

CURRICULUM VITAE OF RICARDO BETANCUR-R.

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EDUCATION

- 2004–2009** **Ph.D. Biological Sciences**, Auburn University, Auburn, Alabama. Dissertation: Systematics and evolutionary history of sea catfishes (Siluriformes: Ariidae). Supervisor: Dr. Jonathan W. Armbruster.
- 2001–2004** **M.Sc. Marine Biology**, Universidad Nacional de Colombia, Santa Marta/Bogotá, Colombia. Phylogeny of New World sea catfishes (Siluriformes: Ariidae). *Magna Cum Laude* honors. Supervisor: Dr. Arturo Acero.
- 1994–2000** **B.Sc. Marine Biology** (with honors thesis), Universidad Jorge Tadeo Lozano, Bogotá, Colombia.

PROFESSIONAL EXPERIENCE

- 2014–** **Assistant Professor**, Department of Biology, University of Puerto Rico – Río Piedras, San Juan, PR.
- 2009–** **Research Associate**, Smithsonian National Museum of Natural History, Washington D.C.
- 2013–2014** **Peter Buck Postdoctoral Fellow**, Smithsonian National Museum of Natural History, Washington D.C. Supervisor: Dr. Richard Vari.
- 2009–2013** **Postdoctoral Researcher**, The George Washington University, Washington D.C. Supervisor: Dr. Guillermo Ortí.
- 2004–2009** **Graduate Teaching and Research Assistant**: Department of Biological Sciences, Auburn University. Supervisors: Dr. Jonathan W. Armbruster and Matthew Kearley.
- 1999–2004** **Undergraduate/Graduate Research Assistant**: Centro de Estudios en Ciencias del Mar (CECIMAR/INVEMAR), Santa Marta, Colombia. Supervisor: Dr. Arturo Acero.

REPRESENTATIVE PUBLICATIONS (17)

- Submitted** Arcila, D.*, G. Ortí, R. A. Pyron & **R. Betancur-R.***. An evaluation of fossil tip-dating versus node-age calibrations. *Equal contribution.
- 2014** Thompson, A.W., **R. Betancur-R.**, H. López-Fernández & G. Ortí. A time-calibrated, multi-locus phylogeny of piranhas, pacus, and allies (Characiformes: Serrasalminidae) and a comparison of species tree methods. *Molecular Phylogenetics and Evolution*.
- 2014** **Betancur-R., R.** & G. Ortí. Molecular evidence for the monophyly of flatfishes (Carangimorpharia: Pleuronectiformes). *Molecular Phylogenetics and Evolution* 73(2014): 18-22.
- 2014** **Betancur-R., R.**, G. Naylor & G. Ortí. Conserved genes, sampling error, and phylogenomic inference. *Systematic Biology*: doi: 10.1093/sysbio/syt073.

