

# GUSTAVO A. BRAVO, PH.D.

## CURATOR OF ORNITHOLOGY AND RESEARCHER

Instituto Alexander von Humboldt  
Biological Collections  
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[01/22/2022]

### EDUCATION

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<b>Louisiana State University, Baton Rouge, LA</b>	2012
<b>Ph.D.</b> Biological Sciences. Systematics, Ecology, and Evolution Thesis: <i>Phenotypic and niche evolution in the antbirds (Aves, Thamnophilidae)</i> . Advisors: Dr. J. V. Remsen Jr. and Dr. R. T. Brumfield. Committee: Dr. K. E. Harms, Dr. B. C. Carstens, Dr. P. C. Stouffer, Dr. A. Grooters.	
<b>Universidad de los Andes, Bogotá, Colombia</b>	2002
<b>B.Sc.</b> Biological Sciences	

### RESEARCH AND ACADEMIC APPOINTMENTS

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<b>Curator of Ornithology &amp; Researcher</b>	2021 – present
Instituto Alexander von Humboldt, Colombia Biological Collections	
<b>Research Associate</b>	2016 – present
Harvard University Dept. of Organismic and Evolutionary Biology & Museum of Comparative Zoology	
<b>São Paulo Research Foundation (FAPESP) Postdoctoral Fellow</b>	2013 – 2016
Universidade de São Paulo, Brazil Museu de Zoologia	
<b>Junior Researcher</b>	2002 – 2005
Instituto Alexander von Humboldt, Colombia Conservation Biology Program	
<b>Undergraduate Research Student</b>	2001 – 2002
Universidad de los Andes – Omacha Foundation, Colombia	

### CURATORIAL EXPERIENCE

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<b>Curator of Ornithology</b>	2021 – present
Instituto Alexander von Humboldt – Bird & Egg Collections	
<b>Curatorial Assistant - Ornithology Collection</b>	2005 – 2010
Louisiana State University Museum of Natural Science. Curator Dr. J. V. Remsen Jr	
<b>Curatorial Assistant - Ichthyology Collection</b>	2009
Louisiana State University Museum of Natural Science. Curator Dr. P. Chakrabarty	

## PUBLICATIONS

\*CO-ADVISED GRADUATE STUDENTS

\*\* MENTORED UNDERGRADUATE STUDENTS

### REFEREED PUBLICATIONS

- (40) Macedo, G.\* , R. S. Marcondes, C. Biondo, **G. A. Bravo**, E. P. Derryberry. 2022. The evolution of sex similarities in social signals: climatic seasonality is associated with lower sexual dimorphism and greater elaboration of female and male signals in antbirds (Thamnophilidae). *Evolution* 76:2791–3078.
- (39) Cueva, D.\* , **G. A. Bravo**, L. F. Silveira. 2022. Systematics of *Thraupis* (Aves, Passeriformes) reveals an extensive hybrid zone between *T. episcopus* (Blue-gray Tanager) and *T. sayaca* (Sayaca Tanager). *PLoS One* 17(10): e0270892.
- (38) Tobias, J. A., C. Sheard, A. L. Pigot, A. J. M. Devenish, J. Yang, [...] **G. A. Bravo**, [...], and 104 other authors. 2022. AVONET: morphological, ecological and geographical data for all birds. *Ecology Letters* 25:581–597
- (37) Singhal, S., G. E. Derryberry, **G. A. Bravo**, E. P. Derryberry, R. T. Brumfield, M. G. Harvey. 2021. The dynamics of introgression across an avian radiation. *Evolution Letters* 5:568–581.
- (36) Macedo, G.\* , **G. A. Bravo**, R. S. Marcondes, E. P. Derryberry, C. Biondo. 2021. Differences in plumage coloration predict female but not male territorial aggression in three antbird sister species pairs. *Animal Behaviour* 182: 107–124.
- (35) **Bravo, G. A.**, C. J. Schmitt, S. V. Edwards. 2021. What have we learned from the first 500 avian genomes? *Annual Review of Ecology, Evolution, and Systematics* 52: 611–639.
- (34) Beco, R.\* , L. F. Silveira, E. P. Derryberry, **G. A. Bravo**. 2021. Ecology and behavior predict an evolutionary trade-off between song complexity and elaborate plumages in antwrens (Aves, Thamnophilidae). *Evolution* 75:2388–2410.
- (33) Pacheco, J. F., L. F. Silveira, A. Aleixo, C. E. Agne, G. A. Bencke, **G. A. Bravo**, G. R. R. Brito, M. Cohn-Haft, G. N. Maurício, L. N. Naka, F. Olmos, S. R. Posso, A. C. Lees, L. F. A. Figueredo, E. Carrano, R. C. Guedes, E. Cesari, I. Franz, F. Schunck, V. Q. Piacentini. 2021. Annotated Checklist of the birds of Brazil by the Brazilian Ornithological Records Committee – Second edition. *Ornithology Research* 29: 94–105.
- (32) **Bravo, G. A.**, B. M. Whitney, R. Belmonte-Lopes, M. R. Bornschein, N. Aristizábal, R. Beco\*, J. Battilana, L. N. Naka, A. Aleixo, M. R. Pie, L. F. Silveira., E. P. Derryberry, R. T. Brumfield. 2021. Phylogenomic analyses reveal non-monophyly of the antbird genera *Herpsilochmus* and *Sakesphorus* (Thamnophilidae), with description of a new genus for *Herpsilochmus sellowi*. *Ornithology* 138: 1–16.
- (31) Dickens, J., P-P Bitton, **G. A. Bravo**, L. F. Silveira. 2021. Species limits, patterns of secondary contact and a new species in the *Trogon rufus* complex (Aves: Trogonidae). *Zoological Journal of the Linnean Society* 193: 499–540.
- (30) Harvey, M. G.†, **G. A. Bravo**†, S. Claramunt, A. M. Cuervo, G. E. Derryberry, J. Battilana, G. F. Seeholzer, J. Shearer McKay, B. C. O’Meara, B. C. Faircloth, S. V. Edwards, J. Pérez-Emán, R. G. Moyle, F. H. Sheldon, A. Aleixo, B. T. Smith, R. T. Chesser, L. F. Silveira, J. Cracraft, R. T. Brumfield, E. P. Derryberry. 2020. The evolution of a tropical biodiversity hotspot. *Science* 370: 1343–1348.
- † **Co-first authors**
- (29) Bocalini, F.\* , S. D. Bolívar-Leguizamón\*, L. F. Silveira, **G. A. Bravo**. 2021. Comparative phylogeographic and demographic analyses reveal a congruent pattern of sister relationships between bird populations of the northern and south-central Atlantic Forest. *Molecular Phylogenetics and Evolution* 154: 106973.
- (28) Corbett, E. C.\*\* , **G.A. Bravo**, F. Schunck, L. N. Naka, L. F. Silveira, S. V. Edwards. 2020. Evidence for the Pleistocene Arc Hypothesis from genome-wide SNPs in a Neotropical dry forest specialist, the Rufous-fronted Thornbird (Furnariidae: *Phacellodomus rufifrons*). *Molecular Ecology* 29: 4457–4472.
- (27) Chesser, R. T., M. L., Isler, A. M. Cuervo, C. D. Cadena, S. C. Galen, L. M. Bergner, R. C. Fleischer, **G. A. Bravo**, D. F. Lane, P. A. Hosner. 2020. Conservative plumage masks extraordinary phylogenetic diversity in the *Grallaria rufula* (Rufous Antpitta) complex of the humid Andes. In review at *The Auk* 137: 1–25.
- (26) Bolívar-Leguizamón, S. D.\* , L. F. Silveira, E. P. Derryberry, R. T. Brumfield, **G. A. Bravo**. 2020. Phylogeography of the Variable Anthsrrike (*Thamnophilus caerulescens*), a South American passerine distributed along multiple environmental gradients. *Molecular Phylogenetics and Evolution* 148: 106810.

