

TEXAS STATE VITA

I. Academic/Professional Background

A. Name: Ivan Castro-Arellano

Title: Assistant Professor

B. Educational Background

Degree	Year	University	Major	Thesis/Dissertation
PhD	2005	Texas A&M	Wildlife and Fisheries Sciences	Ecological patterns of the small mammal communities at El Cielo Biosphere, Tamaulipas, Mexico.
MS	2000	Texas A&M	Wildlife and Fisheries Sciences	Non-thesis
BS	1997	National Autonomous University of Mexico	Biology	Patterns of geographic distribution in the terrestrial mammals of Africa

C. University Experience

Position	University	Dates
Assistant Professor	Texas State University	Aug 2011 – to date
Assistant Professor	Instituto Tecnológico de Ciudad Victoria	Jan 2010 – July 2011
Postdoctoral Fellow	Center for Environmental Sciences and Engineering. University of Connecticut	Jan 2006 – Dec 2008

D. Relevant Professional Experience

Position	Entity	Dates
Adjunct Faculty	Instituto de Ecología Aplicada, Universidad Autónoma de Tamaulipas	2010 – to date
Adjunct Faculty	Facultad de Medicina Veterinaria y Zootecnia, Universidad Nacional Autónoma de México	2012 – to date
Research associate	Museum of Natural History of Tamaulipas (TAMUX)	Sept 2011 – to date
Research specialist	Center for Environmental Sciences and Engineering. University of Connecticut	Jan 2009 – to date
Research assistant	Texas A&M University	Jan 2005 – Dec 2005
Field Technician	Montgomery-Watson Mexico (consulting firm)	Jan 1997-July 1998
Research/field assistant	Instituto de Ecología. Universidad Nacional Autónoma de México	1993 - 1996

II. TEACHING

A. Teaching Honors and Awards:

Two official citations from the Student Affairs Office – program that requests graduating students to name a faculty member that most contribute to their success and development (*Erica Ortega and Desiree LaVigne*).

B. Courses Taught:

Wildlife Management (BIO4423-5423, Texas State University)
 Ecology of Infectious Diseases in Wildlife (BIO5424B, Texas State University)
 Population and Conservation Biology Seminar (BIO7120, Texas State University)
 Conservation Biology (Graduate level-Instituto Tecnológico de Ciudad Victoria)
 Community Ecology (Graduate level-Instituto Tecnológico de Ciudad Victoria)
 Foundations of Research (Graduate level-Instituto Tecnológico de Ciudad Victoria)
 Wildlife Management (Upper level undergraduate-Instituto Tecnológico de Ciudad Victoria)

C. Graduate Theses/Dissertations or Exit Committees (if supervisor, please indicate):**PhD STUDENTS SUPERVISED (by start date).****Current: 3.**

Sara Weaver (PhD. 2015 – expect 2019). Effects of wind energy farm on bat and bird populations in southern Texas. Texas State University. Chair.
 Matthew Millholland (PhD. 2013-expect 2017). Rodent assemblage structure and ecological factors affecting Hantavirus prevalence at varying spatial scales. Texas State University. Chair.
 Héctor Arturo Garza Torres (PhD. 2011-expect 2016). Wintering avian assemblage comparisons between degraded and conserved habitats at El Cielo Reserve, Tamaulipas, Mexico. Universidad Autonoma de Tamaulipas. External Committee member.

M.Sc. STUDENTS SUPERVISED (by start date and alphabetically).**Current: 6 (Chair or Co-Chair), 7 total.**

Rodriguez, Candice (M.Sc. 2016). Food habits of the invasive mongoose at agricultural landscapes in Puerto Rico. Texas State University. Chair.
 Solis, Gabriela (M.Sc. 2015). Alternative splicing in the superkdf sodium channel mutation in pyrethroid-resistance horn fly *Haematobia irritans*. Texas State University. Chair.
 Westrich, Bradford (M.Sc. 2015). Prevalence of *Ixodes scapularis* ticks in mesocarnivores and small mammals from disturbed and sylvan habitats in Eastern Texas. Texas State University. Chair.
 Jenkerson, Jeffrey (M.Sc. 2014). Patch occupancy and abundance of the crevice Spiny Lizard (*Sceloporus poinsetti*) in the Central Mineral Region of Texas. Texas State University. Committee member.
 Benavidez, Michelle (M.Sc. 2014). Potential role of the invasive mongoose and commensal rodents as *Leptospira* reservoirs in Puerto Rico. Texas State University. Chair.
 Martinez, Jose (M.Sc. 2014). Endoparasite fauna present in the invasive mongoose in Puerto Rico. Texas State University. Co-Chair.
 Torres, Madison (M.Sc. 2013). Possible role of invasive *Herpestes javanicus* in sustaining cattle fever tick populations in Puerto Rico. Texas State University. Chair.

Graduates: 6 (Chair/Co-chair); 15 Total (by graduation date and alphabetically).

Oscar Rico Chavez (PhD. 2015). Ecological and phylogenetic diversity of bats modulate their viral metacommunities. Universidad Nacional Autonoma de Mexico. External Committee member.