- 2013** **Betancur-R., R.,** T. A Munroe, C. Li, J. A. Ballesteros & G. Ortí. Addressing gene tree discordance and non-stationarity to resolve a multi-locus phylogeny of the flatfishes (Teleostei: Pleuronectiformes). *Systematic Biology* 62(5): 763–785.
- 2013** **Betancur-R., R.,** R.E. Broughton, E.O. Wiley, K. Carpenter, J.A. Lopez, C. Li, G. Arratia, N.I. Holcroft, D. Arcila, M. Sanciangco, J. Cureton, F. Zhang, T. Buser, M. Campbell, T. Rowley, J.A. Ballesteros, G. Lu, T. Grande, G. Ortí. 2013. The tree of life and a new classification of bony fishes. *PLoS Currents Tree of Life*. **Press releases:** [ScienceDaily](#), [e! Science News](#), [PLoS Blogs](#), [GWU](#).
- 2013** Broughton, R.E., **R. Betancur-R.,** C. Li, G. Arratia, & G. Ortí. Multi-locus phylogenetic analysis reveals the pattern and tempo of bony fish evolution. *PLoS Currents Tree of Life*.
- 2012** **Betancur-R., R.** G. Ortí, A. M. Stein, A. P. Marceniuk & R. A. Pyron. Apparent signal of competition limiting diversification after ecological transitions from marine to freshwater habitats. *Ecology Letters* 15 (8): 822–830.
- 2011** **Betancur-R., R.,** A. Hines, A. Acero P., G. Ortí, A.E. Wilbur and D.W. Freshwater. Reconstructing the lionfish invasion of the Western Atlantic: insights into Greater Caribbean biogeography. *Journal of Biogeography* 38 (7): 1281-1293. **Press release in *Frontiers in Ecology and the Environment* 2011: 9(6).**
- 2011** Li, C., **Betancur-R., R.,** Smith, W. L., & G. Ortí. Monophyly and interrelationships of Snook and Barramundi (Centropomidae sensu Greenwood) and five new markers for fish phylogenetics. *Molecular Phylogenetics and Evolution* 60 (2011): 463–471.
- 2010** **Betancur-R., R.,** A. Acero P., H. Duque-Caro, & S.R. Santos. Phylogenetic and morphologic analyses of a coastal fish reveal a marine biogeographic break of terrestrial origin in the southern Caribbean. *PLoS ONE* 5(7): e11566.
- 2010** **Betancur-R., R.** Molecular phylogenetics supports multiple evolutionary transitions from marine to freshwater habitats in ariid catfishes. *Molecular Phylogenetics and Evolution* 55(1): 249-258.
- 2009** **Betancur-R., R.** & J.W. Armbruster. Molecular clocks provide new insights into the evolutionary history of galeichthyine sea catfishes. *Evolution* 63(5): 1232-1243.
- 2009** **Betancur-R., R.** Molecular phylogenetics and evolutionary history of ariid catfishes revisited: a comprehensive sampling. *BMC Evolutionary Biology* 2009 9: 175. Highly accessed paper.
- 2008** **Betancur-R., R.,** A.P. Marceniuk, & P. Béarez. Taxonomic Status and Redescription of the Gillbacker Sea Catfish (Siluriformes: Ariidae: *Sciades parkeri*). *Copeia* 2008(4):827–834.
- 2007** **Betancur-R., R.,** A. Acero P., E. Bermingham & R. Cooke. Systematics and biogeography of New World sea catfishes (Siluriformes: Ariidae) as inferred from mitochondrial, nuclear, and morphological evidence. *Molecular Phylogenetics and Evolution* 45(1): 339–357.
- 2007** **Betancur-R., R.** & P.W. Willink. A new freshwater ariid (Otophysi: Siluriformes) from the Río Usumacinta basin. *Copeia* 2007(4): 818–828.

COMPLETE LIST OF PUBLICATIONS (PEER REVIEWED AND BOOK CHAPTERS)

- In prep.** Staab, K., **R. Betancur-R.,** P. Hernandez. Correlated evolution of habitat utilization and adductor mandibula architecture in cypriniform fishes.