- (25) Cadena, C. D., A. M. Cuervo, L. N. Céspedes, **G. A. Bravo**, N. Krabbe, T. S. Schulenberg, G. E. Derryberry, L. F. Silveira, E. P. Derryberry, R. T. Brumfield, J. Fjeldså. 2019. Systematics, biogeography and diversification of *Scytalopus tapaculos* (Rhinocryptidae), an enigmatic radiation of Neotropical montane birds. *bioRxiv* 600775 *The Auk* 13: 1–30.
- (24) Lamichhaney, S., D. C. Card, P. Grayson, J. F. R. Tonini, **G. A. Bravo**, K. Nöpflin, F. Termignoni-Garcia, C. Torres, F. Burbrink, J. A. Clarke, T. B. Sackton, S. V. Edwards. Natural history-derived phenomics and comparative genomics as tools for studying evolutionary convergence. *Philosophical Transactions of the Royal Society B* 374: 20180248.
- (23) Oliveros, C. H., D. J. Field, D. T. Ksepka, F. K. Barker, A. Aleixo, M. J. Andersen, P. Alström, B. W. Benz, E. L. Braun, M. Braun, **G. A. Bravo**, R. T. Brumfield, R. T. Chesser, S. Claramunt, J. Cracraft, A. M. Cuervo, E. P. Derryberry, T. C. Glenn, M. G. Harvey, P. A. Hosner, L. Joseph, R. T. Kimball, A. L. Mack, C. M. Miskelly, A. T. Peterson, M. B. Robbins, F. H. Sheldon, L. F. Silveira, B. T. Smith, N. D. White, R. G. Moyle, B. C. Faircloth. Earth history and the passerine superradiation. *Proceedings of the National Academy of Sciences USA* 116: 7916–7925.
- (22) **Bravo, G. A.**, A. Antonelli, C. D. Bacon, K. Bartoszek, M. Blom, S. Huynh, G. Jones, L. L. Knowles, S. Lamichhaney, T. Marcussen, H. Morlon, L. Nahkkeh, B. Oxelman, B. Pfeil, A. Schliep, N. Wahlberg, F. Werneck, J. Wiedenhoft, S. Willows-Munro, and S. V. Edwards. 2019. Embracing heterogeneity: Coalescing the Tree of Life and the future of phylogenomics. *PeerJ* 7: e6399.
- (21) Carneiro, L., **G. A. Bravo**, and A. Aleixo. 2018. Phenotypic similarity leads to taxonomic inconsistency: a revision of the genera *Hylopezus* and *Mymothera* (Passeriformes, Grallariidae), with description of a new genus from the Atlantic Forest. *Zoologica Scripta* 48: 46–56.
- (20) Van Doren, B. M., B. G. Freeman, N. Aristizábal, M. Álvarez-R, J. Pérez-Emán, A. M. Cuervo, and **G. A. Bravo**. 2018. Species limits in the Rusty-breasted Antpitta (*Grallaricula ferrugineipectus*) complex. *Wilson Journal of Ornithology* 130: 152–167.
- (19) Carneiro, L., **G. A. Bravo**, N. Aristizábal, A. M. Cuervo, and A. Aleixo. 2018. Molecular systematics and biogeography of lowland antpittas (Aves, Grallariidae): The role of vicariance and dispersal in the diversification of a widespread Neotropical lineage. *Molecular Phylogenetics and Evolution* 120: 375–389.
- (18) Ceriaco, L., E. E. Gutiérrez, A. Dubois [and 493 co-signatories]. 2016. Photography-based taxonomy is inadequate, unnecessary, and potentially harmful for biological sciences. *Zootaxa* 4196: 435–445.
- (17) Winger, B. M., P. A. Hosner, **G. A. Bravo**, A. M. Cuervo, N. Aristizábal, L. E. Cueto, and J. M. Bates. 2015. Inferring speciation history in the Andes with reduced-representation sequence data: an example in the bay-backed antpittas (Aves; Grallariidae; *Grallaria hypoleuca* s. l.). *Molecular Ecology* 24: 6256–6277.
- (16) Isler, M. L., **G. A. Bravo**, and R. T. Brumfield. 2014. Systematics of the obligate ant-following clade of antbirds (Aves: Passeriformes: Thamnophilidae). *Wilson Journal of Ornithology* 126: 635–648.
- (15) **Bravo, G. A.**, J. V. Remsen, Jr. and R. T. Brumfield. 2014. Adaptive processes drive ecomorphological convergent evolution in antwrens (Thamnophilidae). *Evolution* 68: 2757–2774.
- (14) Harvey, M. G., Seeholzer, G. F., D. Cáceres-A, B. M. Winger, J. G. Tello, F. Hernández-Camacho, M. A. Aponte-Justiniano, C. V. Duffie, S. Figueroa-Ramírez, R. S. Terrill, C E. Brown, L. Alza, **G. A. Bravo**, M. Combe, O. Custodio, A. Quiñones-Zumaeta, A. Urbay-Tello, W. A. Garcia-Bravo, A. Z. Savit, F. W. Pezo-Ruiz, and W. M. Mauck. 2014. The avian biogeography of an Amazonian headwater: the upper Ucayali River, Peru. *Wilson Journal of Ornithology* 126: 179–191.
- (13) Isler, M. L., **G. A. Bravo**, and R. T. Brumfield. 2014. *Inundicola* Bravo, Isler, and Brumfield. 2013 is a junior synonym of *Akletos* Dunajewski 1948 (Aves: Passeriformes: Thamnophilidae). *Zootaxa* 3779: 399–400.
- (12) Tello, J. G., M. Raposo, J. M. Bates, **G. A. Bravo**, C. D. Cadena, and M. Maldonado-Coelho. 2014. Phylogenetic analyses of molecular data in reassessing the systematics of the widespread Neotropical genus *Cercomacra* (Aves, Thamnophilidae). *Zoological Journal of the Linnean Society* 170: 546–565.
- (11) Isler, M. L., **G. A. Bravo**, and R. T. Brumfield. 2013. Taxonomic revision of *Myrmeciza* (Aves: Passeriformes: Thamnophilidae) into 12 genera based on phylogenetic, morphological, behavioral, and ecological data. *Zootaxa* 3717: 469–497.

