

Gustavo A. Castellanos-Galindo, Dr. rer. nat.

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E-mail: castellanosg@si.edu, gustavo.castellanos@leibniz-zmt.de, gustavo80@yahoo.com**ResearchGate:** <https://www.researchgate.net/profile/Gustavo-Castellanos-Galindo>**Twitter:** @LatimeriaGC**Research fields**

Mangrove ecology and conservation, tropical fish ecology and conservation, invasion biology, small-scale fisheries management, sustainability of tropical marine social-ecological systems, remote sensing of coastal environments

Education

- 2010-2013 **Doctor rerum naturalium** (Dr. rer. nat.) [*Summa Cum Laude*]. Bremen University and Leibniz Centre for Tropical Marine Research (ZMT), Germany. Thesis: *The temporal and spatial variability of nursery habitats for fishes in macrotidal mangrove systems of Colombia and Brazil*
- 2006-2008 **M.Sc. Tropical Marine Ecology**. Bremen University and Centre for Tropical Marine Research (ZMT), Germany. Thesis: *Tides and seascape configuration: determinants of reef fish intertidal migration in the tropical eastern Pacific (Colombia)*
- 1997-2004 **B.Sc.** Biology (Marine Biology major). Universidad del Valle, Cali, Colombia. Thesis: *Spatial and trophic organization of a tidepool fish assemblage, Malaga Bay, tropical eastern Pacific (Colombia)*

Professional experience

- 2019- **Postdoctoral Fellow**, Smithsonian Tropical Research Institute (STRI), Panama
- 2019- **Guest Scientist**, Leibniz Centre for Tropical Marine Research (ZMT), Bremen, Germany
- 2016-2019 **Alexander von Humboldt Postdoctoral Fellow**, Leibniz Centre for Tropical Marine Research (ZMT), Bremen, Germany
- 2005-2006 **Junior Research Fellow**, Coral Reef Research Group, Universidad del Valle, Cali, Colombia

Consulting experience

- Since 2009 **Consultant**, WWF, Marine Program, Colombia
- Several assignments related to small-scale fisheries management, planning of marine protected areas and mangrove conservation in Colombia and Panama.
- 2014-2015 **Full time consultant**
- Since 2017 Part of the WWF Colombia team implementing actions of the IKI *STRONG High Seas* project led by the Institute for Advanced Sustainability Studies (IASS Potsdam).

Peer-reviewed publications (<https://scholar.google.de/citations?user=CF8bQg8AAAAJ&hl=en&oi=ao>)

- [45] **Castellanos-Galindo GA**, Baos R, Zapata LA (2021) Mangrove-associated fish assemblages off the southern Panama Bight region (tropical eastern Pacific). *Neotropical Ichthyology* 19(4):e210025. <https://doi.org/10.1590/1982-0224-2021-0025>
- [44] **Castellanos-Galindo GA**, Casella E, Tavera H, Zapata LA, Simard M (2021) Structural characteristics of the tallest mangrove forests of the American continent: a comparison of ground-based, drone and radar measurements. *Frontiers in Forests and Global Change* 4:732468. doi: 10.3389/ffgc.2021.732468
- [43] Vilizzi L. et al (incl. **Castellanos-Galindo GA**) (2021) A global-scale screening of non-native aquatic organisms to identify potentially invasive species under current and future climate conditions. *Science of the Total Environment* 788:147868 <https://doi.org/10.1016/j.scitotenv.2021.147868>
- [42] **Castellanos-Galindo GA**, Herrón P, Navia AF, Booth H (2021) Shark conservation and blanket bans in the Eastern Pacific Ocean. *Conservation Science and Practice* DOI: 10.1111/csp2.428