- To be subm.** G. Ortí, **R. Betancur-R.** and K. Ko. An exon-based target-capture approach for fish phylogenomics.
- Submitted** Arcila, D.*, G. Ortí, R. A. Pyron & **R. Betancur-R.***. An evaluation of fossil tip-dating versus node-age calibrations. *Equal contribution.
- Accepted** **38.** Correa, S., **R. Betancur-R.**, B. de Mérona & J. W. Armbruster. Diet shift of Red Belly Pacu (*Piaractus brachypomus*), a Neotropical fish, in the Sepik River Basin, Papua New Guinea. *Neotropical Ichthyology*.
- In press** **37.** Thomas, M. & **R. Betancur-R.** Ariidae. In: North American freshwater fishes: natural history, ecology, and conservation. Johns Hopkins University Press.
- In press** **36.** Acero P., A. & **R. Betancur-R.** Ariidae. In: The living marine resources of the Eastern Central Atlantic. FAO, Rome.
- 2014** **35.** Thompson, A.W., **R. Betancur-R.**, H. López-Fernández & G. Ortí. A time-calibrated, multi-locus phylogeny of piranhas, pacus, and allies (Characiformes: Serrasalminae) and a comparison of species tree methods. *Molecular Phylogenetics and Evolution*.
- 2014** **34.** Toledo-Hernández, C., X. Vélez-Zuazo, C. P. Ruiz-Díaz, A. R. Patricio, P. Mège, M. Navarro, A. B. Sabat, **R. Betancur-R.**, and R. Papa. 2014. Population ecology and genetics of the invasive lionfish in Puerto Rico. *Aquatic Invasions* 9.
- 2014** **33.** **Betancur-R., R.** & G. Ortí. Molecular evidence for the monophyly of flatfishes (Carangimorpharia: Pleuronectiformes). *Molecular Phylogenetics and Evolution* 73(2014): 18-22.
- 2013** **32.** **Betancur-R., R.**, G. Naylor & G. Ortí. Conserved genes, sampling error, and phylogenomic inference. *Systematic Biology*: doi: 10.1093/sysbio/syt073.
- 2013** **31.** **Betancur-R., R.**, T. A. Munroe, C. Li, J. A. Ballesteros & G. Ortí. Addressing gene tree discordance and non-stationarity to resolve a multi-locus phylogeny of the flatfishes (Teleostei: Pleuronectiformes). *Systematic Biology* 62(5): 763–785.
- 2013** **30.** **Betancur-R., R.**, R.E. Broughton, E.O. Wiley, K. Carpenter, J.A. Lopez, C. Li, G. Arratia, N.I. Holcroft, D. Arcila, M. Sanciangco, J. Cureton, F. Zhang, T. Buser, M. Campbell, T. Rowley, J.A. Ballesteros, G. Lu, T. Grande, G. Ortí. 2013. The tree of life and a new classification of bony fishes. *PLoS Currents Tree of Life*.
- 2013** **29.** Broughton, R.E., **R. Betancur-R.**, C. Li, G. Arratia, & G. Ortí. Multi-locus phylogenetic analysis reveals the pattern and tempo of bony fish evolution. *PLoS Currents Tree of Life*.
- 2012** **28.** **Betancur-R., R.** G. Ortí, A. M. Stein, A. P. Marceniuk & R. A. Pyron. Apparent signal of competition limiting diversification after ecological transitions from marine to freshwater habitats. *Ecology Letters* 15 (8): 822–830.
- 2012** **27.** Robertson, D.R. & **R. Betancur-R.** Sea Catfishes (Ariidae). In: Shorefishes of the Greater Caribbean: identification guide. Electronic book (app. v1.0).
- 2012** **26.** Marceniuk, A. P., **R. Betancur-R.**, R., A. Acero P. & J. Muriel-Cunha. Review of the genus *Cathorops* (Siluriformes, Ariidae) from the Caribbean and the Atlantic South America, with description of a new species. *Copeia* 2012(1):77–97.
- 2011** **25.** Li, C., **Betancur-R., R.**, Smith, W. L., & G. Ortí. Monophyly and interrelationships of Snook and Barramundi (Centropomidae sensu Greenwood) and five new markers for fish phylogenetics. *Molecular Phylogenetics and Evolution* 60 (2011): 463–471.
- 2011** **24.** **Betancur-R., R.**, A. Hines, A. Acero P., G. Ortí, A.E. Wilbur and D.W. Freshwater. Reconstructing the lionfish invasion of the Western Atlantic: insights

into Greater Caribbean biogeography. *Journal of Biogeography* 38 (7): 1281-1293. **Press release about the article in *Frontiers in Ecology and the Environment* 2011: 9(6).**

