

CURRICULUM VITAE

Susan L. Perkins
Martin & Michele Cohen Dean of Science
The City College of New York
New York, NY 10031
Website: <http://susanperkins.net>

EDUCATION

- Ph.D., Biology (Ecology and Evolution), University of Vermont. 2000.
- Department of Zoology, University of Maryland at College Park. 1993-1995.
- B.A., Biology, State University of New York at Potsdam. 1993.

POSITIONS HELD

- Martin and Michele Cohen Dean of Science. The City College of New York. 2020-present.
- Curator and Professor. American Museum of Natural History. 2015-2020.
- Adjunct Faculty Member. Ecology, Evolution and Behavior Subprogram of Biology. The Graduate Center, City University of New York. 2005-present.
- Associate Curator and Professor. American Museum of Natural History. 2009-2015.
- Research Adjunct Faculty, Columbia University, Ecology, Evolution, and Environmental Biology Department. 2010-2017.
- Program Director. National Science Foundation. Division of Environmental Biology, Systematics and Biodiversity Science Cluster. 2010-2011.
- Assistant Professor. Richard Gilder Graduate School, American Museum of Natural History. 2008-2009.
- Assistant Curator. American Museum of Natural History. 2004-2009.
- Adjunct Faculty Member. New York University School of Medicine, Department of Medical Parasitology. 2006-2013.
- Assistant Professor. University of Colorado, Ecology and Evolutionary Biology. 2001-2004.
- NSF Bioinformatics Postdoctoral Fellow. American Museum of Natural History. 2001.
- Roosevelt Postdoctoral Fellow. American Museum of Natural History. 2000.

AWARDS

- Distinguished Alumna Award, SUNY at Potsdam, 2013.
- Daniel C. Wilhoft Lecture in Ecology and Evolution, Rutgers University at Newark. 2011.
- National Science Foundation Bioinformatics Postdoctoral Fellowship. 2001
- Roosevelt Research Fellowship, American Museum of Natural History, 2000.

PUBLICATIONS

Orcid ID: orcid.org/0000-0002-5400-5662

SCOPUS author ID: 7201961730

Books:

R. DeSalle and S. L. Perkins. 2015. Welcome to the Microbiome: Getting to Know the Trillions of Bacteria In, On, and Around You. Yale University Press.

Carlton, J. M., Deitsch, K., and Perkins, S. L., editors. 2013. Comparative Genomics of Malaria Parasites. Horizon Press.

Peer-reviewed Articles and Contributed Chapters:

(Reverse chronologic order. Student authors who were working under my mentorship are underlined.)

75. Galen, S.C., J. Borner, S.L. Perkins, and J.D. Weckstein. Phylogenomics from transcriptome “bycatch” clarify the origins and diversity of avian trypanosomes in North America. *In review*.

74. Winterhoff, M. L., A. S. Achmadi, E. J. Roycroft, H. Handika, R. T. J. Putra, K. M. C. Rowe, S. L. Perkins, K. C. Rowe. 2020. Native and introduced trypanosome parasites in endemic and introduced rodents of Sulawesi. *Journal of Parasitology* 106: 523-536.

74. Speer, K.A., N.M. Dheilly, and S.L. Perkins. *In press*. Microbiomes are integral to conservation of parasitic arthropods. *Biological Conservation*. 108695.

73. Siao, M.C., J. Borner, S.L. Perkins, K.W. Deitsch, and L.A. Kirkman. 2020. Evolution of host specificity by malaria parasites through altered mechanisms controlling genome maintenance. *mBio* 11:e03272-19.

72. Galen, S., Borner, J., Williamson, J., Witt, C., Perkins, S. 2020. Metatranscriptomics yields new genomic resources and sensitive detection of infections for diverse blood parasites. *Molecular Ecology Resources* 20:14-28.

