

Catherine Helen Graham
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Department of Ecology and Evolution
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BIOGEOGRAPHIC INFORMATION

Nationality: American

Date of birth: January 21, 1970

POSITIONS HELD

Assistant Professor, Department of Ecology and Evolution, Stony Brook University 2003-2009

Associate Professor Department of Ecology and Evolution, Stony Brook University 2009 to present

PROFESSIONAL PREPARATION

Eckerd College, St. Petersburg, Florida, 1992 B.A. (Biology)

University of Missouri - St. Louis, 1995, M.S. (Ecology, Evolution, and Systematics)

University of Missouri - St. Louis, 2000, Ph.D (Ecology, Evolution, and Systematics)

Jet Propulsion Laboratory, September 1999 - July 2000, Post-doc (Remote-sensing)

University of California - Berkeley, July 2000 - August 2003, Post-doc (Biogeography)

PUBLICATIONS

Number of time cited ~ 12,500; h-index = 39; i10-index = 56

(84) Supp, S. et al. *in press*. Citizen science data provides new insight into annual and seasonal variation in migration patterns. *Ecosphere*.

(83) Borregaard, M.K., Rahbek, C., Fjeldså, J., Parra, J., Whittaker R.J. and **Graham C.H.** *in press*. Node-based analysis of species distributions. *Methods in Ecology and Evolution*

(82) Astudillo, P.X., Samaniego G.M., Machado P.J., Aguilar J.M., Tinoco, B.A., **Graham, C.H.**, Latta, S.C. and Farwig N. *in press*. The impact of roads on the avifauna of páramo grasslands in Cajas National Park, Ecuador, *Studies on Neotropical Fauna and Environment*.

(81) Penone, C., A.D. Davidson, K.T. Shoemaker, M.D. Marco, C. Rondinni, T.M. Brooks, B.E., Young, **C.H. Graham**, and G.C. Costa. *on-line early*. Imputation of missing data

- in life-history trait datasets: which approach performs the best? *Methods in Ecology and Evolution*.
- (80) **Graham, C.H.**, A.C. Carnaval, T. E. Roberts, C.D. Cadena, C.M. McCain, R. C.K. Bowie, C. Moritz, J.L. Parra, C.J. Schneider, J. VanDerWal, K.R. Zamudio, C. Rahbek K.H. Kozak and N.J. Sanders. 2014. The origin and maintenance of montane biodiversity: integrating evolutionary and ecological processes. *Ecography*, 37: 1-9.
- (79) Weinstein, B.G., B. Tinoco, J. Parra, L.M. Brown, J.A. McGuire, F.G. Stiles, **C.H. Graham**. 2014. Taxonomic, phylogenetic and trait betadiversity in South American hummingbirds. *The American Naturalist*, 184: 211-224.
- (78) Holt, B.G., Lessard, J.P., Borregaard, M.K., Fritz, S.A., Araújo, M.B., Dimitrov, D. Fabre, P.H., **Graham, C.H.**, Graves, G.R., Jønsson, K.A., Nogués-Bravo, D., Wang, Z., Whittaker, R.J., Fjeldså, J. Rahbek, C. 2013. Response to a Comment on “An updated of Wallace's zoogeographic regions of the world”. *Science*, 341: 343.
- (77) Susanne A. Fritz, S.A., J. Schnitzler, J.T. Eronen, H. Christian, K. Böhning-Gaese, **C.H. Graham** (all authors contributed equally). 2013. Diversity in time and space: Wanted dead and alive. *Trends in Ecology and Evolution*, 28:509-516.
- (76) Fuller, T.L., H. A. Thomassen, M. Peralvo, W. Buermann, B. Milá, C. M. Kieswetter, P. Jarrín, S. E. Cameron Devitt, E. Mason, R. M. Schweizer, J. Schlunegger, J. Chan, O. Wang, C. J. Schneider, J. P. Pollinger, S. Saatchi, **C. H. Graham**, R.K. Wayne and T.B. Smith. 2013. Intraspecific morphological and genetic variation of common species predicts ranges of threatened ones. *Proceedings of the Royal Society – B*, 280: 20130423.
- (75) Tinoco, B.A., P.X. Astudillo, S.C. Latta and **C.H. Graham**. 2013. Patterns of response of high altitude *Polylepis* birds to patch level factors and connectivity. *Biotropica*, 45:602-611.
- (74) Laube, I., **C.H. Graham** and K. Böhning-Gaese. 2013. Competition and dispersal ability interact to determine geographic ranges of birds. *Global Ecology and Biogeography*, 22: 223-232.
- (73) Jeltsch, F., N. Blaum, U. Brose, J. D. Chipperfield, Y. Clough, N. Farwig, K. Geissler, **C. H. Graham**, V. Grimm, T. Hickler, A. Huth, F. May, K. M. Meyer, J. Pagel, B. Reineking, M.C. Rillig, K. Shea, F.M. Schurr, B. Schröder, K. Tielbörger, L. Weiss, K. Wiegand, T. Wiegand, C. Wirth, and D. Zurell. 2013. How can we bring together empiricists and modellers in functional biodiversity research? *Basic and Applied Ecology*, 14: 93-101.
- (72) Schymanski. S.J., C.F. Dormann, J. Cabral, I. Chuine, **C.H. Graham**, F. Hartig, M. Kearney, X. Morin, C. Römermann, B. Schröder, A. Singer. 2013. Process, correlation and parameter fitting in species distribution models: a response to Kriticos et al. *Journal of Biogeography*, 40: 612-614

