University Park, Pennsylvania.

Sparks, J. S. 2001. Phylogeny and Biogeography of Malagasy Freshwater Fishes: Testing Alternative Hypotheses of Macroevolutionary Process With Multiple Data Sets. American Museum of Natural History, New York, May 2001. Invited talk.

P. N. Reinthal, K. J. Riseng, and **J. S. Sparks**. 2001. Water management issues in Madagascar: biodiversity, conservation, and deforestation. Contributed paper, Conservation, Ecology, and Management of African Fresh Waters Symposium. University of Florida, Gainesville.

Sparks, J. S. 2000. Phylogenetic relationships of the Malagasy cichlid fishes, and the limitations of mitochondrial nucleotide characters for resolving deep divergences within Cichlidae. Society for the Study of Evolution/Society of Systematic Biologists Annual Meetings 2000, Bloomington, Indiana.

Sparks, J. S. 2000. Phylogenetic relationships of cichlid fishes. Hennig Society Meetings 2000, Leiden, The Netherlands.

Graf, D. L., and **Sparks, J. S.** 2000. Of Mice and Mussels: A perspective on the ways to deal with long-branch problems. Poster presented at Society for the Study of Evolution/Society of Systematic Biologists Annual Meetings 2000, Bloomington, Indiana.

Reinthal, P. N., and **J. S. Sparks**. 1999. Conservation of Madagascar's endangered freshwater fishes. Invited paper at University of Florida symposium, Gainesville, FL.

Sparks, J. S. 1998. Phylogenetic relationships and biogeography of the Malagasy Cichlidae. Contributed paper at 78th Annual Meeting of the American Society of Ichthyologists and Herpetologists, Guelph, Ontario, Canada.

Sparks, J. S., and P. N. Reinthal. 1997. A phylogenetic analysis of the Malagasy Cichlidae based on mitochondrial 16s ribosomal DNA sequence data. Contributed paper at 77th Annual Meeting of the American Society of Ichthyologists and Herpetologists, Seattle, WA.

Reinthal, P. N., and **J. S. Sparks**. 1997. A survey of the freshwater fishes of Madagascar. Contributed paper at 77th Annual Meeting of the American Society of Ichthyologists and Herpetologists, Seattle, WA.

Sparks, J. S. 1995. A phylogenetic analysis of the Malagasy Cichlidae based on mitochondrial 16s rDNA Sequence Data. Evolution and Systematics Seminar Series, University of Michigan, Ann Arbor, MI.

Reinthal, P. N., **Sparks, J. S.**, and K. J. Riseng. 1995. Ecology, vulnerability, and temporal changes in freshwater fish communities. Presented at Environmental Change and Human Impact in Madagascar symposium, Field Museum of Natural History, Chicago, IL.

PROFESSIONAL SOCIETIES AND GROUPS:

American Society of Ichthyologists and Herpetologists
Society for the Study of Evolution
Society of Systematic Biologists
The Willi Hennig Society
Biological Society of Washington
The Honor Society of Phi Kappa Phi
Institute for the Conservation of Tropical Environments (Researcher)
Desert Fishes Council
American Academy of Underwater Sciences (AAUS)
Divers Alert Network (DAN)
Mesophotic Coral Ecosystems Research Group (mesophotic.org)