71. Dheilly, N. W., J. Martínez, K. Rosario, P. J. Brindley. R. Fichorova, J. Kaye, K. Kohl, L. J. Knoll, J. Lukes, S. L. Perkins, R. Poulin, L. Schriml, and L. R. Thompson. 2019. Parasite Microbiome Project: Grand Challenges. *PLoS Pathogens* 15(10):e1008028.

70. Galen, S. C., K. Speer, and S. L. Perkins. 2019. Evolutionary lability of host associations promotes phylogenetic overdispersion of co-infecting blood parasites. *Journal of Animal Ecology* 88:1936-1949.

69. Perkins, S. L. 2018. Parasitology: diversity and inclusion for the future. *Journal of Parasitology* 104:579-583.

68. Galen, S.C., R. Nunes, P.R. Sweet, and S.L. Perkins. 2018. Integrating coalescent species delimitation with analysis of host specificity reveals extensive cryptic diversity despite minimal

mitochondrial divergence in the malaria parasite genus *Leucocytozoon*. BMC Evolutionary Biology. 18:128.

67. Ingala, M., N. B. Simmons and S. L. Perkins. 2018. Bats are an untapped system for understanding microbiome evolution in mammals. mSphere 5:e00397-18.

66. Galen, S.C., Borner, J., Martinsen, E., Schaer, J., Austin, C. C., West, C., and S.L. Perkins. 2018. The polyphyly of *Plasmodium*: Comprehensive phylogenetic analyses of the malaria parasites (order Haemosporida) reveal widespread taxonomic conflict. Royal Society Open Science 5:171780.

65. Rodriguez, Z.B., S.L. Perkins, and C.C. Austin. 2018. Multiple origins of green blood in New Guinea lizards. Science Advances. 4: eaao5017.

64. Ingala, M.R., N. Simmons, C. Wultsch, K. Krampis, K.A. Speer, and S.L. Perkins. 2018. Comparing microbiome sampling methods in a wild mammal: fecal and intestinal samples record different signals of host ecology, evolution. Frontiers in Microbiology 9:803.

63. Perkins, S.L. 2018. Malaria in farmed ungulates: an exciting new system for comparative parasitology. mSphere. 3:e00161-18.

62. Nada, R.T., Hu, T.H., Zinudin, R., Lee, K.S., Perkins, S.L., and B. Singh. 2018. Malaria parasites of long-tailed macaques in Sarawak, Malaysian Borneo: a novel species and demographic and evolutionary histories. BMC Evolutionary Biology 18:49.

61. Yabsley, M. J., R. E. T. Vanstreels, E. S. Martinsen, A. G. Wickson, A. E. Holland, S. M., Hernandez, A. T. Thompson, S. L. Perkins, C. J. West, A. L. Bryan, C. A. Cleveland, E. Jolly, J. D. Brown, D. McRuer, S. Behmke, and J. C. Beasley. 2018. Parasitemia data and molecular characterization of *Haemoproteus catharti* from New World vultures (Cathartidae) reveals a novel clade of Haemosporida. Malaria Journal 17:12.

60. Boundenga, L., S. L. Perkins, B. Ollomo, V. Rougeron, E. M. Leroy, F. Renaud, and F. Prugnolle. 2017. Haemosporidian parasites of reptiles and birds from Gabon, Central Africa. Journal of Parasitology 103: 330-337.

59. Schaer, J., S. L. Perkins, I. Ejotre, M. E. Vodzak, K. Matuschewski, and D. M. Reeder. 2017. Epauletted fruit bats display exceptionally high infections with a *Hepatozoon* species complex in South Sudan. Scientific Reports 7, 6928.

58. Perkins, S. L. and J. Schaer. 2016. A modern menagerie of mammal malaria. Trends in Parasitology. 32:772-782.

57. Martinsen, E.S., N. McInerney, H. Brightman, K. Ferebee, T. Walsh, W.J. McShea, T.D. Forrester, L. Ware, P.H. Joyner, S.L. Perkins, E.K. Latch, M.J. Yabsley, and R.C. Fleischer. 2016. Hidden in plain sight: cryptic and endemic malaria parasite in North American white-tailed deer (*Odocoileus virginianus*). Science Advances 2:e1501486.