- (71) Valdujo, P.H., A.C. Carnaval and **C.H. Graham**. 2013. Environmental correlates of anuran beta diversity in the Brazilian Cerrado. *Ecography*, 36: 708-717
- (70) Menendez, P., and **C.H. Graham**. 2013. Evaluating multiple causes of amphibian declines of Ecuador using geographical quantitative analyses. *Ecography*, 36: 1-14.
- (69) Holt, B.G., Lessard, J.P., Borregaard, M.K., Fritz, S.A., Araújo, M.B., Dimitrov, D., Fabre, P.H., **Graham, C.H.**, Graves, G.R., Jønsson, K.A., Nogués-Bravo, D., Wang, Z., Whittaker, R.J., Fjeldså, J. Rahbek, C. 2013. An updated of Wallace's zoogeographic regions of the world. *Science*, 339: 74-78.
- (68) Velasquez, J., P. Salaman and **C.H. Graham**. 2013. Assessing the impact of climate change on birds of conservation concern in Colombia. *Regional Environmental Change*, 13:235-248.
- (67) Schnitzler, J., **C.H. Graham**, C.F. Dormann, K. Schiffers and H.P. Linder. 2012 Climatic niche evolution and species diversification in the Cape flora, South Africa. *Journal of Biogeography*, 39: 2201-2211.
- (66) Wheeler Q.D., Knapp S., Stevenson D.W., Stevenson J., Blum S.D., Boom B.M., Borisy G.G., Buizer J.L., De Carvalho M.R., Cibrian A., Donoghue M.J., Doyle V., Gerson E.M., **Graham C.H.**, Graves P., Graves S.J., Guralnick R.P., Hamilton A.L., Hanken J., Law W., Lipscomb D.L., Lovejoy T.E., Miller H., Miller J.S., Naeem S., Novacek M.J., Page L.M., Platnick N.I., Porter-Morgan H., Raven P.H., Solis M.A., Valdecasas A.G., Van Der Leeuw S., Vasco A., Vermeulen N., Vogel J., Walls R.L., Wilson E.O. & Woolley J.B. 2012. Mapping the biosphere: exploring species to understand the origin, organization and sustainability of biodiversity. *Systematics and Biodiversity*, 10: 1-20.
- (65) Jankowski, J.E., **C.H. Graham**, J.L. Parra, S.K. Robinson, N. Seddon, J.M. Touchton, and J.A. Tobias. 2012. The role of competition in structuring tropical bird communities. *Journal of Neotropical Ornithology*, 23:115-124.
- (64) Gonzalez-Caro, S., J.L. Parra, **C.H. Graham**, and D. Cadena. 2012. Sensitivity of metrics of phylogenetic structure to scale, source of data and species pool of hummingbird assemblages along elevational gradients. *PLoS ONE*, 7: e35472.
- (63) **Graham, C.H.**, J.L. Parra, B.A. Tinoco, F.G. Stiles and J.A. McGuire. 2012. Untangling the influence of ecological and evolutionary factors on trait variation across hummingbird assemblages. *Ecology*, 39: S99-S111.
- (62) Dormann, D.F., J. Stanislaus, J.C. Schymanski, I. Chuine, **C.H. Graham**, F. Hartig, M. Kearney, X. Morin, C. Römermann, B. Schröder and A. Singer. 2012. Correlation and process in species distribution models: bridging a dichotomy. *Journal of Biogeography*, 39: 2119-2131.
- (61) Knowlton J. L. and **C.H. Graham**. 2011. Species interactions are disrupted by habitat degradation in the highly threatened Tumbesian region of Ecuador. *Ecological Applications*, 8: 2974-2986.