- Andre Victor Rubio Carrasco (PhD. 2015). Rodent diversity and its relation with the infectious agent dynamics and encounter frequency among reservoirs from northeast Chihuahua. Universidad Nacional Autonoma de Mexico. External Committee member.
- Aleman, Adriana (M.Sc. 2015). The prevalence of *Trypanosoma cruzi*, the causal agent of Chagas disease, detected in rodent host populations in Texas. Committee member.
- DiGiacomo, Lorissa (M.Sc. 2015). Resource use by Cliff Swallows (*Petrochelidon pyrrhonota*) and Cave Swallows (*Petrochelidon fulva*) during the breeding season. Texas State University. Co-Chair.
- Gonzales-Padron, Shiara (M.Sc. 2014). Hantavirus seroprevalence comparison in rodents along a disturbance gradient. Universidad Nacional Autonoma de Mexico. External Committee member.
- Hernandez, Jaqueline (M.Sc. 2014). Assessing fecal contamination at bridges in different streams in Central Texas with and without potential runoff. Texas State University. Committee member.
- Huston, Daniel (M.Sc. 2014). Effects of an invasive trematode on two Texas native fish species. Texas State University. Committee member.
- Maikis, Troy (M.Sc. 2014). Detection of *Borrelia burgdorferi sensu lato* infection in rodents from disturbed and sylvan assemblages across Texas. Texas State University. Chair.
- Miller, Stephanie (M.Sc. 2014). Species-specific traits versus site-specific properties as factors influencing the abundances of species. Texas State University. Committee member.
- Orsak, Benjamin (M.Sc. 2014). Impacts of bridge design and land cover characteristics on Cliff Swallow nesting. Texas State University. Co-Chair.
- Uthupuru, Susan (M.Sc. 2013). Size and density of a terrestrial gastropod along an elevational gradient. Texas State University. Chair.
- Peter Shepherd (M.Sc. 2013). Chair of exit committee. Texas State University. Non-thesis MSc program student.
- Villamizar-Gomez, Andrea (M.Sc. 2013). Prevalence of *Batrachochytrium dendrobatidis* in amphibian populations of central Texas. Texas State University. Committee member.
- Armando Marines Muñoz (M.Sc. 2012). Evaluation of compaction, sustainability, and durability of pervious concrete mixes. Texas State University. Committee member.
- Julio Cesar Arriaga Flores (M.Sc. 2012). Global evaluation of metacommunity structure of bats along elevational gradients. Instituto Tecnológico de Ciudad Victoria, Tamaulipas, Mexico. Co-Chair.

D. Courses Prepared and Curriculum Development:

BIO 5424B. Ecology of Infectious Diseases in Wildlife (taught for the first time at Texas State University in Spring 2012).

E. Funded External Teaching Grants and Contracts:

N/A

F. Submitted, but not Funded, External Teaching Grants and Contracts:

N/A

G. Funded Internal Teaching Grants and Contracts:

N/A

H. Submitted, but not Funded, Internal Teaching Grants and Contracts:

N/A

I. Other:

MENTORING/HOSTING INTERNATIONAL SCHOLARS/VISITORS

2013-2014 Mentor of Hao Meng, PhD student from Hebei Normal University. Mr. Meng came to my laboratory as a visiting scholar funded by the Chinese Scholarship Council.

MENTORING OF UNDERGRADUATE STUDENT RESEARCH

2014. Mentor of Candice Rodriguez and Daisy Garcia (TSU-Biology) summer internships as part of their participation in the USDA-FATE program (TSU-Ag. Dept). Candice presented her work at the Agri-Science Education for the 21st Century Symposium at Florida International University, Miami, Florida.

2013. Mentor of Candice Rodriguez (TSU-Biology) and Jennifer Lopez (TSU-Geography) summer internships as part of their participation in the USDA-FATE program (TSU-Ag Dept). Both presented their work at the 2nd Symposium on Agriculture and Related Sciences, CETARS-USDA, Mayaguez, Puerto Rico.

HELPING STUDENTS OBTAIN SUPPORT

2013 Matt Millholland (PhD, \$1.5 K) and Troy Maikis (MSc, \$1 K) obtained Scholarships from the Deer Breeder Corp.

2013-2014 Matt Millholland (PhD) was granted the Houston Safari Club Dan L. Duncan Scholarship (\$10 K).

2014-2015 Kathryn Michelle Benavides obtained a MS fellowship through a USDA-funded program.

III. SCHOLARLY/CREATIVE

A. Works in Print

1. Books (if not refereed, please indicate)

a. Scholarly Monographs:

N/A

b. Textbooks:

N/A

c. Edited Books:

N/A

d. Chapters in Books:

Natural history monographs for 35 mexican mammal species all published in: Ceballos, G. (editor). 2014. Mammals of Mexico. John Hopkins University Press. Baltimore, Maryland. The authored species monographs are:

Didelphimorphia

- *Philander opossum*. Pp. 80-82.

Rodentia

- *Otospermophilus atricapillus*. Pp. 166-167.
- *Heteromys desmarestianus*. Pp. 209-211.
- *Chaetodipus fallax*. Pp. 226-227.
- *Chaetodipus goldmani*. Pp. 228-229.
- *Chaetodipus intermedius*. Pp. 230-231.
- *Chaetodipus penicillatus*. Pp. 234-235.
- *Chaetodipus pernix*. Pp. 235-236.
- *Cratogeomys castanops*. Pp. 246.
- *Thomomys bottae*. Pp. 265-267.
- *Thomomys umbrinus*. Pp. 267-269.
- *Oligoryzomys fulvescens*. Pp. 320-321.
- *Oryzomys nelsoni*. Pp. 332-333.
- *Peromyscus hooperi*. Pp. 363-364.
- *Peromyscus melanocarpus*. Pp. 375-376.
- *Peromyscus melanurus*. Pp. 379-380.
- *Peromyscus perfulvus*. Pp. 388-390.
- *Peromyscus polius*. Pp. 390-391.
- *Peromyscus spicilegus*. Pp. 397-398.

Insectivora

- *Cryptotis mexicana*. Pp. 459-460.
- *Cryptotis parva*. Pp. 462-463.
- *Sorex milleri*. Pp. 478.
- *Sorex oreopolus*. Pp. 480.
- *Sorex sclateri*. Pp. 484-485.
- *Sorex stizodon*. Pp. 485-486.
- *Sorex ventralis*. Pp. 486-487.
- *Scalopus aquaticus*. Pp. 491-492.
- *Scapanus latimanus*. Pp. 494-495.

Chiroptera

- *Peropteryx kappleri*. Pp. 673-674.
- *Peropteryx macrotis*. Pp. 674-675.
- *Noctilio albiventris*. Pp. 751-752.
- *Noctilio leporinus*. Pp. 752-754.
- *Molossus aztecus*. Pp. 767-768.
- *Molossus molossus*. Pp. 769-770.