- 2010 **23. Betancur-R., R.,** A. Acero P., H. Duque-Caro, & S.R. Santos. Phylogenetic and morphologic analyses of a coastal fish reveal a marine biogeographic break of terrestrial origin in the southern Caribbean. *PLoS ONE* 5(7): e11566.
- 2010 **22. Betancur-R., R.** Molecular phylogenetics supports multiple evolutionary transitions from marine to freshwater habitats in ariid catfishes. *Molecular Phylogenetics and Evolution* 55(1): 249-258.
- 2009 **21. Betancur-R., R. & J.W. Armbruster.** Molecular clocks provide new insights into the evolutionary history of galeichthyine sea catfishes. *Evolution* 63(5): 1232-1243.
- 2009 **20. Marceniuk, A. P., R. Betancur-R, & A. Acero P.** Description of a new species of *Cathorops* (Siluriformes; Ariidae) from El Salvador, with redescription of four species of the genus from North and Central American Pacific. *Bulletin of Marine Science* 85(3): 245-280.
- 2009 **19. González, J., M. Grijalba-Bendeck, A. Acero P., R. Betancur-R*.** The invasive Indo-Pacific lionfish, *Pterois volitans/miles* complex, in the southern Caribbean Sea. *Aquatic Invasions* 4(3): 507-510. *Senior author.
- 2009 **18. Betancur-R., R.** Molecular phylogenetics and evolutionary history of ariid catfishes revisited: a comprehensive sampling. *BMC Evolutionary Biology* 2009 9: 175. Highly accessed paper.
- 2009 **17. Betancur-R., R. & P.J. Kailola.** Ariidae. In: Encyclopedia of flora and fauna of Bangladesh. Ed.: A. K. Ataur Rahman. Vol. 24. Asian Society of Bangladesh. Dhaka, Bangladesh, pp. 95–115.
- 2008 **16. Betancur-R., R.,** A.P. Marceniuk, & P. Béarez. Taxonomic Status and Redescription of the Gillbacker Sea Catfish (Siluriformes: Ariidae: *Sciades parkeri*). *Copeia* 2008(4):827–834.
- 2008 **15. Marceniuk, A.P. & R. Betancur-R.** Revision of the species of the genus *Cathorops* (Siluriformes; Ariidae) from Mesoamerica and the Central American Caribbean, with description of three new species. *Neotropical Ichthyology* 6(1): 25–44.
- 2007 **14. Betancur-R., R.,** A. Acero P., E. Bermingham & R. Cooke. Systematics and biogeography of New World sea catfishes (Siluriformes: Ariidae) as inferred from mitochondrial, nuclear, and morphological evidence. *Molecular Phylogenetics and Evolution* 45(1): 339–357.
- 2007 **13. Betancur-R., R. & P.W. Willink.** A new freshwater ariid (Otophysi: Siluriformes) from the Río Usumacinta basin. *Copeia* 2007(4): 818–828.
- 2007 **12. Acero P., A.* & R. Betancur-R.*** Monophyly, affinities, and subfamilial clades of sea catfishes (Siluriformes: Ariidae). *Ichthyological Exploration of Freshwaters* 18(2): 133–143. *Both authors have contributed equally to the work, authorship in alphabetical order.
- 2006 **11. Betancur-R., R. & A. Acero P.** A new species of *Notarius* (Siluriformes: Ariidae) from the Colombian Pacific. *Zootaxa* 1249: 47–59.
- 2006 **10. Acero P., A. & R. Betancur-R.** Real identity of the northern Colombian endemic sea catfish *Galeichthys bonillai* Miles, 1945 (Siluriformes: Ariidae). *Cybium* 30(3): 215–219.
- 2005 **9. Betancur-R., R. & A. Acero P.** Description of *Cathorops mapale*, a new species of sea catfish (Siluriformes: Ariidae) from the Colombian Caribbean, based on morphological and mitochondrial evidence. *Zootaxa* 1045: 45–60.