56. Pinto, C. M., S. Ocaño-Mayorga, E. Tapia, S. Lobos, A. Zurita, F. Aguirre Villacís, A. MacDonald, A. Villacís, L. Lima, M. Teixeira, M. Grijalva, and S. L. Perkins. 2015. Bats,

trypanosomes, and triatomines in Ecuador: new insights into the diversity, transmission and origins of *Trypanosoma cruzi* and Chagas Disease. PLoS One. e0139999.

55. Murdock, C. C., P. H. Adler, J. Frank, and S. L. Perkins. 2015. Molecular analyses of host-seeking blackflies (Diptera: Simuliidae) reveal a diverse assemblage of *Leucocytozoon* (Apicomplexa: Haemospororida) parasites in an alpine ecosystem. Parasites and Vectors. 8:343.

54. Falk, B. G., R. E. Glor, and S. L. Perkins. 2015. Clonal reproduction shapes evolution in the lizard malaria parasite, *Plasmodium floridense*. Evolution. 69:1584-1596.

53. Falk, B. G., and S. L. Perkins. 2015. Parasite diversification in Caribbean *Anolis* lizards. In: Parasite Diversity and Diversification: Evolutionary Ecology Meets Phylogenetics. Morand, S., B. R. Krasnov, and D. T. J. Littlewood (Eds.), Cambridge University Press.

52. Schaer, J., D. M. Reeder, M. E. Vodzak, K. J. Olival, N. Weber, F. Mayer, K. Matuschewski, and S. L. Perkins. 2015. *Nycteria* parasites of Afrotropical bats. International Journal for Parasitology. 45:375-384.

51. Cottontail, V. M.*, E. K. V. Kalko, I. Cottontail, N. Wellinghausen, M. Tschapka, S. L. Perkins, and C. M. Pinto*. 2014. High local diversity of *Trypanosoma* in a common bat species, and implications for the biogeography and taxonomy of the *T. cruzi* clade. PLoS ONE 9(9): e108603.
*Authors contributed equally.

50. Perkins, S. L. 2014. Malaria's many mates: past, present, and future of the systematics of the order Haemosporida. Journal of Parasitology 100:11-25.

49. Schaer, J.*, S. L. Perkins*, J. Decher, F. Leendertz, J. Fahr, N. Weber, and K. Matuschewski. 2013. High diversity of West Africa bat malaria parasites and a tight link with rodent *Plasmodium* taxa. Proceedings of the National Academy of Sciences, USA. 110:17415-17419 *Authors contributed equally.

48. Pineda-Catalan, O.*, S. L. Perkins*, M. A. Peirce, R. Engstrand, C. Garcia- Davila, M. Pinedo-Vasquez, and A. A. Aguirre. 2013. Revision of hemoproteid genera and description and redescription of two species of chelonian hemoproteid parasites. Journal of Parasitology 99: 1089-1098. (*co-first- authors)

47. Olival, K. J., C. W. Dick, N. B. Simmons, J. C. Morales, D. J. Melnick, K. Dittmar, S. L. Perkins, P. Daszak, and R. Desalle. 2013. Lack of population genetic structure and host specificity in the bat fly, *Cyclopodia horsfieldi*, across species of *Pteropus* bats in Southeast Asia. Parasites and Vectors 6:231.

46. Falk, B. G., and S. L. Perkins. 2013. Host specificity shapes population structure of pinworm parasites in Caribbean reptiles. Molecular Ecology 22:4576-4590.

45. Pinto, M., K. M. Helgen, R. C. Fleischer, and S. L. Perkins. 2013. *Hepatozoon* parasites (Apicomplexa: Adeleorina) in bats. Journal of Parasitology 99:722-724.