- *Molossus rufus*. Pp. 770-771.

e. Creative Books:

N/A

2. Articles

a. Refereed Journal Articles: (author underlined when a student is first author)

IN PRESS

Arriaga-Flores, J. C., E. R. Rodríguez-Ruíz, J. P. Gallo-Reynoso, and **I. Castro-Arellano**. Total leucism in Neotropical otters (*Lontra longicaudis annectens*) from northern Mexico. In press at Southwestern Naturalist.

Donaldson, T. G., A. A. Perez de Leon, **I. Castro-Arellano**, E. Wozniak, W. K. Boyle, R. Hargrove, H. K. Wilder, H. J. Kim, P. D. Teel, and J. E. Lopez. Geographic distribution of *Ornithodoros turicata*: Assessments based upon climate variation and host diversity. In press at PLOS Neglected Tropical Diseases.

PRINTED

Meng, H., A. Y. Li, L. M. C. Junior, **I. Castro-Arellano**, and J. Liu. 2015. Evaluation of DEET and eight essential oils for repellency against nymphs of the lone star tick, *Amblyomma americanum* (Acari: Ixodidae). Experimental and Applied Acarology. Article early online at doi: 10.1007/s10493-015-9994-0

Esteve-Gassent, M. D., A. Grover, T. P. Feria-Arroyo, **I. Castro-Arellano**, R. F. Medina, G. Gordillo-Pérez, and A. A Pérez de León. 2015. Prevalence of *Borrelia burgdorferi*-infected ticks from wildlife hosts, a response to Norris et al. Parasites and Vectors 8:129. doi:10.1186/s13071-015-0739-z

Suzán, G., G. E. García-Peña, **I. Castro-Arellano**, O. Rico, A. V. Rubio, M. J. Tolsá, B. Roche, P. R. Hosseini, A. Rizzoli, K. A. Murray, C. Zambrana-Torrelío, A. Alonso Aguirre, P. Daszak, A. Priour-Richard, J. N. Mills, and J. Guégan. 2015. Metacommunity and phylogenetic structure determine wildlife and zoonotic infectious disease patterns in time and space. Ecology and Evolution, 5:865-873.

Esteve-Gassent, M. D., A. Pérez de Leon, D. Romero-Salas, T. P. Feria-Arroyo, R. Patino, **I. Castro-Arellano**, G. Gordillo-Perez, A. Auclair, J. Goolsby, R. I. Rodriguez-Vivas, and J. G. Estrada-Franco. 2014. Pathogenic landscape of transboundary zoonotic diseases in the Mexico-US border along the Rio Grande. Frontiers in Public Health, 2:177. doi: 10.3389/fpubh.2014.00177.

Teresa P. F. A., **I. Castro-Arellano**, G. Gordillo-Perez, A. L. Cavazos, M. Vargas-Sandoval, A. Grover, J. Torres, R. Medina, A. Pérez de Leon, and M.D. Esteve-Gassent. 2014. Implications of climate change on the distribution of the tick vector *Ixodes scapularis* and risk for Lyme Disease in the Texas-Mexico transboundary region. Parasites and Vectors

7:199. doi:10.1186/1756-3305-7-199 *This contribution was classified in the journal as a "highly accessed" paper. Equal contribution for first 3 authors.*

- Mancina, C. and **I. Castro-Arellano**. 2013. Unusual overlap in a phytophagous bat ensemble of Western Cuba. *Journal of Tropical Ecology* 29:511-521.
- Almazán, C., **I. Castro-Arellano**, and E. Camacho-Puga. 2013. First record of *Ixodes scapularis* in jaguars (*Panthera onca*). *Southwestern Naturalist* 58:126-127.
- Rodríguez-Ruíz, E. R., **I. Castro-Arellano**, J. Garcia-Jiménez, A. Moreno-Valdez, E. Camacho-Puga, and F. J. Yeberino-González. 2013. First specimens of the collared anteater (*Tamandua mexicana*) for Tamaulipas, Mexico. *Southwestern Naturalist* 58:124-125.
- Arriaga-Flores, J. C., **I. Castro-Arellano**, A. Moreno-Valdez, and A. Correa-Sandoval. 2012. Temporal niche overlap of a riparian forest bat assemblage in subtropical Mexico. *Revista Mexicana de Mastozoología, Nueva Epoca* 2:6-20.
- Arellano, E., **I. Castro-Arellano**, G. Suzan, F. González-Cozatl, R. Morales-Jiménez. 2012. Seroprevalence to Hantavirus in wild rodents from the Sierra de Huautla Biosphere Reserve, Morelos. *Western North American Naturalist* 72:105-109.
- Correa, A., V. Martinez, J. Horta, and **I. Castro**. 2012. Zoogeografía de los gasteropodos terrestres del sur de Tamaulipas, Mexico. *International Journal of Tropical Biology* 60:317-331.
- Rodríguez-Ruíz, E. R., **I. Castro-Arellano**, y J. Valencia-Herverth. 2012. New records and appropriate northern range limit of pacas (*Cuniculus paca*) in Mexico. *Southwestern Naturalist* 57:219-221.
- Willig, M. R., S. J. Presley, C. P. Bloch, **I. Castro-Arellano**, L. M. Cisneros, C. L. Higgins, and B. T. Klingbeil. 2011. Tropical metacommunities and elevational gradients: disentangling effects of forest type from other elevational factors. *Oikos* 120:1497-1508.
- Presley, S. J., M. R. Willig, C. P. Bloch, **I. Castro-Arellano**, C. L. Higgins, and B. T. Klingbeil. 2011. A complex metacommunity structure for gastropods along an elevational gradient. *Biotropica* 43:480-488.
- Castro-Arellano, I.**, T. E. Lacher, Jr., M. R. Willig, and T. Rangel. 2010. Assessment of assemblage-wide temporal-niche segregation using null models. *Methods in Ecology and Evolution* 1:311-318.
- Castro-Arellano, I.** and T. E. Lacher, Jr. 2009. Temporal niche segregation in two rodent assemblages of subtropical Mexico. *Journal of Tropical Ecology* 25:593-603.
- Castro-Arellano, I.**, G. Suzán, R. Flores-León, R. Morales-Jiménez, and T. E. Lacher, Jr. 2009. Survey for antibody to hantaviruses in Tamaulipas, Mexico. *Journal of Wildlife Diseases*, 45:207-212.
- Castro-Arellano, I.**, S. J. Presley, L. N. Saldanha, M. R. Willig, and J. M. Wunderle, Jr. 2009. Reduced-impact logging and temporal activity of understory bats in lowland Amazonia. *Biological Conservation* 142:2131-2139.