- (60) Broennimann, O., M.C. Fitzpatrick, P.B. Pearman, B. Petitpierre, L. Pellissier, N. G. Yoccoz, W. Thuiller, M.-J. Fortin, C. Randin, N. Zimmermann, **C.H. Graham** and A. Guisan. 2011. Changes in ecological niches in space and time: biological signal or artifact? *Global Ecology and Biogeography*, 21: 481-497.
- (59) Astudillo, P.X., B.A. Tinoco, **C.H. Graham** and S.C. Latta. 2011. Assessing methods for estimating minimum population size and monitoring Andean Condors (*Vultur gryphus*) in Southern Ecuador. *Ornithologia Neotropical*, 12: 2350-2361.
- (58) Parra J.L., C. Rahbek, J. A. McGuire, and **C. H. Graham**. 2011. Contrasting patterns of phylogenetic structure along environmental gradients for hummingbird clades. *Journal of Biogeography*, 12: 2350-2361.
- (57) Cadena, C.D., K.H. Kozak, J.P. Gómez, J.L. Parra, C. M. McCain, R.C. K. Bowie, A. C. Carnaval, C. Moritz, C. Rahbek, T.E. Roberts, N.J. Sanders, C. J. Schneider, J. VanDerWal, K.R. Zamudio, and **C. H. Graham**. 2011. Latitude, elevational climatic zonation, and speciation in New World vertebrates. *Proceedings of the Royal Academy of Science*, 279: 194-201.
- (56) Thomassen, H.A., W. Buermann, B. Mila, **C.H. Graham**, S.E. Cameron, C.J. Schneider, J.P. Pollinger, S. Saatchi, R.K. Wayne, T.B. Smith. 2011. Mapping evolutionary process: a multi-taxa approach to conservation prioritization. *Evolutionary Applications*, 4:397-413.
- (55) Latta, S.C., B.A. Tinoco, P.A. Webster and **C.H. Graham**. 2011. Patterns and magnitude of temporal changes in avian communities in the Ecuadorian Andes. *The Condor*, 113: 24-40.
- (54) **Graham, C.H.**, B.A. Loiselle, J. Velasquez and F. Cuesta. 2011. Species distribution modelling and the challenge of predicting future distributions. In: *Climate Change and Biodiversity in the Tropical Andes*, edited by S. K. Herzog, R. Martínez, P. M. Jørgensen, and H. Tiessen. IAI-SCOPE, São José dos Campos, Brazil, web-based, www.iai.int.
- (53) Parra, J.L., J.A. McGuire, and **C.H. Graham**. 2010. Identifying the lineages driving non-random patterns of phylogenetic composition in local assemblages: an example with hummingbirds. *American Naturalist*, 176: 573-587.
- (52) Zimmermann, N.E., T.C. Edwards Jr, **C.H. Graham**, P. B. Pearman and J.-C. Svenning. 2010. New trends in species distribution modelling. *Ecography*, 33: 985–989.
- (51) Svenning, J.-C., M.C. Fitzpatrick, S. Normand, **C.H. Graham**, P.B. Pearman, L.R. Iversen and F. Skov. 2010. Geography, topography, and history affect realized-to-potential tree species richness patterns in Europe. *Ecography*, 33: 1070-1030.
- (50) Albert C.H., N. G. Yoccoz, T. Edwards Jr., **C.H. Graham**, N.E. Zimmermann, W. Thuiller. 2010. Applied sampling in ecology and evolution – integrating questions and designs. *Ecography*, 33: 1028-1037.

- (49) Pearman P.B., M.D-Amen, **C.H. Graham**, W. Thuiller, N.E. and N.E. Zimmerman. 2010. Within-taxon niche structure: Niche conservatism, divergence and predicted effects of climate change. *Ecography*, 33: 990-1003.
- (48) **Graham, C.H.**, J. VanDerWal, S. Phillips, S.E Williams, C. Moritz. 2010. Dynamic refugia and species persistence: tracking spatial shifts in habitat through time. *Ecography*, 33: 1062-1069.
- (47) Knowlton J. L., and **C.H. Graham**. 2010. Use of experiments to predict species' responses to land-use and climate change. *Biological Conservation*, 143: 1342-1354.
- (46) **Graham, C.H.**, N. Silva and J. Velasquez. 2010. Evaluating the causes of range limits of Colombian birds. *Journal of Biogeography*, 31: 1863-1875.
- (45) Morris, A.B., **C.H. Graham**, D.E. Soltis, P.S. Soltis. 2010. Reassessment of phylogeographical structure in an eastern North American tree using Monmonier's algorithm and ecological niche modelling. *Journal of Biogeography*, 31: 1657-1667.
- (44) Strubbe D., E. Matthysen and **C.H. Graham**. 2010. Assessing the potential impact of ring-necked parakeets *Psittacula krameri* on native nuthatches *Sitta europaeae* in Belgium. *Journal of Applied Ecology*, 47: 549-557.
- (43) Loiselle, B.A., **C.H. Graham**, J. Goerck and M. Ribeiro. 2010. Assessing the impact of deforestation and climate change on the range size and environmental niche of bird species in the Atlantic forests, Brazil. *Journal of Biogeography*, 37: 1288-1301.
- (42) Freile, F.J., J.L. Parra and **C.H. Graham**. 2010. Distribution and conservation of *Grallaria* and *Grallaricula* antpittas (Grallariidae) in Ecuador. *Bird Conservation International*. 20: 410-421.
- (41) Thomassen, H.A., W. Buermann, B. Mila, **C.H. Graham**, S.E. Cameron, C.J. Schneider, J.P. Pollinger, S. Saatchi, R.K Wayne, T.B. Smith. 2010. Modeling environmentally associated morphological and genetic variation in a rainforest bird, and its application to conservation prioritization. *Evolutionary Applications*, 3: 1-16.
- (40) Hickerson, M.J., B.C. Carstens, C. Cavender-Bares, K. Crandall, **C. H. Graham**, J. Johnson, L. Rissler, P.F. Victoriano, and B. Yoder. 2009. 20 years after Avise et al. 1987: Comparative phylogeography fulfilling original promise by integrating with emerging fields. *Molecular Evolution and Phylogenetics*. 54: 291-301
- (39) **Graham, C.H.**, J.L. Parra, C. Rahbek, J. A. McGuire. 2009. Phylogenetic structure in tropical hummingbird communities. *Proceedings of the National Academy of Sciences*, 106: 19673-19678.
- (38) VanDerWal, J., L.P. Shoo, **C.H. Graham** and S.E. Williams. 2009. Selecting pseudo-absence data for presence-only distribution modeling: how far should you stray from what you know? *Ecological Modeling*, 220: 589-594.
- (37) Elith, J. and **C.H. Graham**. 2009. Do they / How do they / WHY do they differ? -- on finding reasons for differing performances of species distribution models, *Ecography*, 32: 66-77. (Invited opinion paper)