- 2005** 8. Acero P., A., **R. Betancur-R.**, A. Polanco F. & N. Chaparro. Diferenciación sexual temprana a nivel óseo en dos géneros de bagres marinos (Pisces: Ariidae). *Memoria de la Fundación La Salle de Ciencias Naturales* 163: 37–43.
- 2004** 7. **Betancur-R., R.** & A. Acero P. Description of *Notarius biffi* n. sp. and redescription of *N. insculptus* (Jordan and Gilbert) (Siluriformes: Ariidae) from the eastern Pacific, with evidence of monophyly and limits of *Notarius*. *Zootaxa* 703: 1–20.
- 2004** 6. **Betancur-R., R.**, A. Acero P & L.M. Mejía-Ladino. Sistemática filogenética preliminar de algunos bagres marinos (Siluriformes: Ariidae) neotropicales. *Memoria de la Fundación La Salle de Ciencias Naturales* 158: 61–85.
- 2003** 5. Mejía-Ladino, L.M., **R. Betancur-R.**, A. Acero P. & M. Grijalba B. Presencia de *Epinephelus nigritus* (Pisces: Serranidae) en el Caribe colombiano, incluyendo una clave para las especies de *Epinephelus* en el área. *Boletín Ecotrópica* 37: 31–39.
- 2002** 4. Mejía-Ladino, L.M., **R. Betancur-R.**, A. Acero P. & E. Zarza. Presencia de *Arius grandicassis* en el Caribe colombiano, incluyendo una clave para la identificación de los peces de la familia Ariidae en el área. *Boletín Instituto de Investigaciones Marinas y Costeras* 31: 5–13.
- 2002** 3. Acero P., A. & **R. Betancur-R.** Description of *Arius neogranatensis*, a new species of sea catfish from Colombia, including an identification key for Caribbean ariid fishes. *Aqua, Journal of Ichthyology and Aquatic Biology* 6(1): 5–10.
- 2002** 2. Acero P., A. & **R. Betancur-R.** *Arius cookei*, a new species of ariid catfish from the tropical American Pacific. *Aqua, Journal of Ichthyology and Aquatic Biology* 5(4): 133–138.
- 2001** 1. **Betancur-R., R.**, A. Acero P. & L.M. Mejía-Ladino. El pez serránido *Gonioplectrus hispanus* (Epinephelinae: Epinephelini) en Colombia: primer registro para las costas continentales caribeñas. *Boletín Ecotrópica* 35: 25–30.

GRANTS AND SUPPORT

- 2014–2016** Peter Buck Postdoctoral Fellowship; Smithsonian Institution, Washington D.C. Project “Reconstructing the evolutionary history of the most diverse group of freshwater fishes: a genome-wide phylogeny and biogeography of Ostariophysi” (US \$100000). Highly competitive fellowship; 2 out of 25 proposals awarded in Vertebrate Zoology.
- 2010–2013** Postdoctoral Fellowship; Selective Excellence in Diversity of Life, The George Washington University, Washington D.C (US \$135000).
- 2009–2013** Co-PI, project “The lionfish (*Pterois volitans*) invading Colombian reefs: biology, ecology, and origin”, funded by Universidad Nacional de Colombia, El Banco de la República, and Colciencias (1361-521-28271), Colombia (US \$95000).
- 2007** PI, project “A catfish survey of Papua New Guinea”, funded by All Catfish Species Inventory (ACSI) project, supported by the National Science Foundation (NSF DEB–0315963; US \$17000).
- 2007** PI, project “Examination of Ariidae (Otophysi: Siluriformes) types deposited in the Muséum National d’Histoire Naturelle, Paris (MNHN)”, funded by MNHN, France (US \$5000).
- 2006** PI, project “Molecular systematics of sea catfishes (Siluriformes: Ariidae) of the world”, funded by DeepFin (NSF; US \$4000).

- 2006 PI, project “The specific status of the New Granada Sea Catfish (Ariidae: *Ariopsis*) from Colombia”, funded by ACSI (NSF DEB–0315963; **US \$2000**).
- 2006 PI, project “Description of a new freshwater ariid species from Middle America”, funded by ACSI (NSF DEB–0315963; **US \$3000**).
- 2005 PI, project “Survey of ariid catfishes of Indonesia”, funded by ACSI (NSF DEB–0315963; **US \$8000**).
- 2004 PI, Project “Description of two new species of sea catfishes from the tropical Eastern Pacific”, funded by ACSI (NSF DEB–0315963; **US \$4000**).
- 2004 Co-PI, project “Description of two new species of sea catfishes from the Colombian Caribbean”, funded by ACSI (NSF DEB–0315963; **US \$4000**),
- 2002 PI, Project “Evolution of American sea catfishes”, funded by Andrew J. Mellon Foundation, Smithsonian Tropical Research Institute (STRI), Panamá (**US\$ 3000**).
- TOTAL = US \$380000**