- Presley, S., M. R. Willig, **I. Castro-Arellano**, and S. Weaver. 2009. Effects of habitat conversion on temporal activity patterns of phyllostomid bats in lowland Amazonian rainforest. *Journal of Mammalogy* 90:210-221.
- Presley, S. J., M. R. Willig, L. N. Saldanha, J. Wunderle, and **I. Castro-Arellano**. 2009. Reduced-impact logging has little effect on temporal activity of frugivorous bats (Chiroptera) in lowland Amazonia. *Biotropica* 41:369-378.
- Castro-Arellano, I.**, C. Madrid, T. E. Lacher, Jr., and L. Leon-Paniagua. 2008. Hair trap efficacy to detecting mammalian carnivores in the tropics. *Journal of Wildlife Management* 72:1405-1412.
- Castro-Arellano, I.**, S. J. Presley, L. N. Saldanha, M. R. Willig, and J. M. Wunderle, Jr. 2007. Effects of reduced-impact logging on bat biodiversity in terra firme forest of lowland Amazonia. *Biological Conservation* 138: 269-285.
- Castro-Arellano, I.** and T. E. Lacher, Jr. 2005. A new record and altitudinal extensions for El Cielo Biosphere Reserve mammals, Tamaulipas, México. *Revista Mexicana de Mastozoología* 9:150-154.

SUBMITTED

Esteve-Gassent, M. D., I. Castro-Arellano, T. P. Feria-Arroyo, R. Patino, A. Li, R. F. Medina, A. A. Perez de Leon, and R. I. Rodriguez-Vivas. Translating ecology, physiology, biochemistry and population genetics research to meet the challenge of tick and tick-borne diseases in North America. Accepted pending minor revisions at *Archives of Insect Biochemistry and Physiology*.

b. Non-refereed Articles:

- Castro-Arellano, I.** 2010. Cronoecología y su aplicación al estudio de mamíferos. *Revista Mexicana de Mastozoología* 14:4-6. (Invited editorial).
- Castro-Arellano, I.**, G. Suzán, R. Flores-León, R. Morales-Jiménez, and T. E. Lacher, Jr. 2007. First report of Hantavirus occurrence in the nimble-footed mouse, *Peromyscus levipes*, in northern Mexico. *Peromyscus Newsletter* 42:36-38.
- Castro-Arellano, I.** 2006. Ecological patterns of the small mammal communities at el Cielo Biosphere Reserve, Tamaulipas, México. *Mastozoología Neotropical*, 13:153-155.
- Ortega, J. and **I. Castro-Arellano**. 2001. *Artibeus jamaicensis*. *Mammalian species* 663: 1-9.
- Castro-Arellano, I.**, H. Zarza and R. Medellín. 2000. *Philander opossum*. *Mammalian species* 638:1-8.

3. Abstracts:

N/A

4. Reports:

Castro-Arellano, I., K. Talley, C. Green, D. Hahn, C. Gaedicke, and M. R. J. Forstner. 2014. Contribution of bridge dwelling birds to bacterial water quality impairments. Final report for project 0-6764 prepared for the Texas Department of Transportation.

5. Book Reviews:

N/A

6. Other:

N/A

B. Works not in Print

1. Papers Presented at Professional Meetings:

2015. Prevalence of *Trypanosoma cruzi*, the causal agent of Chagas disease, from wild rodent populations from Texas. 4th International Congress on Disease Ecology. Villahermosa, Tabasco, Mexico.

2015. Integrated tick management to mitigate the impact of *Rhipicephalus microplus*, bovine babesiosis, and anaplasmosis in livestock farming systems of Puerto Rico. 14th International Symposium for Veterinary Epidemiology and Economics. Merida, Yucatan, Mexico.

2015. Prevalence of endoparasitic helminths of the Small Indian Mongoose (*Herpestes auropunctatus*) on the island of Puerto Rico. Southwestern Association of Parasitologists. Lake Texoma, Oklahoma.

2015. The potential role of wildlife reservoirs on *Leptospira* prevalence in Puerto Rico. 62nd Annual meeting of the Southwestern Association of Naturalists. San Diego, California.

2015. A macro ecological approach to emerging zoonotic pathogens: a key role for interspecies barriers examined by metacommunity and phylogenetic theories. 100th Ecological Society of America annual meeting. Baltimore, Maryland.

2015. Small Mammal Assemblage Structure Can Predict Hantavirus Seroprevalence Worldwide. 65th Annual James Steele Conference on Diseases in Nature Transmissible to Man. Galveston, Texas. *Talk selected on a competitive basis and presenter was PhD student from my lab.*

2015. Metacommunity theory and infectious diseases. Empirical data at local and broader scales. 27th International Congress of the Society for Conservation Biology. Montpellier, France.

2015. Ecology and phylogenetic diversity of bats modulate their viral metacommunities. Latin American Wildlife Disease Association biannual meeting. Bogota, Colombia.