- (36) Moritz, C., C. Hoskin, J. MacKenzie, B. L. Phillips, M. Tonione, N. Silva, J. VanDerWal, S. E. Williams, and **C.H. Graham**. 2009. Identification and dynamics of a cryptic suture zone in tropical rainforest. *Proceedings of the Royal Society*, 276: 1235-1244.
- (35) Phillips, S., J. Elith, M. Dudik, **C.H. Graham**, A. Lehmann, J. Leathwick and S. Ferrier. 2009. Sample selection bias and presence-only models of species distributions: implications for selection of background and pseudo-absences, *Ecological Applications*, 19: 181-197.
- (34) Williams, S.E., J.L. Isaac, **C.H. Graham** and C. Moritz. 2009. Towards an understanding of vertebrate biodiversity in the Australian Wet Tropics. In N. Stork and S. Turton (Eds.). *Living in a dynamic tropical forest landscape*. Blackwell Publishing.
- (33) Tinoco, B.A., P.X. Astudillo, S.C. Latta and **C.H. Graham**. 2009. Distribution, ecology and conservation of an endangered Andean hummingbird: the violet-throated metaltail (*Metallura baroni*), *Bird Conservation International*, 19: 1-14.
- (32) **Graham, C.H.** and S. Goetz. 2009. GIS and remote sensing. In Simon A. Levin (Ed.). *The Princeton Guide to Ecology*. Princeton University Press.
- (31) **Graham, C.H.** and P. Fine (authors contributed equally). 2008. Phylogenetic beta diversity: Linking ecological and evolutionary processes across space and time. *Ecology Letters* 11: 1265-1277.
- (30) Menéndez-Guerrero, P.A., S.R. Ron and **C.H. Graham**. 2008. Predicting the distribution and spread of pathogens to amphibians. In S. Stuart, M. Hoffman, J. Chanson, N. Cox, R. Berridge, P. Ramani, and B. Young, (Eds). pp. 127-128. (Ed.), *Threatened Amphibians of the World*. Lynx Ediciones, Barcelona, Spain.
- (29) Wisz, M., R. Hijmans, J. Li, S. Phillips, A.T. Peterson, **C.H. Graham** and the NCEAS Species Distribution Modeling Group. 2008. Effects of sample size on the performance of species distribution models, *Diversity and Distributions*, 14: 763-773.
- (28) Kozak, K., **C.H. Graham** and J.J. Wiens. 2008. Integrating GIS-based environmental data into evolutionary biology, *Trends in Ecology and Evolution*, 23: 141-148 (Invitation to review to Graham).
- (27) Buermann W., S. Saatchi, B.R. Zutta, J. Chaves, B. Mila, T.B. Smith and **C.H. Graham**. 2008. Predicting species distributions across the Amazonian and Andean regions using remote sensing data. *Journal of Biogeography*, 35: 1177-1186. (see Commentary, *Ecography*, 35: 1158-1159)
- (26) **Graham, C.H.**, J. Elith, R. Hijmans, A. Guisan, A.T. Peterson, B.A. Loiselle and the NCEAS Species Distribution Modeling Group. 2008. The influence of spatial errors in species occurrence data used in distribution models. *Journal of Applied Ecology*, 45: 239-247.
- (25) Guisan, A., J. Elith, **C.H. Graham**, A.T. Peterson, S. Philips and N.E. Zimmermann. 2007. What matters for predicting the occurrences of trees: techniques, data, or species' characteristics? *Ecological Monographs*, 77: 615-630.