HONORS AND AWARDS

- 2009 Outstanding International Graduate Student, Auburn University. Overall winner within the College of Sciences and Mathematics (five departments).
- 2004 Thesis M.Sc. *Magna Cum Laude* honors, Universidad Nacional de Colombia.
- 2001–2003 Tuition waiver award: best student during five semesters of the M.Sc. program at Universidad Nacional de Colombia.

INVITED TALKS

- 2014 El árbol de la vida de los peces: integrando filogenia, paleontología y neontología para poner a prueba hipótesis evolutivas. Keynote speaker, IV Congreso Colombiano de Zoología, Cartagena, Colombia. **Invited by ACICTIOS.**
- 2014 Integrating neontology, paleontology, and phylogenetic approaches to test evolutionary hypotheses in fishes. University of Massachusetts, Boston. **Invited by Liam Revell.**
- 2014 Integrating neontology, paleontology, and phylogenetic approaches to test evolutionary hypotheses in fishes. Universität Zürich and Universität Basel, Switzerland. **Invited by Marcelo Sánchez-Villagra and Walter Salzburger.**
- 2013 Using fish genomics to test evolutionary hypotheses. University of Puerto Rico, Rio Piedras, San Juan, PR. **Invited by Mitch Aide and Riccardo Papa.**
- 2013 Producing and consuming fish phylogenies to test evolutionary hypotheses. Old Dominion University, Norfolk, VA. **Invited by Kent Carpenter.**
- 2013 Producing and consuming fish phylogenies to test evolutionary hypotheses. University of Kansas, Lawrence, KS. **Invited by Rob Moyle.**
- 2011 Molecules and shifting branches in the tree of life of fishes (joint talk with G. Ortí). Vertebrate Zoology Seminars, Smithsonian NMNH. **Invited by Rich Vari.**
- 2009 Systematics of ariid catfishes. Invited speaker, Universidad de los Andes, Bogotá, Colombia. **Invited by Daniel Cadena.**