2015. Identifying ecological correlates of Hantavirus prevalence in small mammal assemblages worldwide. 33rd Annual Meeting from the Texas Society of Mammalogists. Junction, Texas.
2015. Assessment of invasive mongoose home range at farms with presence of cattle fever ticks in Puerto Rico. 33rd Annual Meeting from the Texas Society of Mammalogists. Junction, Texas.
2014. Tick prevalence from rodent assemblages at peridomestic and sylvan sites across Texas. 32nd Annual Meeting from the Texas Society of Mammalogists. Junction, Texas.
2014. Preliminary comparison of Hantavirus seroprevalence in rodent assemblages from sylvan and peridomestic sites in Texas. 32nd Annual Meeting from the Texas Society of Mammalogists. Junction, Texas.
2014. Climate change, wildlife and the distribution of *Ixodes scapularis*, the Lyme disease vector tick, in the US-Mexico Transboundary region. 63rd Annual International Conference of the Wildlife Disease Association. Albuquerque, New Mexico.
2014. Challenges with the southern cattle fever tick in Puerto Rico: then and now. Entomological Society of American Annual Meeting. Portland, Oregon.
2013. Antibody seroprevalence of Hantavirus in rodents in mountain cloud forests at central Veracruz. 3rd International Congress on Disease Ecology. Yucatan, Merida, Mexico.
2013. Spatial and temporal distribution of *Borrelia burgdorferi*, the agent for Lyme Disease, across Texas. 3rd International Congress on Disease Ecology. Yucatan, Merida, Mexico.
2013. Current and future distribution of Lyme disease vector ticks in the Texas-Mexico region. 3rd International Congress on Disease Ecology. Yucatan, Merida, Mexico.
2013. Diversidad y abundancia de reservorios de Hantavirus en un gradiente de perturbación en México. 3rd International Congress on Disease Ecology. Yucatan, Merida, Mexico.
2013. Distribution of *Borrelia burgdorferi* in humans, dogs and ticks in Southern USA. 13th International Conference on Lyme Borreliosis and other tick-borne diseases. Boston, Massachusetts.
2013. Spatial and Temporal distribution of Lyme disease infected ticks in the Texas-Mexico border Region. 13th International Conference on Lyme Borreliosis and other tick-borne diseases. Boston, Massachusetts.
2012. Hantavirus presence at rodent assemblages from Northeastern and Central Mexico. 62nd Annual James Steele Conference on Diseases in Nature Transmissible to Man. San Antonio, Texas. *Talk selected on a competitive basis.*
2012. Hantavirus ecology at rodent assemblages from northeastern Mexico. First Conference in Subtropical Biology (UTPA). Edinburg, Texas.

2011. Global evaluation of metacommunity structure of bats along elevational gradients. III Congreso Mexicano de Ecología. Sociedad Mexicana de Ecología. Boca del Rio, Veracruz, Mexico.

2011. Elements of metacommunity structure of bird species over an elevational gradient in northwest Mexico. III Congreso Mexicano de Ecología. Sociedad Mexicana de Ecología. Boca del Rio, Veracruz, Mexico.

2010. Analysis of temporal niche overlap with null models and its application on mammalian ecology studies. X Congreso Nacional y I Congreso Latinoamericano de Mastozoología. Guanajuato, Guanajuato, Mexico.

2010. Elements of metacommunity structure of small mammals along global elevational gradients. X Congreso Nacional y I Congreso Latinoamericano de Mastozoología. Guanajuato, Guanajuato, Mexico.

2010. Metacommunity structure of small mammals along elevational gradients: a global assessment. Interdisciplinary studies on Global Climate Change and the Ecology and Management of Tropical Montane Ecosystems. Workshop organized by the Pan-American Advanced Studies Institute and funded by NSF.

2007. Temporal niche overlap in a diverse Amazonian bat community. Annual meeting of the American Society of Mammalogists, Albuquerque, NM.

2007. Molecular evolutionary relationships among members of the *Reithrodontomys tenuirostris* species group. Annual meeting of the American Society of Mammalogists, Albuquerque, NM.

2007. Effects of reduced impact logging on bat biodiversity in terra firme forest of lowland Amazonia. Annual meeting of the American Society of Mammalogists, Albuquerque, NM.

2007. Community structure and species composition as determinants in Hantavirus prevalence in Tamaulipas, Mexico. Annual meeting of the American Society of Mammalogists, Albuquerque, NM.

2006. Efficiency of two hair trap designs to detect medium and large mammals. Annual meeting of the American Society of Mammalogists, Amherst, MA.

2005. Terrestrial and scansorial microhabitat use at two contrasting small mammal communities in subtropical Mexico. Annual meeting of the American Society of Mammalogists, Springfield, MO.

2004. Relevance of temporal niche dynamics for rodent community patterns at El Cielo Biosphere Reserve, Mexico. Annual meeting of the Association of Tropical Biology and Conservation in Miami, FL.

2002. Mammalian species density gradients in Africa. 2002 Annual Symposium of the British Ecological Society: Macroecology, reconciling divergent perspectives on large scale ecological patterns. Birmingham, UK.

2000. Diversity, endemism and endangerment patterns of the continental African mammals. Society for Conservation Biology annual meeting, Missoula, MT.

1999. Patterns of distribution in the terrestrial mammals of Africa. Annual Meeting of the American Society of Mammalogists, Seattle, WA.

2. Invited Talks, Lectures, Presentations:

- 2015. Keynote Speaker. 4th International Congress on Disease Ecology. Villahermosa, Tabasco, Mexico.
- 2014. Invited Seminar. Department of Biology, Texas Lutheran University, Seguin, TX.
- 2014. Invited Seminar. Department of Biology, Trinity University, San Antonio, TX.
- 2013. Keynote speaker at the 3rd International Congress on Disease Ecology. Yucatan, Merida, Mexico.
- 2012. Invited Talk. HSI Research Symposium. Texas State University - San Marcos.
- 2012. Invited talk during Kika de la Garza Fellowship at USDA-ARS laboratory in Kerrville, TX.
- 2011. Invited Seminar. Texas State University, San Marcos.
- 2010. Invited Seminar and workshop. Instituto de Ecología, A.C. Null model assessment of assemblage-wide temporal niche overlap.
- 2002. Guest lecturer for WFSC-624. Population ecology graduate class. Department of Wildlife and Fisheries Sciences, Texas A&M.