- [41] **Castellanos-Galindo GA**, Kluger LC, Camargo MA, Cantera J, Mancera E, Blanco-Libreros JF, Wolff M (2021) Mangrove research in Colombia: temporal trends, geographical coverage and research gaps. *Estuarine, Coastal and Shelf Science* 248:106799
- [40] zu Ermgassen P. et al (incl. **Castellanos-Galindo GA**) (2021) Fishers who rely on mangroves: Modelling and mapping the global intensity of mangrove-associated fisheries. *Estuarine, Coastal and Shelf Science* 248:106975
- [39] **Castellanos-Galindo GA**, Medina-Contreras D, Lazarus JF, Cantera JR (2020) Cryptobenthic fishes in the National Natural Park Uramba Bahía Málaga (Colombia), tropical eastern Pacific. *Bulletin of Marine and Coastal Research* 49 (Supl. Esp.):119-136
- [38] **Castellanos-Galindo GA**, Robertson DR, Torchin ME (2020) A new wave of marine fish invasions through the Panama and Suez canals. *Nature Ecology and Evolution* 4:1444-1446
- [37] **Castellanos-Galindo GA**, Robertson DR (2020) A tropical fish out of water. *Frontiers in Ecology and the Environment* 18:390
- [36] Stuthmann LE, **Castellanos-Galindo GA** (2020) Trophic position and isotopic niche of mangrove fish assemblages at both sides of the Isthmus of Panama. *Bulletin of Marine Science* 96:449-468
- [35] Herrón P, Kluger LC, **Castellanos-Galindo GA**, Wolff M, Glaser M (2020) Understanding gear choices and identifying leverage points for sustainable tropical small-scale marine fisheries. *Ocean & Coastal Management* 188:105074
- [34] Mejía-Rentería JC, **Castellanos-Galindo GA**, Osorio-Cano JD, Casella E (2020) Subaerial exposure of coral reefs during spring low tides in the Eastern Pacific. *Bulletin of Marine Science* 96:219-220
- [33] **Castellanos-Galindo GA**, Casella E, Mejía-Rentería JC, Rovere A (2019) Habitat mapping of remote coasts: evaluating the usefulness of lightweight unmanned aerial vehicles for conservation and monitoring. *Biological Conservation* 239:108282
- [32] **Castellanos-Galindo GA**, Robertson DR, Pacheco-Chaves B, Angulo A, Chong-Montenegro C (2019) Atlantic Tarpon in the Tropical Eastern Pacific 80 years after it first crossed the Panama Canal. *Reviews in Fish Biology and Fisheries* 29:401-416
- [31] Herrón P, **Castellanos-Galindo GA**, Stähler M, Díaz JM, Wolff M (2019) Towards Ecosystem-Based Assessment and Management of Small-Scale and Multi-Gear Fisheries: Insights From the Tropical Eastern Pacific. *Frontiers in Marine Science* 6:127. doi: 10.3389/fmars.2019.00127