- (10) Whitney, B. M., M. L. Isler, **G. A. Bravo**, N. Aristizábal, F. Schunck, L. F. Silveira, V. de Q. Piacentini, M. Cohn-Haft, and M. A. Rêgo. 2013. A new species of antbird in the *Hypocnemis cantator* complex from the Aripuanã-Machado interfluvium in central Amazonian Brazil. Pp. 282–285 in: del Hoyo, J., A. Elliott, J. Sargatal, and D. A. Christie (eds.). 2013. **Handbook of the Birds of the World. Special Volume: New Species and Global Index**. Lynx Edicions, Barcelona.
- (9) Whitney, B. M., M. Cohn-Haft, **G. A. Bravo**, F. Schunck, and L. F. Silveira. 2013. A new species of *Herpsilochmus* antwren from the Aripuanã-Machado interfluvium in central Amazonian Brazil. Pp. 277–281 in: del Hoyo, J., A. Elliott, J. Sargatal, and D. A. Christie (eds.). 2013. **Handbook of the Birds of the World. Special Volume: New Species and Global Index**. Lynx Edicions, Barcelona.
- (8) Cohn-Haft, M. and **G. A. Bravo**. 2013. A new species of *Herpsilochmus* antwren from west of the Rio Madeira in Amazonian Brazil. Pp. 272–276 in: del Hoyo, J., A. Elliott, J. Sargatal, and D. A. Christie (eds.). 2013. **Handbook of the Birds of the World. Special Volume: New Species and Global Index**. Lynx Edicions, Barcelona.
- (7) Whitney, B. M., M. L. Isler, **G. A. Bravo**, N. Aristizábal, F. Schunck, L. F. Silveira, and V. de Q. Piacentini. 2013. A new species of *Epinecrophylla* antwren from the Aripuanã-Machado interfluvium in central Amazonian Brazil with revision of the “stipple-throated antwren” complex. Pp. 263–267 in: del Hoyo, J., A. Elliott, J. Sargatal, and D. A. Christie (eds.). 2013. **Handbook of the Birds of the World. Special Volume: New Species and Global Index**. Lynx Edicions, Barcelona.
- (6) Belmonte-Lopes, R., **G. A. Bravo**, M. R. Bornschein, G. N. Maurício, M. R. Pie, and R. T. Brumfield. 2012. Genetic and morphological data support the placement of *Myrmotherula gularis* (Spix) in the monotypic genus *Rhopias* Cabanis and Heine (Aves: Passeriformes: Thamnophilidae). **Zootaxa** 3451: 1–16.
- (5) Isler, M. L., A. M. Cuervo, **G. A. Bravo**, and R. T. Brumfield. 2012. An integrative approach to species level systematics reveals the depth of diversification in an Andean thamnophilid, the Long-tailed Antbird. **The Condor** 114:571-583.
- (4) **Bravo, G. A.**, J. V. Remsen, Jr., B. M. Whitney, and R. T. Brumfield. 2012. DNA sequence data reveal a subfamily-level divergence within Thamnophilidae (Aves: Passeriformes). **Molecular Phylogenetics and Evolution** 65: 287–293.
- (3) **Bravo, G. A.**, R. T. Chesser, and R. T. Brumfield. 2012. *Iseria*, a new genus of antwren (Aves: Passeriformes: Thamnophilidae). **Zootaxa** 3195: 61–67.
- (2) Gibbons, R. E., J. Barrio, **G. A. Bravo**, and L. Alza. 2011. Assessing the geographic range of Black-fronted Ground-Tyrants (*Muscisaxicola frontalis*) using extralimital and winter range occurrence records and ecological niche modeling. **Journal of Field Ornithology** 82: 355–365.
- (1) Gómez, J. P., **G. A. Bravo**, R. T. Brumfield, J. G. Tello, and C. D. Cadena. 2010. A phylogenetic approach to disentangling the role of competition and habitat filtering in community assembly of Neotropical forest birds. **Journal of Animal Ecology** 79: 1181–1192.