3. Consultancies:

N/A

4. Workshops:

- 2010. Instituto de Ecología, A.C. Null model analysis of temporal niche overlap.
- 2010. Interdisciplinary studies on Global Climate Change and the Ecology and Management of Tropical Montane Ecosystems. Workshop organized by the Pan-American Advanced Studies Institute and funded by NSF.

5. Other:

International Union for Conservation of Nature (IUCN) conservation assessments. Author, or coauthor, for 112 mammal species assessments included in the IUCN Red List of Threatened Species (Version 2014.3). Each assessment, organized alphabetically here, can be accessed online through the link indicated for each species:

Ammospermophilus leucurus (<http://www.iucnredlist.org/details/42452/0>)

Ammospermophilus harrisi (<http://www.iucnredlist.org/details/42399/0>)

Baiomys taylori (<http://www.iucnredlist.org/details/2466/0>)

Chaetodipus arenarius (<http://www.iucnredlist.org/details/4326/0>)

Chaetodipus artus (<http://www.iucnredlist.org/details/4327/0>)

Chaetodipus dalquesti (<http://www.iucnredlist.org/details/136421/0>)
Chaetodipus goldmani (<http://www.iucnredlist.org/details/4332/0>)
Chaetodipus intermedius (<http://www.iucnredlist.org/details/4334/0>)
Chaetodipus lineatus (<http://www.iucnredlist.org/details/136361/0>)
Chaetodipus pernix (<http://www.iucnredlist.org/details/4337/0>)
Cratogeomys fulvescens (<http://www.iucnredlist.org/details/136215/0>)
Cratogeomys fumosus (<http://www.iucnredlist.org/details/16026/0>)
Cratogeomys goldmani (<http://www.iucnredlist.org/details/136647/0>)
Cratogeomys merriami (<http://www.iucnredlist.org/details/16028/0>)
Cratogeomys perotensis (<http://www.iucnredlist.org/details/136396/0>)
Cryptotis phillipsi (<http://www.iucnredlist.org/details/136639/0>)
Cynomys mexicanus (<http://www.iucnredlist.org/details/6089/0>)
Dipodomys gravipes (<http://www.iucnredlist.org/details/6676/0>)
Dipodomys insularis (<http://www.iucnredlist.org/details/6687/0>)
Dipodomys margaritae (<http://www.iucnredlist.org/details/6688/0>)
Dipodomys nelsoni (<http://www.iucnredlist.org/details/6690/0>)
Dipodomys phillipsi (<http://www.iucnredlist.org/details/6692/0>)
Geomys tropicalis (<http://www.iucnredlist.org/details/9056/0>)
Habromys chinanteco (<http://www.iucnredlist.org/details/9608/0>)
Habromys delicatulus (<http://www.iucnredlist.org/details/136683/0>)
Habromys ixtlani (<http://www.iucnredlist.org/details/136582/0>)
Habromys lepturus (<http://www.iucnredlist.org/details/9609/0>)
Habromys schmidly (<http://www.iucnredlist.org/details/136616/0>)
Habromys simulatus (<http://www.iucnredlist.org/details/9611/0>)
Handleyomys chapmani (<http://www.iucnredlist.org/details/15591/0>)
Handleyomys melanotis (<http://www.iucnredlist.org/details/15606/0>)
Hodomys alleni (<http://www.iucnredlist.org/details/10211/0>)
Liomys spectabilis (<http://www.iucnredlist.org/details/12077/0>)
Megadontomys cryophilus (<http://www.iucnredlist.org/details/12940/0>)
Megadontomys nelsoni (<http://www.iucnredlist.org/details/12941/0>)
Megadontomys thomasi (<http://www.iucnredlist.org/details/12942/0>)
Megasorex gigas (<http://www.iucnredlist.org/details/41454/0>)
Microtus californicus (<http://www.iucnredlist.org/details/13427/0>)
Microtus quasiater (<http://www.iucnredlist.org/details/13453/0>)
Nelsonia goldmani (<http://www.iucnredlist.org/details/14486/0>)
Nelsonia neotomodon (<http://www.iucnredlist.org/details/14487/0>)
Neotoma albigula (<http://www.iucnredlist.org/details/14582/0>)
Neotoma angustapalata (<http://www.iucnredlist.org/details/14583/0>)
Neotoma anthonyi (<http://www.iucnredlist.org/details/14576/0>)
Neotoma byanti (<http://www.iucnredlist.org/details/14584/0>)
Neotoma bunkerii (<http://www.iucnredlist.org/details/14577/0>)
Neotoma martinensis (<http://www.iucnredlist.org/details/14580/0>)
Neotoma nelsoni (<http://www.iucnredlist.org/details/14592/0>)
Neotoma palatina (<http://www.iucnredlist.org/details/14593/0>)
Neotoma phenax (<http://www.iucnredlist.org/details/14594/0>)
Neotomodon alstoni (<http://www.iucnredlist.org/details/14600/0>)
Notiosorex evotis (<http://www.iucnredlist.org/details/136273/0>)
Notiosorex villai (<http://www.iucnredlist.org/details/136688/0>)
Orthogeomys cuniculus (<http://www.iucnredlist.org/details/15546/0>)