MEETING PRESENTATIONS

- 2013 G. Ortí, **R. Betancur-R.** & K. Ko. EToL: molecular markers for fish phylogenetics - past, present, and future. Joint Meeting of Ichthyologists and Herpetologists, Albuquerque, NM.
- 2013 Broughton, R.E., **R. Betancur-R.**, C. Li, G. Arratia, & G. Ortí. EToL: Phylogenetic Relationships and Divergence Dates of "Basal" Bony Fish Lineages Joint Meeting of Ichthyologists and Herpetologists, Albuquerque, NM.
- 2013 **R. Betancur-R.** et al. (EToL consortium). EToL: the tree of life and a new classification of bony fishes. Joint Meeting of Ichthyologists and Herpetologists, Albuquerque, NM.
- 2012 Broughton, R.E., **R. Betancur-R.**, L. Chenhong, G. Arratia, & G. Ortí. Broad gene sampling reveals the pattern and tempo of ray-finned fish evolution. Evolution meeting, Ottawa, Canada.
- 2012 Staab, K. L., **R. Betancur-R.**, L. P. Hernández. Evolutionary origin and diversification of adductor mandibula structure in cypriniform fishes. Society for Integrative and Comparative Biology, Charleston, SC.
- 2011 **Betancur-R., R.**, C. Li, T. Munroe, W. M. L. Smith and G. Ortí. The evolutionary origin of flatfish asymmetry revisited: a multi-locus phylogenetic assessment. Evolution meeting, Norman, Oklahoma.
- 2011 Thompson, A.W., **R. Betancur-R.** and G. Ortí. The Phylogeny of Piranhas Using Gene Tree-Species Tree Methods. Evolution meeting, Norman, Oklahoma.
- 2010 **Betancur-R., R.**, A. Hines, A. Acero P. (speaker), G. Ortí, A.E. Wilbur and D.W. Freshwater. Reconstructing the lionfish invasion of the Western Atlantic. Gulf and Caribbean Fisheries Institute Meeting, San Juan, Puerto Rico.
- 2010 **Betancur-R., R.**, A. Hines, A. Acero P., G. Ortí, A.E. Wilbur and D.W. Freshwater. Reconstructing the lionfish invasion of the Western Atlantic. Joint Meeting of Ichthyologists and Herpetologists, Providence, Rhode Island.
- 2009 Acero P., A. & **Betancur-R., R.** Análisis inicial de la invasión del pez león *Pterois volitans* a los arrecifes colombianos. XIII Congreso Latinoamericano de Ciencias del Mar, La Habana, Cuba.
- 2009 **Betancur-R., R.** Molecular phylogenetics of sea catfishes of the world. Invited speaker, The George Washington University, Washington D.C.
- 2009 **Betancur-R., R.** Molecular phylogenetics and evolutionary history of ariid catfishes of the world. X Simposio Colombiano de Ictiología, Medellín, Colombia.
- 2009 **Betancur-R., R.** Systematics and evolutionary history of sea catfishes (Siluriformes: Ariidae). Ph.D. dissertation defense, Auburn University, Auburn, Alabama.
- 2008 **Betancur-R., R.** Molecular clocks provide new insights into the diversification of the Galeichthyinae. XIII Senalmar, San Andres, Colombia.
- 2008 Correa, S.B., J.W. Armbruster, and **R. Betancur-R.** Feeding Ecology of an Introduced Generalist Frugivorous Fish: the Fate of Pacu in the Sepik River, Papua New Guinea. Joint Meeting of Ichthyologists and Herpetologists, Montreal, Canada.
- 2006 **Betancur-R., R.**, and A. Acero P. The *Cathorops mapale* species complex (Siluriformes: Ariidae) from the southern Caribbean. Joint Meeting of Ichthyologists and Herpetologists, New Orleans, Luisiana.
- 2006 **Betancur-R., R.**, and A. Acero P. Sistemática de los bagres marinos del género *Cathorops* (Siluriformes: Ariidae) en Colombia y Venezuela: un enfoque molecular y morfométrico. II Congreso colombiano de Zoología, Santa Marta, Colombia.

- 2005** **Betancur-R., R.**, A. Acero P., E. Bermingham & R. Cooke. Systematics evolution & biogeography of New World ariids as inferred from mitochondrial, nuclear and morphological evidence. Joint Meeting of Ichthyologists and Herpetologists, Tampa, Florida.
- 2004** **Betancur-R., R.** Filogenia los bagres marinos (Siluriformes: Ariidae) del Nuevo Mundo. M.Sc. thesis defense, Universidad Nacional de Colombia/INVEMAR, Santa Marta.
- 2001** **Betancur-R., R.**, L.M. Mejía-Ladino & A. Acero. Bagres marinos (Pisces: Siluriformes: Ariidae) de aguas americanas: estudio cladístico preliminar. IX Congreso Latinoamericano de Ciencias del Mar, San Andrés, Colombia.
- 1999** **Betancur-R., R.**, L.M. Mejía-Ladino & A. Acero. Diferenciación sexual del chivo mapalé, *Cathorops spixii* (Agassiz 1829) (Pisces : Ariidae), de la región sur de Santa Marta a partir de análisis osteológicos. V Simposio Colombiano de Ictiología, Leticia, Colombia.