#### BOOK CHAPTERS

- (5) Cortés-Herrera, J. O. and **Bravo, G. A.** 2014. *Grallaria kaestneri*, Tororoi de Cundinamarca, Cundinamarca Antpitta. In: Luis Miguel Renjifo; María Fernanda Gómez; Jorge Velásquez-Tibatá; Angel María Amaya-Villarreal; Gustavo H. Kattan; Juan David Amaya-Espinel; Jorge Burbano-Girón. (Org.). **Libro Rojo de Aves de Colombia (Vol. I). Bosques húmedos de los Andes y la costa Pacífica**. 1ed. Bogotá: Pontificia Universidad Javeriana, v. 1, p. 215-217.
- (4) Naranjo L. G. and **Bravo G. A.** 2006. Estado del conocimiento sobre aves acuáticas en Colombia. En: Chaves M. E. and Santamaría M. (eds.) 2006. **Informe Nacional sobre los avances en conocimiento e información de biodiversidad 1998 – 2004**. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Ministerio de Ambiente, Vivienda y Desarrollo Territorial. Bogotá, Colombia.
- (3) **Bravo G. A.** and Naranjo L. G. 2006. Estado del conocimiento sobre aves terrestres en Colombia. En: Chaves M. E. and Santamaría M. (eds.) 2006. **Informe Nacional sobre los avances en conocimiento e información de biodiversidad 1998 – 2004**. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Ministerio de Ambiente, Vivienda y Desarrollo Territorial. Bogotá, Colombia.

- (2) Franco, A. M. and **G. A. Bravo**. 2005. Áreas Importantes para la Conservación de las Aves en Colombia Pp. 117-282 In BirdLife International and Conservation International. **Áreas Importantes para la Conservación de las Aves de los Andes Tropicales: sitios prioritarios para la conservación de la biodiversidad**. Quito, Ecuador: BirdLife Internacional (Serie de Conservación de BirdLife No. 14).
- (1) **Bravo G. A.** 2004. Ecología alimentaria de la comunidad de aves ictiófagas durante la época seca en la confluencia Meta-Orinoco, Puerto Carreño, Colombia. En: **Fauna acuática de la Orinoquia Colombiana**. Trujillo, F. and Díazgranados, M. C. (Eds.) Fundación Omacha. Instituto Alexander von Humboldt. Pontificia Universidad Javeriana. Bogotá, Colombia.

#### NON-REFEREED PUBLICATIONS

- (2) Piacentini, V. Q., A. Aleixo, C. E. Agne, G. N. Maurício, J. F. Pacheco, **G. A. Bravo**, G. R. R. Brito, L. N. Naka, F. Olmos, S. R. Posso, L. F. Silveira, G. S. Betini, E. Carrano, I. Franz, A. Lees, L. Lima, D. Pioli, F. Schunck, F. R. do Amaral, G. A. Bencke, M. Cohn-Haft, L. F. A. Figueiredo, F. Straube and E. Cesari. 2015. Annotated checklist of the birds of Brazil by the Brazilian Ornithological Records Committee / Lista comentada das aves do Brasil pelo Comitê Brasileiro de Registros Ornitológicos. **Revista Brasileira de Ornitologia** 23(2): 91–298.
- (1) Claramunt, S., A. M. Cuervo, V. de Q. Piacentini, **G. A. Bravo**, and J. V. Remsen, Jr. 2014. Comment on *Grallaria fenwickorum* Barrera and Bartels, 2010 (Aves, Grallariidae): proposed replacement of an indeterminate holotype by a neotype (Case 3623; see BZN 70: 99–102, 256–269). **Bulletin of Zoological Nomenclature** 71(1): 40-43.

## TEACHING EXPERIENCE

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#### UNDERGRADUATE COURSES

<b>Teaching Fellow.</b> OEB 190 Ornithology Harvard University. Professor Dr. Scott V. Edwards	2020
<b>Teaching Assistant.</b> BIOL 2153 Principles of Genetics Louisiana State University. Professors Dr. R. T. Brumfield, Dr. A. Smith, Dr. G. Brininstool	2008 – 2012
<b>Teaching Assistant.</b> BIOL 1209 Introductory Biology II Louisiana State University. Professor Dr. E. W. Wischusen	2010
<b>Teaching Assistant.</b> BIOL 4142 Ornithology Louisiana State University. Professor Dr. J. V. Remsen Jr.	2008
<b>Teaching Assistant.</b> BIOL 1208 Introductory Biology I Louisiana State University. Professor Dr. E. W. Wischusen	2007

#### WORKSHOPS

<b>Instructor.</b> Genomics and Bioinformatics Harvard University. Ornithological Congress of the Americas. Misiones, Argentina Co-taught with Dr. S. V. Edwards, Dr. T. B. Sackton, and Dr. A. J. Shultz	2017
<b>Instructor.</b> Scientific Collections Workshop II Colombian Ornithology Congress, Bogotá, Colombia Co-taught with Dr. F. G. Stiles and Dr. A. M. Cuervo	2007

#### INVITED LECTURES

<b>Principios Básicos en Sistemática</b> Universidad Surcolombiana. Carolina López Castañeda	2022
<b>Ecological and Evolutionary Genetics</b> Kent State University. Dr. S. Lamichhaney	2021
<b>Animal Systematics</b> Universidad Nacional de Colombia. Dr. A. M. Cuervo	2021
<b>Ornithology</b> Harvard University. Dr. S. V. Edwards	2018

<b>Ornithology</b>	2014
Universidade de São Paulo. Dr. L. F. Silveira	
<b>Zoology Summer Course</b>	2014
Universidade de São Paulo. Graduate Student Association	