- (24) Guisan, A., **C.H. Graham**, C.H., J. Elith, F. Huettmann and the NCEAS Species Distribution Modelling Group. 2007. Sensitivity of predictive species distribution models to change in grain size. *Diversity and Distributions*, 13: 332-340.
- (23) Hijmans R.J. and **C.H. Graham**. 2006. The ability of climatic envelope models to predict the effect of climate change on species distributions. *Global Change Biology*, 12: 2272-2281.
- (22) Wiens, J.J., **C.H. Graham**, S.A. Smith, D.S. Moen and T.W. Reeder. 2006. Evolutionary and ecological causes of the latitudinal diversity gradient in hylid frogs: Treefrog trees unearth the roots of high tropical diversity. *American Naturalist*, 168: 579-596.
- (21) Hernandez, P.A., **C.H. Graham**, L.L. Master and D. Albert. 2006. The effect of sample size on the performance of species distribution models. *Ecography*, 29: 773 - 785.
- (20) **Graham, C.H.** and R.J. Hijmans. 2006. A comparison of methods for mapping species richness. *Global Ecology and Biogeography*, 15: 578-587.
- (19) Rissler, L.J., R.J. Hijmans, **C.H. Graham**, C. Moritz and D.G. Wake. 2006. Phylogeographic lineages and species comparisons in conservation analyses: A case study of California herpetofauna. *American Naturalist*, 167: 655-666.
- (18) Elith, J., **C.H. Graham** (*the first two authors contributed equally*), R.P. Anderson, M. Dudík, S. Ferrier, A. Guisan, R.J. Hijmans, F. Huettmann, J.R. Leathwick, A. Lehmann, J. Li, L.G. Lohmann, B.A. Loiselle, G. Manion, C. Moritz, M. Nakamura, Y. Nakazawa, J. Overton, A.T. Peterson, S.J. Phillips, K.S. Richardson, R. Scachetti-Pereira, R.E. Schapire, J. Soberón, S. Williams, M.S. Wisz and N.E. Zimmermann. 2006. Novel methods improve prediction of species' distributions from occurrence data. *Ecography*, 29: 129-151. (*see Research Highlights, Nature 441(7091): 258*).
- (17) **Graham, C.H.**, C. Moritz and S.E. Williams. 2006. Habitat history improves prediction of biodiversity in a rainforest fauna. *Proceedings of the National Academy of Sciences*, 103: 632-636.
- (16) Wiens J.J. and **C.H. Graham**. 2005. Niche conservatism: integrating evolution, ecology, and conservation biology. *Annual Review of Ecology, Evolution and Systematics*, 36: 519-539.
- (15) Smith, T. B., S. Saatchi, **C. H. Graham**, H. Slabbekoorn and G. Spicer. 2005. Putting process on the map: Why ecotones are important for preserving biodiversity. In A. Purvis, J. Gittleman, and T. Brooks (Eds.). *Phylogeny and Conservation*. Cambridge University Press, Cambridge, United Kingdom. Pp. 166-198.
- (14) Moritz, C., C. Hoskin, A. Hugall and **C.H. Graham**. 2005. Historical biogeography, diversity and conservation of Australian tropical rainforest herpetofauna. In A. Purvis, J. Gittleman, and T. Brooks (Eds.). *Phylogeny and Conservation*. Cambridge University Press, Cambridge, United Kingdom. Pp. 243-267.
- (13) **Graham, C.H.**, T.B. Smith and M. Languy. 2005. Current and historic factors influencing patterns of species richness and turnover of birds in the Gulf of Guinea highlands. *Journal of Biogeography*, 32: 1371-1384.

- (12) Guo, Q., M. Kelly and **C.H. Graham**. 2005. Support vector machines for predicting distribution of sudden oak death in California. *Ecological Modelling*, 182: 75-90.
- (11) Parra, J.L., J.F. Freile, and **C.H. Graham**. 2004. Evaluating alternative data sets for ecological niche models of birds in the Andes. *Ecography*, 27: 350-360.
- (10) **Graham, C.H.**, S. Ferrier, F. Huettman, C. Moritz and A.T. Peterson. 2004. New developments in museum-based informatics and application in biodiversity analysis, *Trends in Ecology and Evolution* 19: 497-503.
- (9) **Graham, C.H.**, S.R. Ron, J.C. Santos, C.J. Schneider and C. Moritz. 2004. Integrating phylogenetics and environmental niche models to explore speciation mechanisms in *Dendrobatid* frogs, *Evolution* 58: 1781-1793.
- (8) Loiselle, B.A., C.A. Howell, **C.H. Graham**, T. Brooks, P.H. Williams, J.M. Goerck and K.G. Smith. 2003. Avoiding pitfalls of using species distribution models in conservation planning. *Conservation Biology*, 17: 1591-1600.
- (7) **Graham, C.H.**, L. Cruz-Paredes and E. Martinez-Leyva. 2002. Use of fruiting trees by birds in continuous forest and riparian forest remnants in Los Tuxtlas, Veracruz, Mexico. *Biotropica*, 34: 589-597.
- (6) **Graham, C.H.** and J.G. Blake. 2001. Influences of patch and landscape level factors on bird assemblages in a fragmented tropical landscape. *Ecological Applications*, 11: 1709-1721.
- (5) **Graham, C.H.** 2001. Factors influencing movement patterns of Keel-billed Toucans in a fragmented tropical landscape in southern Mexico. *Conservation Biology*, 15: 1789-1798.
- (4) **Graham, C.H.** 2001. Habitat selection and activity budgets of Keel-billed Toucans at the landscape level. *Condor*, 103: 776-784.
- (3) **Graham, C.H.**, T.C. Moermond, K. Kristensen and J. Mvukiyumwami. 1995. Seed dispersal effectiveness of two bulbuls on *Maesa lanceolata*, an African montane forest tree. *Biotropica*, 27: 479-486.
- (2) Loiselle, B., V.L. Sork, and **C.H. Graham**. 1995. Comparison of genetic variation in bird-dispersed shrubs of a tropical wet forest. *Biotropica*, 27: 487-494.
- (1) Loiselle, B., V.L. Sork, J. Nason and **C.H. Graham**. 1995. Spatial genetic structure of a tropical understory shrub, *Psychotria officinalis* (Rubiaceae). *American Journal Botany*, 82: 1420-1425.