- [30] **Castellanos-Galindo GA**, Zapata LA (2019) Chapter 20: Small-Scale Fisheries on the Pacific Coast of Colombia: Historical Context, Current Situation, and Future Challenges In: Jentoft S, Franz N, Barragan Paladines MJ, Chuenpagdee R (Eds) Viability and Sustainability of Small-Scale Fisheries in Latin America and the Caribbean. Springer
- [29] **Castellanos-Galindo GA**, Moreno X, Robertson DR (2018) Risks to eastern Pacific marine ecosystems from sea-cage mariculture of alien Cobia. *Management of Biological Invasions* 9:323-327
- [28] Pülmanns N, **Castellanos-Galindo GA**, Krumme U (2018) Tidal-diel patterns in feeding and abundance of armed snook *Centropomus armatus* from macrotidal mangrove creeks of the tropical Eastern Pacific. *Journal of Fish Biology* 93:850-859
- [27] Mejía-Rentería JC, **Castellanos-Galindo GA**, Cantera-Kintz JR, Hamilton SE (2018) A comparison of Colombian Pacific mangrove extent estimations: implications for the conservation of a unique Neotropical tidal forest. *Estuarine, Coastal and Shelf Science* 212:233-240
- [26] Hamilton SE, **Castellanos-Galindo GA**, Millones M, Chen M (2018) Remote Sensing of Mangrove Forests: Current Techniques and Existing Databases. In: Makowski C, Finkl CW (Eds) Threats to Mangrove Forests: Hazard, Vulnerability and Management. Springer International Publishing, Cham Switzerland
- [25] **Castellanos-Galindo GA**, Chong C, Baos R, Zapata LA, Tompkins P, Graham R, Craig M (2018) Using landing statistics and fisher's traditional ecological knowledge to assess Pacific goliath grouper conservation threats in Colombia. *Aquatic Conservation: Marine and Freshwater Ecosystems* 28:305-314
- [24] **Castellanos-Galindo GA**, Cantera J, Valencia N, Giraldo S, Peña E, Kluger LC, Wolff M (2017) Modeling trophic flows in the wettest mangroves of the world: the case of Bahía Málaga in the Colombian Pacific coast. *Hydrobiologia* 803:13-27
- [23] Lee SY, Jones EBG, Diele K, **Castellanos-Galindo GA**, Nordhaus I (2017) Chapter 3: Biodiversity. In: Rivera-Monroy V, Lee SY, Kristensen E, Twilley RR (Eds) Mangrove Ecosystems: A Global Biogeographic Perspective. Structure, Function and Services. Springer
- [22] **Castellanos-Galindo GA**, Kluger LC, Tompkins P (2017) Panama's impotent mangrove laws. *Science* 355(6328):918-919
- [21] Ramírez-Martínez GA, **Castellanos-Galindo GA**, Krumme U (2016) Tidal and diel patterns in abundance and feeding of a marine-estuarine-dependent fish from macrotidal mangrove creeks in the Tropical Eastern Pacific (Colombia). *Estuaries and Coasts* 39:1249-1261