## FUNDING AND FELLOWSHIPS

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<b>Goelet Research Award</b>	2019
Harvard University, Museum of Comparative Zoology. "Genomic basis of convergent plumage evolution associated with dry habitats in a diverse radiation of Neotropical birds" (US\$240).	
<b>NSF Dimensions US-BIOTA-São Paulo</b>	2018 – present
National Science Foundation (NSF) – São Paulo Research Foundation (FAPESP). Grant DEB-1831560. Edwards, Solferini (PIs), Burbrink, Carstens, de Faria, de Morães, Digiampetri, Amaral, Xie, Zamudio (Co-PIs), <b>Bravo</b> (Collaborator) " <i>Traits as predictors of adaptive diversification along the Brazilian Dry Diagonal</i> " (US\$4,000,000).	
<b>Putnam Expedition Grant</b>	2017
Harvard University, Museum of Comparative Zoology. " <i>Genomic basis of phenotypic divergence associated to environmental conditions in the <i>Thamnophilidae</i></i> " (US\$5,475).	
<b>SSB Travel and Support Award</b>	2017
Society for Systematic Biology (SSB). " <i>Convergent evolution of antbird plumage in dry habitats.</i> " (US\$500).	
<b>CNPq Universal Project (Brazil)</b>	2016 – 2019
National Council of Technological and Scientific Development (CNPq). Grant 432630/2016-3. Naka (PI); <b>Bravo</b> , Raposo do Amaral, Cabanne, Edwards, Guedes, Pil, Araújo, Tubaro, Claramunt (Co-PIs) " <i>Distribution, origin, and diversification of the Caatinga endemic avifauna.</i> " (R\$60,000 [US\$17,760 on December 10, 2017]).	
<b>FACEPE Research Grant (Brazil).</b>	2015 – 2019
Pernambuco Research Foundation (FACEPE). Grant APQ-0337-2.04/15. Naka (PI); <b>Bravo</b> , Raposo do Amaral, Cabanne, Fernandes, de Souza (Co-PIs). " <i>Distribution, origin, and diversification of the Caatinga endemic avifauna</i> " (R\$71,600 [US\$22,145 on July 10, 2015]).	
<b>CNPq Universal Project (Brazil)</b>	2014 – 2019
National Council of Technological and Scientific Development (CNPq). Grant 457974/2014-1. Silveira (PI); <b>Bravo</b> (Co-PI) " <i>Origin, evolution, and biogeography of the birds in the Pernambuco center of endemism</i> " (R\$120,000 [US\$48,940 on Oct 1, 2014]).	
<b>AOU Post-doctoral Travel Award</b>	2014
American Ornithologists' Union (AOU). " <i>Adaptive processes drive ecomorphological convergent evolution in antwrens (<i>Thamnophilidae</i>)</i> " (US\$1,200).	
<b>FAPESP Postdoctoral Fellowship (Brazil)</b>	2013 – 2016
São Paulo Research Foundation (FAPESP). Grant 2012/23852-0. <b>Bravo</b> (PI); Silveira (Co-PI) " <i>Systematics, biogeography, and phenotypic evolution of the <i>Thamnophilini</i> (Aves, <i>Thamnophilidae</i>): a massive parallel DNA sequencing approach</i> ". (R\$244,332.60 [US\$121,000 on Apr 1, 2013]).	
<b>NOS Travel and Support Award</b>	2011
Neotropical Ornithological Society (NOS) " <i>Testing the role of environmental heterogeneity in driving diversification of the antbirds (<i>Thamnophilidae</i>)</i> " (US\$550).	
<b>NSF Travel and Support Award</b>	2010
National Science Foundation (NSF). R Methods in Macroevolution Workshop. (US\$750).	
<b>NSF Doctoral Dissertation Improvement Grant (DDIG)</b>	2010 – 2013

National Science Foundation (NSF). Grant DEB-1011435. Brumfield (PI); <b>Bravo</b> (Co-PI) "Phenotypic and niche evolution in the antbirds (Aves, <i>Thamnophilidae</i> )" (US\$15,000).	2010
<b>NIMBioS Travel and Support Award</b>	2010
National Institute for Mathematical and Biological Synthesis (NIMBioS). "HPC for <i>Phylogenetics tutorial – Fast, free phylogenies.</i> " (US\$335).	
<b>LSUMNS Big Day Fund</b>	2010
Louisiana State University Museum of Natural Science. (US\$1,000).	
<b>AOU Research Award</b>	2009
American Ornithologists' Union. "Phylogenetic analysis of phenotypic divergence in the antbirds ( <i>Thamnophilidae</i> )" (US\$1,500).	
<b>AOU Travel Award</b>	2009
American Ornithologists' Union. "Phylogenetic analysis of phenotypic divergence in the antbirds ( <i>Thamnophilidae</i> )" (US\$300).	
<b>Frank Chapman Memorial Fund Award</b>	2009
American Museum of Natural History. "Phylogenetic analysis of phenotypic divergence in the antbirds ( <i>Thamnophilidae</i> )" (US\$1,764).	
<b>Exploration Fund Grant</b>	2008
The Explorer's Club. "Phenotypic and niche evolution in the antbirds ( <i>Thamnophilidae</i> )" (US\$1,364).	
<b>LSUMNS Big Day Fund</b>	2007
Louisiana State University Museum of Natural Science. (US\$1,200).	
<b>LSU Biograds Fund</b>	2007
Louisiana State University Department of Biological Sciences. (\$300).	
<b>LSUMNS Big Day Fund</b>	2006
Louisiana State University Museum of Natural Science. (US\$2,000).	