Miscellaneous Publications

Hot Paper interview http://esi-topics.com/nhp/2007/may-07-Elith_Graham.html (Hot papers are selected by virtue of being cited among the top one-tenth of one percent (0.1%) in a current bimonthly period. Papers are selected in each of 22 fields of science and must be published within the last two years.)

AWARDS

16th Annual Hispanic Heritage Month Faculty Award, Stony Brook University, 2005.

GRANTS (funding rates for NSF and NASA between 5-10 percent)

Mercator Professorship, Germany, 25,000; March - June 20 2012

NSF-Dimensions: Collaborative Research: Integrating genetic, taxonomic, and functional diversity of tetrapods across the Americas and through extinction risk. (co-PI Graham, PI Brooks, co-PIs Hedges, Radeloff, Costa and Young), 225,671 (~2.0 mil total); January 2012 - December 2016.

NSF-DEB: Collaborative research: Demographic heterogeneity at landscape scales in an emergent invasive species, *Centaurea stoebe*, in New York State (co-PI Graham, PI Gurevitch, co-PI Fowler) ~200,000; August 2011 - July 2014.

NASA, Climate and Biological Response: Combining remote-sensing and biological data to predict the consequences of climate change on hummingbird diversity (PI Graham, co-PIs, Goetz, Wethington, Powers and Beck); ~\$500,000 (1.4 mil total); July 2011-June 2015

NESCent Working Group: Montane diversity in space and time: Linking evolutionary biology and macroecology (PI Graham, co-PIs Kozak and Rahbek); provided travel and lodging for all participants; May 2008 – January 2010

NSF-DEB: Integrating phylogeny and ecology to study diversity patterns of Andean hummingbirds (PI Graham, co-PI Parra); \$437,000; July 2008 – July 2011

NASA-Student Fellowship: Using remote sensing products to predict the impact of climate and land-cover change on the abundance and distribution of Andean Birds (PI Graham, co-PI Velasquez); \$90,000; July 2008 – June 2011

NSF-OISE: Planning visit to El Cajas National Park, Ecuador (PI Graham, coPI Steven Latta); \$5,650; 03/06 - 03/07

NSF-DEB: Historical Demography and Diversity of a Tropical Rainforest Fauna (coPI Graham; PI Craig Moritz, coPI Stephen Williams,); \$87,971; August 2004 -July 2007

NASA: Quantifying patterns of biodiversity in a changing climate: integrating biological point and process data with remotely sensed environmental variables (coPI Graham, PI Saatchi, coPI's Smith, Wayne and Schnieder); \$96,000; November 2004-December 2007

NASA: New Investigator Proposal (NIP): Remote sensing and biodiversity in a changing climate (PI Graham); \$290,000; November 2004-December 2007

INVITED PRESENTATIONS*Invited Seminars*

(34) Universidade Federal do Rio Grande do Norte; March 2014

- (33) University of Chicago; February 2013
- (32) University of Antwerp; February 2013
- (31) City University of New York – Manhattan; October 2012
- (30) Swiss Federal Institute for Forest, Snow and Landscape Research WSL; May 2012
- (29) Biodiversity and Climate Research Centre (BiK-F), Frankfurt, Germany; May 2012
- (28) Museo Nacional de Ciencias Naturales, Madrid, Spain; April 2012
- (27) Center for Macroecology and Evolution, Copenhagen, Denmark; November 2011
- (26) University of Tennessee – Knoxville; February 2011
- (25) University of Colorado – Fort Collins; October 2010
- (24) University of Illinois – Champagne-Urbana; October 2010
- (23) Stanford University; May 2009
- (22) University of Connecticut – Storrs; September 2009
- (21) Stony Brook University, CIDER seminar series; March 2009
- (20) University of Florida – Gainesville (student invited speaker); March 2009
- (19) University of Colorado-Boulder; March 2009
- (18) Department of Biology, Boston University; February 2008
- (17) Department of Biology, University of North Carolina – Chapel Hill; February 2008
- (16) Department of Evolution, Ecology, & Population Biology, Washington University, St. Louis (student invited speaker); December 2007
- (15) Department of Ecology, Evolution and Systematics; University of Missouri-St. Louis; December 2007
- (14) Department of Biology, University of Copenhagen, Denmark; June 2007
- (13) Department of Biology, University of Lausanne, Switzerland; June 2007
- (10-12) Department of Biology, Umea University, Sweden 3 seminars; June 2007
- (9) Department of Biology, University of Azuay, Ecuador; March 2007
- (8) Department of Ecology, Evolution and Environmental Biology, Colombia University; February 2007
- (7) Department of Wildlife Ecology and Conservation, University of Florida-Gainesville; January 2007
- (6) Department of Biological Sciences; George Washington University; November 2006
- (5) Department of Natural Resources, Cornell University; October 2006
- (4) Department of Biology; Hofstra University; September 2006
- (3) Department of Ecology and Evolutionary Biology, Yale University; October 2005
- (2) Department of Biology, University of South Carolina - Columbia; October 2005
- (1) Center for Biodiversity and Conservation; American Museum of Natural History; November 2003