44. Martinsen, E. S., and S. L. Perkins. 2013. The diversity of *Plasmodium* and other haemosporidians: the intersection of taxonomy, phylogenetics, and genomics. In: Comparative Genomics of Malaria Parasites. Carlton, J. M., Deitsch, K., and Perkins, S. L. (Eds.), Horizon Press.

43. Perkins, S. L., E. S. Martinsen, and B. G. Falk. 2011. Do molecules matter more than morphology? Promises and pitfalls in parasites. *Parasitology* 138:1664-1674.
42. Falk, B. G., S. L. Perkins, and D. L. Mahler. 2011. Tree-based delimitation of morphologically ambiguous taxa: a survey of the malaria parasites of Hispaniola. *International Journal for Parasitology* 41:967-980.
41. Valkiunas, G., R. W. Ashford, S. Bensch, R. Killick-Kendrick, and S. Perkins. 2011. A cautionary note concerning *Plasmodium* in apes. *Trends in Parasitology* 27:231-232.
40. Belanger, D.H., S. L. Perkins, and R. F. Rockwell. 2011. Inference of population structure and patterns of gene flow in canine heartworm (*Dirofilaria immitis*). *Journal of Parasitology* 97:602-609.
39. Gomez, A., E. Nichols, and S. L. Perkins. 2011. Parasite conservation, conservation medicine, and ecosystem health. In: *Conservation Medicine: Applied Cases of Ecological Health*. Aguirre, A.A., Daszak, P., Ostfeld, R.S. (Eds.), Oxford University Press, New York.
38. Belanger, D. H., and S. L. Perkins. 2010. *Wolbachia* infection and mitochondrial diversity in the canine heartworm (*Dirofilaria immitis*). *Mitochondrial DNA* 21:227-233.
37. Waltari, E., and S. L. Perkins. 2010. In the host's footsteps? Ecological niche modeling and its utility in predicting parasite distributions. In: *The Geography of Host-Parasite Interactions*. Morand, S., and B. Krasnov (Eds.) Oxford University Press.
36. Murdock, C. C., K. J. Olival, and S. L. Perkins. 2010. Molecular identification of host feeding patterns of snow-melt mosquitoes (Diptera: Culicidae): Potential implications for the transmission of Jamestown Canyon Virus. *Journal of Medical Entomology* 47:226-229.
35. Ng, J., S. L. Perkins, E. J. Dussmann, and R. E. Glor. 2009. Eleven highly polymorphic microsatellite markers for the lizard *Anolis distichus*. *Conservation Genetic Resources* 1:135-139.
34. Greiner, E., K. Crook, and S. Perkins. 2009. Apparent absence of *Parahaemoproteus lophortyx* in north Florida population of Bobwhite Quail (*Colinus virginianus*). *Journal of Parasitology* 95:1142-1144.
33. Kishore, S. P., S. L. Perkins, T. J. Templeton, and K. W. Deitsch. 2009. An unusual expansion of the C-terminal domain of RNA polymerase II in primate malaria parasites features a motif only otherwise found in mammalian polymerases. *Journal of Molecular Evolution* 68:706-714.
32. Perkins, S. L., and C. C. Austin. 2009. Four new species of *Plasmodium* from New Guinea lizards: integrating morphology and molecules. *Journal of Parasitology* 95:424-433.
31. Perkins, S. L., A. S. Kerwin, and A. D. Rothschild. 2009. Patterns of infection of the lizard malaria parasite, *Plasmodium floridense*, in invasive brown anoles (*Anolis sagrei*) in southwestern Florida. *Parasitology Research* 104:1191-1196.
30. Beadell, J. S., R. Covas, C. Gebhard, F. Ishtiaq, M. Melo, B.K. Schmidt, S. L. Perkins, G. R. Graves, R.C. Fleischer. 2009. Host associations and evolutionary relationships of avian blood parasites from West Africa. *International Journal for Parasitology* 39:257-266.