## HONORS AND AWARDS

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<b>Special Commendation – Extraordinary Teaching in Extraordinary Times</b>	2020
Harvard College, Harvard University	
<b>Doctor of Science (<i>honoris causa</i>)</b>	2018
Universidad Científica del Perú (UCP)	
<b>Extraordinary Professor</b>	2018
Universidad Científica del Perú (UCP)	
<b>Best Student Presentation Award</b>	2009
American Ornithologists' Union (AOU) "Phylogenetic analysis of phenotypic divergence in the antbirds ( <i>Thamnophilidae</i> )"	
<b>Best Student Presentation Award</b>	2003
Colombian Ornithological Society (ACO) "Ecología alimentaria de la comunidad de aves piscívoras durante la época seca en la confluencia Meta-Orinoco"	

## INVITED PRESENTATIONS AT PROFESSIONAL MEETINGS

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- Bravo, G. A.** 2020. The role of environmental heterogeneity in driving the adaptive diversification of the antbirds (Aves: *Thamnophilidae*). Neotropical Ornithological Conference. On-line meeting.
- Solís-Lemus, C., **Bravo, G. A.**, Höhna, S., Molloy, E. K. 2020. Coalescent-based methods in the age of big data. Society of Systematic Biology 2020. Gainesville, FL. **Discussion Forum.**
- Bravo, G. A.** 2018. Una perspectiva genómica sobre la diversificación de los suboscinos neotropicales. XI Congreso Peruano de Ornitología. Iquitos, Peru. **Keynote speaker.**

- Bravo, G. A.** 2014. What do next-generation sequencing data tell us about phylogenies? The suboscines as a study case. XXI Congresso Brasileiro de Ornitologia. Rio de Janeiro RJ, Brazil.
- Bravo, G. A.** 2014. What do phylogenies tell us about biodiversity? The Neotropical suboscines as a study case. The Royal Society, São Paulo Research Foundation, Brazilian Academy of Sciences. UK– Brazil– Chile Frontiers of Science. Buckinghamshire, UK.

## **INVITED PRESENTATIONS AT ACADEMIC & PROFESSIONAL INSTITUTIONS**

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- Instituto Humboldt & Instituto de Ciencias Naturales.** 2022. Recolección, preservación y manejo de tejidos de vertebrados. Tercer taller de fortalecimiento de colecciones biológicas. Villa de Leyva, Colombia.
- Instituto Humboldt & Instituto de Ciencias Naturales.** 2022. Recolección, preservación y manejo de especímenes em seco de vertebrados. Tercer taller de fortalecimiento de colecciones biológicas. Tercer taller de fortalecimiento de colecciones biológicas. Villa de Leyva, Colombia.
- San Francisco State University.** 2022. What do museum specimens teach us about evolution? South American passerines as a study case. Biology Colloquium Talk. Online seminar.
- Universidad Nacional Agraria La Molina.** 2021. Colecciones Ornitológicas del Instituto Humboldt: Aporte al conocimiento de la avifauna colombiana. Círculo de Investigación en Ornitología. Online seminar.
- Universidade Federal do Pará – Museu Paraense Emílio Goeldi.** 2021. What have we learned from the first 500 avian genomes? Insights into phylogenomics and diversification of Neotropical birds. Online seminar.
- Instituto Humboldt & Instituto de Ciencias Naturales.** 2021. Colecciones Ornitológicas IAvH: Preservación y embalaje de especímenes em campo. Segundo taller de fortalecimiento de colecciones biológicas. Online seminar.
- Universidad del Rosario.** 2021. Una perspectiva genómica sobre la diversificación de las aves suboscinas neotropicales. Online seminar.
- Universidade Federal do Rio Grande do Sul.** 2021. What have we learned from the first 500 avian genomes? Insights into phylogenomics and diversification of Neotropical birds. Online seminar.
- Nuttall Ornithological Club.** 2019. The natural history and diversification of Neotropical suboscine birds. Cambridge, MA.
- University of Massachusetts.** 2019. A genomic perspective on the diversification of Neotropical perching birds. Lowell, MA.
- Universidad Nacional de Colombia.** 2019. Una perspectiva genómica sobre la diversificación de los suboscinos neotropicales. Bogotá, Colombia.
- University of Vermont – EEB Seminars.** 2019. A genomic perspective on the diversification of Neotropical perching birds. Burlington, VT.
- Instituto Butantã.** 2016.
- Universidade Federal do Pará – Museu Paraense Emílio Goeldi.** 2014. Do adaptive processes drive phenotypic diversification in the antbird (Aves, Thamnophilidae)? Belém, Brazil.
- Universidade Federal do Estado de São Paulo.** 2014. Do adaptive processes drive phenotypic diversification in the antbird (Aves, Thamnophilidae)? São Paulo, Brazil.
- Universidade de São Paulo.** 2014. Do adaptive processes drive phenotypic diversification in the antbird (Aves, Thamnophilidae)? São Paulo, Brazil.
- Occidental College.** 2012. Evolution in one of the New World's most diverse bird families: The antbirds. Los Angeles, CA.

## **SYMPOSIA ORGANIZED AT PROFESSIONAL MEETINGS**

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- X Neotropical Ornithological Congress and XXII Congresso Brasileiro de Ornitologia.** 2015. Impacts and applications of next-generation sequencing techniques in Neotropical ornithology. Manaus AM, Brazil.



**XXI Congresso Brasileiro de Ornitologia.** 2014. Systematics and biogeography of Neotropical suboscines. Rio de Janeiro RJ, Brazil.