Invited Symposia, Keynote Lectures & Special Sessions

- (20) Invited talk; “When does spatial complexity matter?” National Ecological Observatory Network; October 2014

- (19) Symposium talk; "Unifying Ecology Across Scales" Gordon Research Conference; July 2014
- (18) Keynote lectures; British Ecological Society, Macroecology Special Interest Group, Nottingham, UK; July 2014
- (17) Symposium talk; American Society of Naturalists; Asilomar, CA, USA; January 2014
- (16) Keynote lecture; International Biogeography Society; Canberra, AU; January 2014
- (15) Keynote lecture; American Ornithological Union; Chicago, IL, USA; August 2013
- (14) Symposium talk; Ecological Society of America; Minneapolis, MN, USA; August 2013
- (13) Symposium talk; 7th Symposium on Eco-Evolutionary Dynamics, Belgium; February 2012
- (12) Keynote lecture; 6th Annual Meeting of the Specialist Group on Macroecology of the Ecological Society of Germany, Austria and Switzerland (GfÖ); February 2012
- (11) Keynote lecture; NASA's Carbon Cycle & Ecosystems (CC&E) Joint Science Workshop; October 2011
- (10) Keynote lecture; Young Biogeographers Conference; Oxford, UK; September 2011
- (9) Symposium talk; European Ecology Meetings, Avila, Spain; September 2011
- (8) Special session talk; Ecological Society of American; August 2010
- (7) Keynote lecture, German Ecological Society Meeting, Giessen, Germany; September 2010
- (6) Symposium talk; Institute of Systematic Botany, Zurich, Switzerland; June 2009
- (5) Symposium talk; National Academy of Sciences Sackler Colloquia, Irvine, CA; December 2008
- (4) Special session talk; Ecological Society of America Annual Meeting; August 2008
- (3) Symposium talk; Weed Science Society of America Annual Meeting; February 2008
- (2) Symposium talk; Museum of Vertebrate Zoology Centennial Celebration, UC-Berkeley; March 2008
- (1) Symposium talk; International Society for Biogeography Biannual Meeting; January 2007

Invited Workshops

- (10) German Center for Integrative Biodiversity Research (iDiv) sponsored workshop, "sFossil"; April 2014
- (9) Climate Change Biology Programme (iCCB) sponsored workshop, "Traits, Niches & Climate as common coinage:"; October 2012
- (8) Biodiversity and Climate Research Centre sponsored workshop, "The Ecological Niche as a Window to Biodiversity"; January 2011
- (7) National Evolution Synthesis Center Catalysis Meeting, "Ecophylogenetics Symposium"; November 2010
- (6) NSF sponsored workshop, "Sustain What: Mission to Explore Earth's Species and Conserve Biodiversity"; November 2010

- (5) National Evolution Synthesis Center Catalysis Meeting, “Perspectives on the Origin and Conservation of Biodiversity”; June 2008
- (4) Natureserve Conservation Meeting, “El Uso de Modelos Espaciales Para Predecir los Patrones de Endemismo,” Santa Cruz, Bolivia; June 2006
- (3) Biodiversity Science and Education Initiative Task Force (BSEI, <http://www.discoverlife.org/pa/ev/me/2005bsei/index.html>), The Smithsonian Institute; September 2005
- (2) FWS/USGS/NASA Project Planning Workshop, Ivory-billed Woodpecker Rediscovery & Species Recovery Working Group; October 2005
- (1) Ecological Modeling for NASA Applied Sciences; April 2005

Non-Academic Talks

- (2) Cayuga Bird Club, Cornell Lab of Ornithology; October 2006
- (1) Long Island Science Club; November 2004

TEACHING

Courses

- Graduate Ecology (co-taught)
- Undergraduate Ecology
- Undergraduate Ecology Laboratory
- Seminar course: Spatial Scale in Ecology and Evolution
- Seminar course: The Ecological Niche
- Seminar course: Paleo and Neo perspectives on Ecology and Evolution

Workshops Taught (4-6 day)

- Species distribution modeling (co-taught), Copenhagen, Denmark, August 2013 & 2014
- Methods to model species distributions (with funding from Natureserve), Lima, Peru; March 2007
- Methods to model species distributions, Bogota, Colombia; July 2006.
- Methods to model species distributions (co-taught, by invitation from the American Museum of Natural History), Southwest Research Station, Arizona; May 2006
- Methods to model species distributions, Quito, Ecuador; July 2005

Post-Doctoral Scholars - past

- Olivier Broennimann, Swiss National Grant, Combining niche-based models and landscape genetics to study invasive plants; 2008-2009
- Juan Parra, Community composition and biogeography of Andean hummingbirds; 2008-2011
- Ana Davidson, Conservation and risk assessment in mammals; 2012-2013
- Sarah Supp, Citizen science data and prediction of future population trends; 2013-2014