Orthogeomys lanius (<http://www.iucnredlist.org/details/42591/0>)
Osgoodomys banderanus (<http://www.iucnredlist.org/details/15629/0>)
Pappogeomys alcorni (<http://www.iucnredlist.org/details/16023/0>)
Pappogeomys bulleri (<http://www.iucnredlist.org/details/16024/0>)
Peromyscus aztecus (<http://www.iucnredlist.org/details/16651/0>)
Peromyscus bullatus (<http://www.iucnredlist.org/details/16653/0>)
Peromyscus caniceps (<http://www.iucnredlist.org/details/16655/0>)
Peromyscus dickeyi (<http://www.iucnredlist.org/details/16657/0>)
Peromyscus difficilis (<http://www.iucnredlist.org/details/16658/0>)
Peromyscus eva (<http://www.iucnredlist.org/details/16660/0>)
Peromyscus furvus (<http://www.iucnredlist.org/details/16661/0>)
Peromyscus guardia (<http://www.iucnredlist.org/details/16664/0>)
Peromyscus hooperi (<http://www.iucnredlist.org/details/16667/0>)
Peromyscus hylocetes (<http://www.iucnredlist.org/details/136416/0>)
Peromyscus interparietalis (<http://www.iucnredlist.org/details/16668/0>)
Peromyscus levipes (<http://www.iucnredlist.org/details/16670/0>)
Peromyscus madrensis (<http://www.iucnredlist.org/details/16671/0>)
Peromyscus megalops (<http://www.iucnredlist.org/details/16674/0>)
Peromyscus mekisturus (<http://www.iucnredlist.org/details/16675/0>)
Peromyscus melanocarpus (<http://www.iucnredlist.org/details/16676/0>)
Peromyscus melanophrys (<http://www.iucnredlist.org/details/16677/0>)
Peromyscus melanotis (<http://www.iucnredlist.org/details/16678/0>)
Peromyscus melanurus (<http://www.iucnredlist.org/details/16679/0>)
Peromyscus ochraventer (<http://www.iucnredlist.org/details/16683/0>)
Peromyscus pembertoni (<http://www.iucnredlist.org/details/16645/0>)
Peromyscus perfulvus (<http://www.iucnredlist.org/details/16685/0>)
Peromyscus polius (<http://www.iucnredlist.org/details/16686/0>)
Peromyscus pseudocrinitus (<http://www.iucnredlist.org/details/16687/0>)
Peromyscus schmidly (<http://www.iucnredlist.org/details/136576/0>)
Peromyscus sejugis (<http://www.iucnredlist.org/details/16688/0>)
Peromyscus simulus (<http://www.iucnredlist.org/details/16689/0>)
Peromyscus sleveni (<http://www.iucnredlist.org/details/16690/0>)
Peromyscus stephani (<http://www.iucnredlist.org/details/16692/0>)
Peromyscus winkelmanni (<http://www.iucnredlist.org/details/16695/0>)
Peromyscus zarhynchus (<http://www.iucnredlist.org/details/16697/0>)
Reithrodontomys burti (<http://www.iucnredlist.org/details/19403/0>)
Reithrodontomys chryopsis (<http://www.iucnredlist.org/details/19404/0>)
Reithrodontomys hirsutus (<http://www.iucnredlist.org/details/19409/0>)
Reithrodontomys zacatecae (<http://www.iucnredlist.org/details/19419/0>)
Sciurus oculatus (<http://www.iucnredlist.org/details/20017/0>)
Sigmodon leucotis (<http://www.iucnredlist.org/details/20215/0>)
Sigmodon mascotensis (<http://www.iucnredlist.org/details/20216/0>)
Sigmodon planifrons (<http://www.iucnredlist.org/details/136405/0>)
Sorex macrodon (<http://www.iucnredlist.org/details/20392/0>)
Sorex oreopolus (<http://www.iucnredlist.org/details/20393/0>)
Sorex orizabae (<http://www.iucnredlist.org/details/136698/0>)
Sorex ornatus (<http://www.iucnredlist.org/details/41408/0>)
Spermophilus annulatus (<http://www.iucnredlist.org/details/20479/0>)
Spermophilus atricapillus (<http://www.iucnredlist.org/details/20480/0>)

Spermophilus madrensis (<http://www.iucnredlist.org/details/20485/0>)
Spermophilus perotensis (<http://www.iucnredlist.org/details/20489/0>)
Tamias bulleri (<http://www.iucnredlist.org/details/21356/0>)
Tamias durangae (<http://www.iucnredlist.org/details/21357/0>)
Tylomys bullaris (<http://www.iucnredlist.org/details/22570/0>)
Tylomys tumbalensis (<http://www.iucnredlist.org/details/22575/0>)
Xenomys nelsoni (<http://www.iucnredlist.org/details/23115/0>)
Zygoeomys trichopus (<http://www.iucnredlist.org/details/23323/0>)

C. Grants and Contracts

1. Funded External Grants and Contracts:

- 2015-2016 (\$69,717) **Co-PI**. Texas Parks and Wildlife State Wildlife Grants. Distribution of the Texas Kangaroo Rat (*Dipodomys elator*) in Texas.
- 2015-2017 (\$386,463) **Co-PI**. NIH R21 (PA13-303). Population genetic structure of *Ixodes scapularis* and disease transmission. **\$138,230 subaward** to Texas State University.
- 2014-2015 (\$1,000,000). Research project for Integrated Control of the Southern Cattle Fever tick in Puerto Rico. Puerto Rico Department of Agriculture. **\$101,793** for **Castro-Arellano** as **PI** for sub award project: Possible role of invasive *Herpestes javanicus* in sustaining cattle fever tick populations in Puerto Rico.
- 2012-2014 (\$390,014) **Research Supervisor (PI)**. Texas Department of Transportation. Contribution of Bridge Dwelling Birds to Bacterial Quality Impairments.
- 2012-2015 (\$130,000 aprox). **Co-PI** with Gerardo Suzan (PI). Consejo Nacional de Ciencia y Tecnologia (Mexico). Proyecto de ciencia básica #179482. Effect of diversity on the prevalence of zoonotic agents in wild rodents in northeastern Chihuahua.
- 2010-2012. (\$24,000) **PI**. Texas A&M-CONACyT Collaborative Research Grant Program. Prevalence and characterization of Hantaviruses and Arenaviruses in wild and peridomestic settings of northeastern Mexico.
- 2010-2011 (\$25,000) **PI**. New Professor Grant Program. Secretaria de Educación Publica (Mexico). Ecology of Hantavirus reservoir rodent species in northeastern Mexico.
- 2002 (\$1,000) Grants in aid for research. American Society of Mammalogists.
- 2001 (\$1,760) Theodore Roosevelt Memorial Fund research grant. American Museum of Natural History.
- 2000 (\$2,117) Research grant. Chicago Zoological Society (Brookfield Zoo, Brookfield, Illinois).
- 2000 3 camera trap units (worth \$1,400). Idea Wild (conservation NGO, Fort Collins, Colorado).