29. Piaggio, A. J., M. Neubaum, H. Yueh, C. Ritland, J. Johnston, and S. L. Perkins. 2009. Development of 10 polymorphic microsatellite loci isolated from the mountain beaver, *Aplodontia rufa rufa* (Rafinesque). *Molecular Ecology Resources* 9:323-325.
28. Piaggio A. J., K. E. G. Miller, M. Matocq, and S. L. Perkins. 2009. Eight polymorphic microsatellite loci developed and characterized from Townsend's big-eared bat, *Corynorhinus townsendii*. *Molecular Ecology Resources* 9:258-260.
27. Perkins, S. L. 2008. Molecular systematics of the three mitochondrial protein-coding genes of malaria parasites: Corroborative and new evidence for the origins of human malaria. *Mitochondrial DNA* 19:471-478.
26. Baillie, G. J., S. O. Kolokotronis, E. Waltari, J. G. Maffei, L. D. Kramer, and S. L. Perkins. 2008. Phylogenetic and evolutionary analyses of St. Louis encephalitis virus genomes. *Molecular Phylogenetics and Evolution* 47:717- 728.
25. Davalos, L. M., and S. L. Perkins. 2008. Saturation and base composition bias explain phylogenomic conflict in *Plasmodium*. *Genomics* 91:433-442.
24. E. S. Martinsen, S. L. Perkins, and J. J. Schall. 2008. A three-genome phylogeny of malaria parasites. *Molecular Phylogenetics and Evolution* 47:261-273.
23. Piaggio, A. J., J. J. Johnston, and S. L. Perkins. 2008. Development of polymorphic microsatellite loci for the common vampire bat, *Desmodus rotundus* (Chiroptera: Hylostomidae). *Molecular Ecology Resources* 8:440- 442.
22. Olival, K. J., E. O. Stiner, and S. L. Perkins. 2007. Detection of *Hepatozys* sp. in Southeast Asian flying foxes (Pteropodidae) using microscopic and molecular methods. *Journal of Parasitology* 93:1538-1540.
21. Perkins, S. L., A. Rothschild, and E. Waltari. 2007. Infections of the malaria parasite, *Plasmodium floridense*, in the invasive anole, *Anolis sagrei*, in Florida. *Journal of Herpetology* 41: 750-754.
20. Burke, R. L., S. R. Goldberg, C. R. Bursey, S. L. Perkins, and P.T. Andreadis. 2007. Depauperate parasite fauna in introduced populations of *Podarcis* (Squamata: Lacertidae) lizards in North America. *Journal of Herpetology* 41:755-757.
19. Waltari, E., R. J. Hijmans, A. Townsend Peterson, A. S. Nyári, S. L. Perkins, and R. P. Guralnick. 2007. Locating Pleistocene refugia: comparing phylogeographic and ecological niche model predictions. *PLoS ONE* 2:e563.
18. Perkins, S. L., I. N. Sarkar, and R. Carter. 2007. The phylogeny of rodent malaria parasites: simultaneous analysis across three genomes. *Infection, Genetics, and Evolution* 7:74-83.
17. Austin, C. C., and S. L. Perkins. 2006. Parasites in a biodiversity hotspot: a survey of hematozoa and a molecular phylogenetic analysis of *Plasmodium* in New Guinea skinks. *Journal of Parasitology* 92:770-777.
16. Charleston, M. A., and S. L. Perkins. 2005. Traversing the tangle: algorithms and applications for copygeny studies. *Journal of Biomedical Informatics* 39:62-71.