## **CONTRIBUTED FIRST-AUTHOR PRESENTATIONS AT PROFESSIONAL MEETINGS**

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- Bravo, G. A.** 2021. Genetic basis of antbird adaptation to South American dry habitats: Insights from phenotypic and comparative genomic analyses Joint annual meeting of the Society for the Study of Evolution (SSE), the Society of Systematic Biologists (SSB), and the American Society of Naturalists (ASN). On-line meeting.
- Bravo, G. A.** 2019. The Genomic basis of plumage variation in antbirds. Gordon Research Seminar – Genomic Changes Behind Adaptation and Ecosystem Functions. Manchester, NH.
- Bravo, G. A.** 2019. The Genomic basis of plumage variation in antbirds. Gordon Research Seminar – Genomic Changes Behind Adaptation and Ecosystem Functions. Joint annual meeting of the Society for the Study of Evolution (SSE), the Society of Systematic Biologists (SSB), and the American Society of Naturalists (ASN). Providence, RI.
- Bravo, G. A.,** Marcondes, R., Brumfield, R. T. and Edwards, S. V. 2017. Convergent Evolution of antbird plumage in dry habitats. Society of Systematic Biologists (SSB) Standalone Meeting. Baton Rouge, LA.
- Bravo, G. A.,** Harvey, M. G., Derryberry, G., Cuervo, A. M. Claramunt, S. Chesser, R. T., Sheldon, F. H., Aleixo, A., Silveira, L. F., Cracraft, J., Brumfield, R. T., and Derryberry, E. P. 2017. A comprehensive species-level phylogeny of the suboscine passerines using genome-scale data. Ornithological Congress of the Americas. Sociedade Brasileira de Ornitologia (SBO), Aves Argentinas, and Association of Field Ornithologists (AFO). Iguazú, Argentina.
- Bravo, G. A.,** Cuervo, A. M., Harvey, M. G., Derryberry, G. E. Oliveros, C., Settlekowski, A., Battilana, J., Claramunt, S., Shearer, J., Smith, B. T., Sheldon, F. H., Chesser, R. T., Moyle, R. G., Aleixo, A., Cracraft, J., Silveira, L. F., Brumfield, R. T. and Derryberry, E. P. 2015. A phylogenomic perspective on the Suboscine passerine radiation: the Thamnophilidae as a study case. X Neotropical Ornithological Congress and XXII Congresso Brasileiro de Ornitologia. Manaus AM, Brazil.
- Bravo, G. A.,** Cuervo, A. M., Harvey, M. G., Derryberry, G. E. Oliveros, C., Settlekowski, A., Battilana, J., Claramunt, S., Shearer, J., Smith, B. T., Sheldon, F. H., Chesser, R. T., Moyle, R. G., Aleixo, A., Cracraft, J., Silveira, L. F., Brumfield, R. T. and Derryberry, E. P. 2015. A phylogenomic perspective on the suboscine passerine radiation: the Thamnophilidae as a study case. Joint annual meeting of the Society for the Study of Evolution (SSE), the Society of Systematic Biologists (SSB), and the American Society of Naturalists (ASN). Guarujá SP, Brazil.
- Bravo, G. A.,** Belmonte-Lopes, R, Bornschein, M. R., Reinert, B. L., Pie, M. R., Isler, M. L., and R. T. Brumfield. Diversification and biogeography of the antbirds (Thamnophilidae). 2014. XXI Congresso Brasileiro de Ornitologia. Rio de Janeiro, Brasil.
- Bravo, G. A.,** Remsen, J. V. Jr. and R. T. Brumfield. 2014. Adaptive processes drive ecomorphological convergent evolution in antwrens (Thamnophilidae). American Ornithologists' Union/ Cooper Ornithological Society/ Société des Ornithologistes du Canada Meeting. Estes Park, CO.
- Bravo G. A.,** Isler, M. L. and R. T. Brumfield. 2011. Testing the role of environmental heterogeneity in driving diversification of the antbirds (Thamnophilidae). Neotropical Ornithological Society. Cusco, Peru.
- Bravo G. A.,** Isler, M. L. and R. T. Brumfield. 2011. Testing the role of geography and environmental heterogeneity in driving diversification of the antbirds (Thamnophilidae). American Ornithologists' Union. Jacksonville, FL. USA.
- Bravo G. A.** and R. T. Brumfield. 2010. Análisis filogenético de la evolución fenotípica de los hormigueros (Aves: Thamnophilidae). III Congreso Colombiano de Zoología and III Congreso de Ornitología Colombiana. Medellín, Colombia.
- Bravo G. A.** and R. T. Brumfield. 2010. Phylogenetic analysis of phenotypic divergence in the antbirds (Aves: Thamnophilidae). Joint annual meeting of the Society for the Study of Evolution (SSE), the Society of Systematic Biologists (SSB), and the American Society of Naturalists (ASN). Portland, OR. USA.

- Bravo G. A.** 2009. Phylogenetic analysis of phenotypic divergence in the antbirds (Thamnophilidae). American Ornithologists' Union. Philadelphia, PA. USA. **Best Student Presentation Award.**
- Bravo G. A.** 2008. Ecological and phylogenetic effects in the phenotypic evolution of the antbirds (Thamnophilidae). American Ornithologists' Union/ Cooper Ornithological Society/ Societé des Ornithologistes du Canada Meeting. Portland, OR. USA.
- Bravo G. A.** 2004. Ecología alimentaria de la comunidad de aves piscívoras durante la época seca en la confluencia Meta-Orinoco. I Colombian Ornithology Congress, Santa Marta, Colombia. **Best Student Presentation Award.**
- Bravo G. A.** and A. M. Franco. 2004. Identifying Important Bird Areas in Colombia: a participative and research process. Fourth Important Bird Areas Conference, Tucson AZ.
- Bravo, G. A.** 2003. Foraging ecology of piscivorous birds during dry season in the confluence of the Meta and Orinoco rivers, Colombia. 27th Waterbird Society Meeting, Cuiabá, Mato Grosso, Brazil.

## ADDITIONAL TRAINING AND EDUCATION

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<b>R Methods in Macroevolution Workshop</b>	2011
National Science Foundation (NSF), Santa Barbara, CA. USA.	
<b>HPC for Phylogenetics Tutorial – Fast, free phylogenies</b>	2010
National Institute for Mathematical and Biological Synthesis (NIMBioS). Knoxville, TN. USA.	
<b>Species Distribution Modeling and Applications</b>	2006
Stony Brook University–Universidad Nacional de Colombia, Bogotá, Colombia.	
<b>Bioacoustics and Electric Signals in Fish</b>	2005
Instituto Alexander von Humboldt. Villa de Leyva, Colombia.	
<b>Management of Biological Invasions</b>	2004
Instituto Alexander von Humboldt. Bogotá, Colombia.	
<b>Introduction to Geographic Information Systems and Applications to Natural Resources</b>	2002
Universidad Nacional de Colombia, Bogotá, Colombia.	