- [20] **Castellanos-Galindo GA**, Baos R, Zapata LA (2016) Mariculture-induced introduction of cobia *Rachycentron canadum* (Linnaeus, 1766), a large predatory fish, in the Tropical Eastern Pacific. *BioInvasions Records* 5:55-58
- [19] Baos R, **Castellanos-Galindo GA**, Chong C, Tompkins P, Zapata LA (2016) Length-weight relationship of the Pacific goliath grouper, *Epinephelus quinquefasciatus* (Bocourt, 1868). *Journal of Applied Ichthyology* 32:727-728
- [18] **Castellanos-Galindo GA**, Krumme U (2015) Tides, salinity and biogeography affect fish assemblage structure and function in macrotidal mangroves of the Neotropics. *Ecosystems* 18: 1165-1178
- [17] Hutchison J, et al. (incl. **Castellanos-Galindo GA**) (2015) Building an Expert-Judgment-Based Model of Mangrove Fisheries. *American Fisheries Society Symposium* 83:17-42
- [16] **Castellanos-Galindo GA**, Cantera J, Saint-Paul U, Ferrol-Schulte D (2015) Threats to mangrove social-ecological systems in the most luxuriant coastal forests of the Neotropics. *Biodiversity and Conservation* 24:701-704
- [15] **Castellanos-Galindo GA**, Krumme U (2014) Long-term stability of tidal-related patterns in mangrove creek fish assemblages in North Brazil. *Estuarine and Coastal Shelf Science* 149:264-272
- [14] **Castellanos-Galindo GA**, Giraldo A, Zapata FA (2014) Tidepool fish assemblages of Gorgona Island, Colombian Pacific coast: a local and regional comparison. *Revista de Biología Tropical* 62:373-390
- [13] **Castellanos-Galindo GA**, Krumme U (2013) Tidal, diel and seasonal effects on intertidal mangrove fish in a megahumid area of the Tropical Eastern Pacific. *Marine Ecology Progress Series* 494:249-265
- [12] **Castellanos-Galindo GA**, Krumme U (2013) Mangrove fish assemblages from data-sparse regions and the measurement of ecological equivalence. *Marine Ecology Progress Series* 474:299-302
- [11] **Castellanos-Galindo GA**, Krumme U, Rubio EA, Saint-Paul U (2013) Spatial variability of mangrove fish assemblage composition in the tropical eastern Pacific Ocean. *Reviews in Fish Biology and Fisheries* 23:69-86
- [10] **Castellanos-Galindo GA**, Sanchez GC, Beltrán-León BS, Zapata LA (2011) A goby-fry fishery in the northern Colombian Pacific Ocean. *Cybium* 35(4):391-395
- [9] **Castellanos-Galindo GA**, Cantera JR, Espinosa S, Mejía-Ladino LM (2011) Use of local ecological knowledge, scientist's observations and grey literature to assess marine species at risk in a tropical eastern Pacific estuary. *Aquatic Conservation: Marine and Freshwater Ecosystems* 21:37-48
- [8] **Castellanos-Galindo GA**, Krumme U, Willis TJ (2010) Tidal influences on fish distributions on tropical eastern Pacific rocky shores (Colombia). *Marine Ecology Progress Series* 416:241-254
- [7] **Castellanos-Galindo GA**, Giraldo A (2008) Food resource use in a tropical tidepool fish assemblage, Colombia. *Marine Biology* 153(6):1023-1035
- [6] **Castellanos-Galindo GA**, Rodríguez-Moreno M, Escarria E (2007) Spatial distribution of damselfishes (Pomacentridae) in a coral reef of the Colombian Caribbean. *Cespedesia* 29 (84-85):65-76 [In Spanish]
- [5] **Castellanos-Galindo GA**, Rubio EA, Beltrán-León B, Zapata LA, Baldwin C (2006) Check-List of gadiform, ophiiform and lophiiform fishes from Colombian waters of the Tropical eastern Pacific. *Biota colombiana* 7(2):191-209
- [4] **Castellanos-Galindo GA**, Rubio EA, Beltran-Leon B, Baldwin C (2006) Check-List of stomiiform, aulopiform and myctophiform fishes from Colombian waters of the Tropical eastern Pacific. *Biota colombiana* 7(2):245-262
- [3] **Castellanos-Galindo GA**, Caicedo-Pantoja JA, Mejía-Ladino LM, Rubio EA (2006) Marine and estuarine fishes of Malaga Bay, Valle del Cauca, Colombian Pacific Ocean. *Biota colombiana* 7(2):263-282
- [2] Rodriguez J, Ospina R, Berrio M, Cepeda B, **Castellanos G**, Valencia M (2006) Daily periodicity of macro-invertebrate drift and organic matter in a Tropical mountain Stream, Nariño, Colombia [In Spanish]. *Acta Biológica colombiana* 11S:47-53
- [1] **Castellanos-Galindo GA**, Giraldo A, Rubio EA (2005) Community structure of an assemblage of tidepool fishes in a Tropical eastern Pacific rocky shore, Colombia. *Journal of Fish Biology* 67:392-408