15. Perkins, S. L., R. B. Budinoff, and M. E. Siddall. 2005. New gamma-proteobacteria associated with blood-feeding leeches and a broad phylogenetic analysis of leech endosymbionts. *Applied and Environmental Microbiology* 71:5219-5224.
14. Piaggio, A. J., and S. L. Perkins. 2005. Molecular phylogeny of North American big-eared bats (Vespertilionidae: *Corynorhinus*): inter- and intraspecific relationships inferred from mitochondrial and nuclear DNA sequences. *Molecular Phylogenetics and Evolution* 37:762-765.
13. Guralnick, R. P., E. Hall, and S. L. Perkins. 2004. A comparative approach to understanding causes and consequences of mollusc-digenean size relationships: A case study with allocreadiid trematodes and *Cyclotolix* clams. *Journal of Parasitology* 90:1253-1262
12. Siddall, M. E., S. L. Perkins, and S. S. Desser. 2004. Leech mycetome symbionts are a new lineage of alpha -proteobacteria related to the Rhizobiaceae. *Molecular Phylogenetics and Evolution* 30:178-186.
11. Siddall, M. E., and S. L. Perkins. 2003. Brooks Parsimony Analysis: a valiant failure. *Cladistics* 19:554-564.
10. Charleston, M. A., and S. L. Perkins. 2003. Lizards, malaria, and jungles in the Caribbean. In: *Tangled Trees: Phylogeny, Cospeciation and Coevolution*. Page, R. D. M. (Ed.) Chicago: University of Chicago.
9. Perkins, S. L., and J. J. Schall. 2002. A molecular phylogeny of malaria parasites recovered from cytochrome b gene sequences. *Journal of Parasitology* 88:972-978.
8. Perkins, S. L., and A. K. Keller. 2001. Phylogeny of nuclear small subunit rRNA genes of hemogregarines amplified with specific primers. *Journal of Parasitology* 87:870-876.
7. Perkins, S. L. 2001. Phylogeography of Caribbean lizard malaria: tracing the history of vector-borne parasites. *Journal of Evolutionary Biology* 14:34-45.
6. Perkins, S. L. 2000. Species concepts and malaria parasites: detecting a cryptic species of *Plasmodium*. *Proceedings of the Royal Society of London B* 267:2345-2350.
5. Schall, J. J., A. R. Pearson, and S. L. Perkins. 2000. Prevalence of malaria parasites (*Plasmodium floridense* and *P. azurophilum*) infecting a Puerto Rican lizard (*Anolis gundlachi*): a nine-year study. *Journal of Parasitology* 86:511-515.
4. Perkins, S. L., and J. M. Martin. 1999. Conserved PCR primers fail in diagnosis of parasitic infection. *Journal of Parasitology* 85:982-984.
3. Perkins, S. L., S. M. Osgood, and J. J. Schall. 1998. Use of PCR for detection of subpatent infections of lizard malaria: implications for epizootiology. *Molecular Ecology* 7:1589-1590.
2. Hepel, M., Z. Xingmin, R. Stephenson, and S. L. Perkins. 1997. Use of electrochemical quartz crystal microbalance technique to track electrochemically assisted removal of heavy metal from aqueous solutions by cation-exchange composite polypyrrole-modified electrodes. *Microchemical Journal* 56:79-92.

1. Gill, D. G., L. Chao, S. L. Perkins, and J. B. Wolf. 1995. Genetic mosaicism in plants and clonal animals. *Annual Review of Ecology and Systematics* 26:423-444.

Book Reviews

Perkins, S. L. 2016. Living in a microbial world. Review of: *I Contain Multitudes: The Microbes Within Us and a Grander View of Life* by Ed Yong. *Science* 353:450.

Perkins, S. L. 2011. Book Review: *Beyond Cladistics: The Branching of a Paradigm*. *Systematic Biology* 60:895-897.

SELECTED SERVICE

- President of the AMNH Scientific Senate, 2016-2018.
- Appointments and Promotions Committee, 2012-2014 (elected chair both years), 2016-2018 (chair, 2017).
- Member, CUNY Graduate Center EEB Subprogram Committee, 2013-2019.
- Member, Roosevelt Memorial Fund Committee, 2012-2018.
- President, American Society of Parasitologists, 2017-2018.
- Council Member, Society for Systematic Biology, 2013-2016, 2019-2021.
- Associate Editor for Protozoan Systematics, *Journal of Parasitology* 2005-2016.
- Invited speaker, NYC March for Science, 2018.