## STUDENT SUPERVISION AND MENTORING

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ALL DOCTORAL AND MASTERS STUDENTS CO-ADVISED WITH BRAZILIAN FACULTY

### DOCTORAL STUDENTS (6)

- Hevana Lima (2019 – present; Universidade Federal de Pernambuco, Brazil)
- Andrés Rojas (2018 – present; Universidade de São Paulo, Brazil)
- Gabriel Macedo (2017 – 2022; Universidade Federal do ABC, Brazil)
- Fernando Bocalini (2015 – 2019; Universidade de São Paulo, Brazil)
- Sergio Bolívar (2015 – 2019; Universidade de São Paulo, Brazil)
- Ariane Gouvêa (2014 – 2018; Universidade de São Paulo, Brazil)

### MASTERS STUDENTS (3)

- Renata Beco (2016 – 2018; Universidade de São Paulo, Brazil)
- Diego Alejandro Cueva (2015 – 2017; Universidade de São Paulo, Brazil)
- Cristiane Apolinário (2015 – 2017; Universidade de São Paulo, Brazil)

### UNDERGRADUATE STUDENTS (7)

- Cid Thillairahaj (2019 – 2021; Harvard University)
- Jack Lawlor (2019; Harvard University)
- Johnathan Clark (2018 – 2019; Harvard University)
- Eamon Corbett (2016 – 2017; Harvard University)
- Renata Beco (2014 – 2016; Universidade de São Paulo, Brazil)
- Kevin Fontana (2014 – 2015; Universidade Estadual de São Paulo, Brazil)

Jacob Saucier (2010; Louisiana State University)

## **PARTICIPATION IN GRADUATE EXAMINATION COMMITTEES (2014 – PRESENT)**

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Ph.D. Defenses: 5 (Universidade de São Paulo, Museu Paraense Emílio Goeldi)

Ph.D. Qualifications: 7 (Universidade de São Paulo, Universidad Nacional de Colombia, Pontificia Universidad Javeriana)

M.Sc. Defenses: 4 (Universidade Federal do Estado de São Paulo, Universidade Federal do Mato Grosso, Universidade Federal de Pernambuco)

M.Sc. Qualifications: 2 (Universidade Federal do Estado de São Paulo, Instituto Nacional de Pesquisas Amazônicas)

M.Sc. Committee: 1 (Universidad de Antioquia)

B.Sc. Defenses: 1 (Universidade Federal de Pernambuco)

## **PROFESSIONAL AND COMMUNITY SERVICE**

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### **AD HOC PROFESSIONAL COMMITTEES**

2015 – 2021. Brazilian Ornithological Records Committee (CBRO). Member of the Taxonomy Group.

### **AD HOC GRANT REVIEWER AND JUDGING SERVICES**

2021. Fondo para la Investigación Científica y Tecnológica. Grant Reviewer.

2021. Universidade Federal do Pará – Museu Paraense Emílio Goeldi. XVIII Seminário da Pós-Graduação. Presentation Judge.

2021. National Science Foundation. Member of review panel.

2020. National Science Foundation. Grant Reviewer.

2020. National Collegiate Research Conference. Poster Presentation Judge.

2020. North American Ornithological Conference. Student Presentation Judge.

2018 – 2019. Society of Systematic Biologists. Mini-ARTS Awards Reviewer.

### **INVITED PANELIST & LECTURER**

2021. Upward Bound Program for High School Students. University of Vermont.

2020. Ecology and Evolution Graduate School Panel. Department of Organismic and Evolutionary Biology. Harvard University.

2019. LatinX in Science – Navigating your identity in scientific research. Office of Undergraduate Research and Fellowships. Harvard University.

2014. Avistar Brasil. Os tamnofílídeos: uma das famílias de aves neotropicais mais diversas.

### **AD HOC EDITORIAL SERVICE**

2017 – present. Revista Ornitológia Colombiana. Associate Editor – Systematics and Evolution.

### **AD HOC REVIEWER FOR REFEREED JOURNALS**

Systematic Biology, Evolution, Ecology Letters, Journal of Biogeography, Biological Journal of the Linnean Society, G3 Genes- Genomes-Genetics, Evolutionary Ecology, Auk, Wilson Journal of Ornithology, Journal of Field Ornithology, Austral Ecology, Journal of Natural History, Zoologia, Bulletin of the British Ornithologists' Club, Ornitológia Neotropical, Revista Brasileira de Ornitológia, Ornitológia Colombiana, Actualidades Biológicas, Boletín SAO, Acta Biológica Colombiana, Check List.

### **PROFESSIONAL SOCIETIES MEMBERSHIP**

Society for the Advancement of Chicanos/Hispanics and Native Americans in Science, American Association for the Advancement of Science; Society for the Study of Evolution; Society of Systematic Biologists; American Ornithological Society (elective member); Asociación Colombiana de Ornitológia (founding member).

### **COMMUNITY SOCIETIES MEMBERSHIP**

Harvard Colombian Student Society

## PROFESSIONAL REFERENCES

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**Dr. Scott. V. Edwards**

Alexander Agassiz Professor of Organismic and Evolutionary Biology  
Curator of Ornithology, Museum of Comparative Zoology  
Harvard University  
26 Oxford St, Cambridge, MA 02138  
Phone: 617-384-8082  
sedwards@fas.harvard.edu

**Dr. Robb T. Brumfield**

Associate Dean of Research & Administration, College of Science  
Roy Paul Daniels Professor, Dept. Biological Sciences  
Curator of Genetic Resources, Museum of Natural Science  
Louisiana State University  
119 Foster Hall, Baton Rouge, LA 70803  
Phone: 225-578-3081  
robb@lsu.edu

**Dr. J. V. Remsen, Jr.**

Emeritus Prof. of Natural Science and Curator of Birds  
Museum of Natural Science/Dept. Biological Sciences  
Louisiana State University  
119 Foster Hall, Baton Rouge LA, 70803  
Phone: 225-578-2855  
najames@lsu.edu

**Dr. Luís Fábio Silveira**

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Museu de Zoologia da Universidade de São Paulo  
Avenida Nazaré 481, Ipiranga, São Paulo, SP 04263-000, Brazil  
Phone: +55 (11) 2065 8148  
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