Non peer-reviewed publications

- [5] Olivares-Arenas M, Yanicelli B, Zapata-Padilla LA, Sfeir R, **Castellanos-Galindo G**, Aburto J., Boteler B, Guerrero P (*in press*) Aspectos socioeconómicos de la biodiversidad fuera de las áreas jurisdiccionales del Pacífico Sudeste, STRONG High Seas project, Institute for Advanced Sustainability Studies (IASS), Potsdam, Germany
- [4] Boteler B, Wanless R, Dias M, Packeiser T, Awad A, Yannicelli B, Zapata Padilla LA, Aburto J, Seeger I, Hampton S, Jackson L, Wienrich N, Ajagbe A, Hazin C, **Castellanos Galindo GA**, Naranjo LG, Suárez CF, Prussmann J, Valenzuela S, Gomez Giraldo LS, Higgins ML, Contreras C, Luna G, Luna N, Munizaga M, Sellanes J, Tapia C, Thiel M (2019) Ecological Baselines for the Southeast Atlantic and

Southeast Pacific: Status of Marine Biodiversity and Anthropogenic Pressures in Areas Beyond National Jurisdiction. STRONG High Seas Project, Institute for Advanced Sustainability Studies (IASS), Potsdam, Germany. <https://doi.org/10.2312/iass.2019.061>

- [3] **Castellanos-Galindo G** (2018) Mangrove, Fish, and People in Latin America. Edition Falkenberg.
- [2] **Castellanos-Galindo GA**, Martínez LMP, Castañeda UN, Zapata LA (2015) Peces de manglar del Pacífico colombiano. WWF-Colombia.
- [1] **Castellanos-Galindo GA**, Zapata LA (2013) Migratory bony fishes of Colombia. Pp 129-214. In: Zapata L.A., Usma J.S. (Eds). Factsheets of the migratory species in Colombia: Fishes [In Spanish]. Ministerio de Ambiente, Vivienda y Desarrollo Territorial y WWF-Colombia. Bogotá DC, Colombia. 486 pp.

International research stays

India (Wildlife Institute of India) – in 2018; *Ecuador (University of Guayaquil)* – in 2017; *Panama (Smithsonian Tropical Research Institution, University of Panama)* – since 2016; *Costa Rica (University of Costa Rica)* – in 2015 and 2017; *Peru (University of Tumbes)* – in 2014 and 2018; *Scotland (University of St Andrews)* – in 2013; *Brazil (University of Pará)* – in 2011-2012 and 2018; *Colombia (UniValle, UniNacional among others)* – since 2002

Grants and Scholarships (since 2010)

- Since 2019 **Smithsonian postdoctoral fellowship** [US\$ 100,000] “Marine fish invasions across the Panama Canal: what factors influence passage success?. – Supervisors: Mark Torchin and D. Ross Robertson
- Since 2019 **DAAD – GIZ** [US\$ 225,000] “Ghost net Fishery - Reef ecosystem restoration of Esmeraldas, Ecuador, following damages caused by ghost gears and other unsustainable fishing practices”. – with Matthias Wolff (ZMT) and Judith Denking (USFQ Ecuador).
- 2018-2021 **Federal Ministry of Education and Research (BMBF)** [US\$ 59,690] “Nahrungsnetze in den Mangroven der Kolumbianischen Pazifikküste und ihre Rolle bei der Erklärung von Fischereiproduktivität und Ressourcennutzung (MAKOPA)” – with Matthias Wolff (ZMT) and Jaime Cantera (UniValle)
- 2019-2020 **CEMarin** [US\$ 3,500] “Shallow-water habitat mapping in remote tropical coasts: evaluating the usefulness of lightweight unmanned aerial vehicles for conservation and monitoring” – with Jaime Cantera (UniValle) and Andres Osorio (UniNacional)
- 2018-2019 **BMBF** [US\$ 79,011] “Schutz mariner Biodiversität und ökosystemarer Dienstleistungen in Lateinamerika unter Bedingungen des globalen Klimawandels (SELAMABIO)” –with Matthias Wolff and Valeria Bers (ZMT)
- 2018 **Conservation Leadership Programme (CLP)** [€ 1,629] “Using traditional ecological knowledge and ecosystem-based models to conserve aquatic ecosystems in India” – with Paromita Ray (Wildlife Institute of India)
- 2017 **Smithsonian short-term fellowship** [US\$ 2,600] “The Tarpon *Megalops atlanticus* (Valenciennes 1847) in the Tropical Eastern Pacific: an exotic species that passed the Panama Canal from the Western Atlantic”
- 2016-2018 **Smithsonian Latin American Senior Scholar Award** [US\$ 15,000] “Mangrove fish communities of Panamanian Eastern and Caribbean coasts: understanding the effect of historical and contemporary events on community structure and function”
- 2016-2018 **Alexander von Humboldt Foundation Georg-Forster Research Fellowship** [US\$ 85,000] “Understanding and valuing mangrove ecosystem function and services in the Panama Bight ecoregion” – Post Doc project
- 2015-2018 **Colombian Science Agency (COLCIENCIAS)** [US\$ 80,000] “Food web dynamics in mangrove areas of the Colombian Pacific coast: combining isotopic tools and mass balance ecosystem models” – with Prof. Jaime Cantera and Prof. Enrique Peña (UniValle)
- 2014 **CLP** [US\$ 1,250] Travel grant to attend the second international mangrove as fish habitat symposium in Mazatlán, Mexico
- 2014-2015 **Rufford Small Grant Foundation (Booster grant)** [US\$ 19,640] “Mangroves as providers of ecosystem services in the Tropical Eastern Tropical region under the influence of climate variability”
- 2011 **CLP** [US\$ 1,250] Travel grant to attend student conference on conservation science; Cambridge, United Kingdom