Doctoral Students - present

- Ben Weinstein, Role of behavioral dominance on hummingbird distributions across elevation gradients; 2011 to present
Antonin Machac, Spatial analyses of macroevolutionary patterns; 2011 to the present
Marisa Lim, Integrating distribution, genetics and physiology to study range expansion in Ana's hummingbird; 2012 to the present
Anusha Shakar, Nectar resources and physiology mediate hummingbird distributions across elevational gradient. 2012 to the present

Doctoral Students - past

- Melissa Mark (originally a student of C. Janson), PhD, Comparison of demography and behavior across wren species in a disturbed landscape in Nicaragua; 2009
Norah Warchola, PhD, Butterfly movement and behavior in an agricultural landscape; 2010
Jessie Knowlton, PhD, Bird species mixed flock behavior across a habitat gradient in Southern Ecuador; 2010
Leone Brown, PhD, Land use change, climate change and the distribution of North American birds; 2013
Jorge Valesquez, PhD, Modeling the effects of climate and land use change on Colombian birds; 2013
Boris Tinoco, The influence of habitat alternation and on hummingbird distribution, demography and plant-hummingbird interactions; 2008 to 2014

Visiting Graduate Students – present

- Brunno Oliveria, Sandwich Fellowship, final year of PhD, Federal University of Rio Grande do Sul, Brazil, Comparison of dimensions of diversity across tetrapods; 2014-present.

Visiting Graduate Students - past

- Deidrik Strubbe, final year of PhD, American-Belgium Foundation Fellowship, Distribution of invasive birds; 2008-2009
Paula Hanna Valdujo, Sandwich Fellowship, final year of PhD, Universidade de São Paulo, Brazil, Beta- diversity of frogs in the Cerrado of Brazil; 2009-2010
Fernanada Brunn, Sandwich Fellowship, final year of PhD, Federal University of Rio Grande do Sul, Brazil, Congruency of onservation priorities for mammals across different dimensions of diversity; 2013-2014

Master's Students – current

- Lisa Ditmar, Hummingbird ecology; 2013 to the present

Master's Students-past

Paul Lammardo, MA, Ecology and conservation of the Florida Scrubjay; 2005
Lara Pomi, MA, Predicting the distribution of an invasive weed, garlic mustard; 2006
Mel Delion, MA, The ecological niche of an austral migratory bird on its wintering and breeding grounds; 2006
Pablo Menendez, MA, Chytrid fungus and frog declines in Ecuador; 2008
Natalia Silva, MA, A review of beta-diversity; 2010
Brittney Herson, Modeling biocontrol agents of an invasive weed; 2013
Cyrstal Crown, Assessing conservation threats of the Great Blue Heron; 2014

SERVICE

University Service

Program Director for the Master's Program, Department of Ecology and Evolution, Stony Brook University; 2013-present
Tinker Committee (evaluation of Tinker Field Research Travel Grants), Latin American & Caribbean Studies Center; 2004 & 2009
University Senate; 2007-2011
Arts and Sciences Senate; 2007-2011
Campus GIS committee, 2010-2011

Professional Service outside the University

Grant Review Panel

National Science Foundation DEB panel; October 2010
Review Board for National Evolutionary Synthesis Center – NESCent; 2006-2009
Research Opportunities in Space and Earth Sciences (ROSES) 2008 Biodiversity solicitation panel; September 2008
Earth System Science Fellowship proposals panel (NASA); June 2004

Journal Reviewer

American Journal of Botany, American Naturalist, AUK, Biological Conservation, Biology Letters, Condor, Conservation Biology, Conservation and Biodiversity, Diversity and Distributions, Ecography, Ecology, Ecological Applications, Ecology Letters, Ecological Modeling, Evolution, Global Change Biology, Global Ecology and Biogeography, Heredity, Journal of Biogeography, Journal of Vegetation Science, Molecular Ecology, OIKOS, Plant Ecology, Proceedings of the National Academy of Sciences, Proceedings of the Royal Society, Science, Systematic Biology, Remote Sensing and the Environment, Trends in Ecology and Evolution, Science

Editorships

Subject Editor for *Ecography*; 2007-2014

Editorial Board for *Ecography*; 2014 to the present

Guest Subject Editor, *Annual Review of Ecology, Evolution and Systematics* 2012-2013

Positions in Professional Societies

International Society for Biogeography, Member at Large; 2011 to the present

American Society of Naturalist, Treasurer; 2012 to the present

ADDITIONAL INFORMATION

Symposium/Special Sessions Organized

Symposium Co-organizer at the Conservation Biology Annual Meeting, "What Can Distributional Modeling Do for Conservation Biology;" August 2004.

Special Session Organizer (co-organizers Dan Faith and Catherine Lozupone) at the Ecological Society of American Annual Meeting; " From Microbial to Conservation Biology: Exploring Phylogenetic Beta Diversity as a Theoretical Tool Uniting Disciplines"; August 2010

International Collaborator

International Collaborator on a Danish Center of Excellence led by Carsten Rahbek and titled: "Center for Macroecology and Evolution: How to explain distribution of life on Earth"; July 2008 to present

Working Group Organized

NESCent Working Group, Montane diversity in space and time: Linking evolutionary biology and macroecology (PI, Graham, co-PIs, Kozak & Rahbek); May 2008 to June 2010