TEACHING AND MENTORING EXPERIENCE

- 2013** Lecturer: Assembly of large phylogenetic datasets (workshop). Old Dominion University.
- 2012–2013** Honors B.Sc. thesis advisor: Ariel M. Stein, The George Washington University.
- 2012** Honors B.Sc. thesis co-advisor: Lina M. Gutierrez, Universidad de los Andes.
- 2010–2012** Molecular Phylogenetics: invited lecturer (theoretical and practical sessions; instructor: Dr. Guillermo Ortí; The George Washington University).
- 2010** Doctoral committee member: Alexandra Herrera, The George Washington University.
- 2009** Doctoral committee member: Francisco Villa, Universidad Nacional de Colombia.
- 2009** Survey of Life laboratory (spring semester; Biol-1010, Auburn University).
- 2008** Survey of Life laboratory (fall semester; Biol-1010, Auburn University).
- 2008** Comparative Anatomy laboratory (summer semester; Biol-3010, Auburn University).
- 2008** Survey of Life laboratory (spring semester; Biol-1010, Auburn University).
- 2006** Methods in molecular systematics: invited lecturer for the Systematics Ichthyology class (Instructor: Dr. Jonathan W. Armbruster; Biol-7160, Auburn University).

SYNERGISTIC ACTIVITIES

- 2002–2013** Ad hoc referee for Systematic Biology, American Naturalist, Molecular Ecology (2), Journal of Biogeography (2), Molecular Phylogenetics and Evolution (11), BMC Evolutionary Biology (3), Copeia, Journal of Fish Biology (3), Neotropical Ichthyology (2), Biological Journal of the Linnean Society (2), Zoological Journal of the Linnean Society (2), PLoS One, Biological Bulletin, Biological Invasions, Coral Reefs, Journal of Sea Research, Hidrobiologica, Revista de Biología Tropical, Gayana, and Boletín de Investigaciones Marinas y Costeras (7).
- 2007–2011** Assessor for the IUCN Sampled Red List Index: Panamá City, Panamá (2007); remote assessment (2009); Brasilia, Brazil (2011).

MEMBERSHIPS

- 2004– American Society of Ichthyologists and Herpetologists.
2009– Society for the Study of Evolution.
2007– American Association for the Advancement of Science.

FIELD EXPERIENCE

- 2009–2012 **Colombia:** Surveys of reef fishes via SCUBA – Caribbean (3 trips).
2007 **United Arab Emirates:** Surveys of marine fishes – Sharjah.
2007 **Papua New Guinea:** Surveys of freshwater and marine fishes – Fly and Sepik river systems and coastal areas.
2007 **Brazil:** Surveys of marine fishes – Sao Paulo state.
2007 **Panama:** Surveys of marine fishes – Bahía de Montijo.
2005 **Venezuela:** Surveys of marine fishes along the coast; surveys of freshwater fishes – upper Orinoco basin.
2005 **Indonesia:** Surveys of marine fishes – Java and southern Sumatra.
2004 **U.S.:** Surveys of freshwater fishes – Tennessee and Alabama.
2002 **Panama:** Oceanographic cruise on board of RV/ Urraca (STRI) - Darién.
2003 **Panama:** Surveys of freshwater fishes – Caribbean and Pacific basins (2 trips).
1999–2007 **Colombia:** Surveys of marine fishes – Caribbean and Pacific basins (5 trips).
1999–2004 **Colombia and Panama:** Surveys of reef fishes via SCUBA – Caribbean and Pacific (several trips).

CURATORIAL EXPERIENCE

See <http://research.calacademy.org/research/ichthyology/catalog/collections.asp> for collection abbreviations.

- 2000– **Museum visits:** examination of type and non-type material of fishes deposited at INVEMAR-PEC, ICN-MHN, Universidad del Valle, IAVHP (Colombia); STRI (Panamá); USNM, AUM, UF, AMNH, UMMZ (U.S.); Biocentro, Unellez, Guanare (Venezuela); LBN (Indonesia); MZUSP, LPB (Brazil); MNHN (France).
2002– **Material examined through loans:** type and non-type material of fishes deposited at BNHM (England); CAS, MCZ, USNM, AUM, AMNH, FMNH, FU (U.S.); MHNG (Switzerland); MNHN (France); MZUT (Italy); NMW (Austria); UCR (Costa Rica); ZMB (Germany).