2010-2013 **Centre of Excellence in Marine Sciences (CEMarin) /DAAD** scholarship [€ 36,000] PhD studies
2010-2011 **CLP** [US\$ 12,500] – “Conservation status of the Pacific Goliath Grouper in Colombia”

Awards

2019 Smithsonian Postdoctoral Fellow
2018 Nomination for Robert Bosch Professorship in “Research into the Sustainable Use of Natural Resources Sustainability”
2016 Alexander von Humboldt Fellow
2016 Smithsonian Senior Latin American Fellow
2014 Nomination for best PhD dissertation of the German Leibniz Society in 2013

Editorial service

Review Editor: Endangered Species Research (2020-)

Reviewer for: Acta Ichthyologica et Piscatoria, Diversity and Distributions, Ecography, Endangered Species Research, Environmental Biology of Fishes, Estuaries and Coasts, Estuarine Coastal and Shelf Science, Environmental Conservation, Fisheries Science, Fish and Fisheries, Frontiers in Ecology and the Environment, Frontiers in Marine Sciences, Hydrobiologia, International Journal of the Commons, Journal of Experimental Marine Biology and Ecology, Journal of Fish Biology, Journal of the Marine Biological Association of the United Kingdom, Marine and Coastal Fisheries, Marine Biology, Marine Biology Research, Marine Ecology Progress Series, Marine Environmental Research, Neotropical Ichthyology, Ocean & Coastal Management, PLOS ONE, Revista de Biología Tropical, Wetlands Ecology and Management

Student supervision and examination

2021 External examiner, PhD thesis: Luis Alejandro Sandoval Londoño, Universidad de Antioquia, Medellín, Colombia
2020 External examiner, MSc thesis, Ivonne Amelia Vivar Linares, Bremen University, Bremen, Germany
2019-2020 Field supervisor, MSc thesis, Lennart Schreiber, Bremen University, Bremen, Germany
2019 External examiner, BSc thesis, Victoria Alejandra Sierra, Universidad del Valle, Cali, Colombia
2019 External examiner, MSc thesis, Kelvin Ntaswila Mukuka, Bremen University, Bremen, Germany
2016-2019 Supervisor (member panel), PhD thesis, Pilar Herron, Bremen University, Bremen, Germany
2017 External examiner, PhD thesis: Alejandra Sepulveda, Bremen University, Bremen, Germany
2016-2017 Supervisor, MSc thesis: Lara Stuthmann, Bremen University, Bremen, Germany
2015-2016 Supervisor, MSc thesis: Carolina Chong, Bremen University, Bremen, Germany
2014-2015 Supervisor, BSc thesis: Victoria Castillo, Universidad del Valle, Cali, Colombia
2011 Field supervisor, MSc thesis, Nathalie Pülmanns, Bremen University, Germany
2011 Field supervisor, MSc thesis, Paul Tuda, Bremen, University, Germany
2010-2011 Supervisor, BSc thesis: Gustavo Ramirez, Universidad del Valle, Cali, Colombia

Memberships

Society for Conservation Biology

Languages

Spanish – Mother tongue; *English* – Full Professional Proficiency; *German* – Medium Professional Proficiency (Goethe-Zertifikat B2); *Portuguese* – Minimum Professional Proficiency

Skills

Drone pilot, PADI advance diver certification, Proficient in R programming language