2. Submitted, but not Funded, External Grants and Contracts:

2015. (\$29,937/1 year). PI. Texas Parks and Wildlife (Conservation License Plate grants). Wildlife impacts from wind energy development in south Texas.
2015. (\$209,062/4 years). PI. Texas Parks and Wildlife. *Pseudogymnoascus destructans* surveillance for early detection of White Nose Syndrome in Texas.
2014. (\$82,146/2 years). Co-PI. State of Texas Comptroller Office. RFP No. 209f for Endangered Species Research Projects for the Texas Kangaroo Rat.
2013. (\$295,969/3 years). Co-PI. NSF-Geography and Spatial Sciences Program. Pathogenic landscapes of arthropod borne pathogens in the Texas-Mexico transboundary regions: spatiotemporal and molecular patterns of Chagas and Lyme disease.
2013. (\$417,000/3 years). Co-PI. NSF-ABI. EcoHelio: Weather data for ecological research.
2013. (\$775,000/3 years). Collaborator. NSF. Integrating Biodiversity and Human Society with Ecological, Evolutionary, and Socioeconomic Processes in Texas.
2013. (\$998,000/3 years). Co-PI. USDA-NIFA-AFRI. Effects of Climate Variability and Change on the Emergence and Re-emergence of High-Threat Diseases of Livestock in the United States.
2013. (\$397,646/2 years). Co-PI. NIH (R21). Population genetic structure of *Ixodes scapularis* and disease transmission. Proposal got a score of 29, which is close to funding rate (23) so has been submitted again integrating comments from reviewers.
2013. (\$250,000/2 years). Co-PI. NIH (R21). Tick microbiome as surveillance tools for emergence of tick-borne pathogens.
2012. (\$500,000/2 years). Co-PI. National Center for Foreign Animal and Zoonotic Disease Defense. Foundational research for surveillance of Tick-borne emerging diseases along the Texas-Mexico border.
2012. (Pre-proposal). Co-PI. National Science Foundation, Division of Environmental Biology. A probabilistic model to predict the geographical spread of species.
2011. (\$9,000). Co-PI. Morris Animal Foundation. Surveying ticks and wildlife in Texas for Lyme disease causing agent affecting domestic animals.

3. Funded Internal Grants and Contracts:

2011. (\$8,000). **PI**. Research Enhancement Program Grant. Texas State University. Tick-borne pathogens from rodents in the MX-US transboundary zone.

4. Submitted, but not Funded, Internal Grants and Contracts:

2014. (\$8,000). PI. Research Enhancement Program Grant. Texas State University. Potential role of the invasive mongoose and commensal rodents as *Leptospira* reservoirs in Puerto Rico.
2015. (\$8,000). PI. Research Enhancement Program Grant. Texas State University. Bat diversity in the Arabuko-Sokoke Forest and surrounding farmlands, Kenya. A prime place for zoonotic pathogen surveillance?

5. Pending Internal and External Grants and Contracts

D. Fellowships, Awards, Honors:

- 2012 **E. Kika de la Garza Science Fellow.** United States Department of Agriculture. Hispanic Serving Institutions National Program.
- 2000 (\$200) Travel award. Society for Conservation Biology annual meeting.
- 2000 - 2004 (\$22,000 per annum) Fellowship from the Science and Technology Council of Mexico (CONACyT) for PhD at Texas A&M (tuition, stipend and health insurance).
- 1999 - 2005 (\$3,040) Travel awards from Texas A&M for talk and poster presentations at 6 scientific meetings.
- 1998 (\$32,000) **Fulbright Fellowship** for MS at Texas A&M. Tuition, stipend and health insurance.
- 1998 (\$6,000) Encyclopedia Britannica award for MS tuition.
- 1997 Honoric mention of undergraduate thesis, UNAM.
- 1996 (\$1,200) Fellowship from Fundacion UNAM (stipend).
- 1995 (\$1,900 plus housing) REU award. National Museum of Natural History, Smithsonian Institution.

IV. SERVICE

A. University:

2014. Session Chair/Judge. International Research Conference for Graduate Students. Event organized by the Graduate College, Texas State University.
2013. Session Chair/Judge. International Research Conference for Graduate Students. Event organized by the Graduate College, Texas State University.
2013. Serve as Faculty Mentor in the H-LSAMP Scholars Program.
- 2012-2013 Interim Campus Director for the Institute for the Study of Invasive Species.
2013. Organizing committee. Hispanic Serving Institution Research Symposium.
2012. Judge/moderator for presentations at the International Research Conference for Graduate Students. Event organized by the Graduate College, Texas State University.

B. Departmental:

- 2013-2014 Member. Search committee for microbiologist faculty position.
- 2013-2014 Member. Search committee for stream ecologist faculty position.
- 2013 Judge for the talks at the 18th Annual Department of Biology student Colloquium.
- 2012-to date Member of the weekly Departmental seminar committee.

C. Community:

- 9/2015 Presentation about myths and facts about vampire bats with 3rd grade students from Crockett Elementary School in San Marcos, TX.
- 11/2012 Presentation and question/answer session about bats with 1st grade students from Spicewood Elementary School in Austin, TX.

D. Professional:

External manuscript reviewer (over 70 in total) for the following journals: *Acta Theriologica*, *Biological Conservation*, *Biotropica*, *EcoHealth*, *Ecological Applications*, *Ecology*, *Journal of Mammalogy*, *Journal of Tropical Ecology*, *Journal of Wildlife Management*, *Journal of Wildlife Diseases*, *Oecologia*, *Mastozoología Neotropical*, *Revista Chilena de Historia Natural*, *Revista Latinoamericana de Conservación*, *Revista Mexicana de Biodiversidad*, *Revista Mexicana de Mastozoología*, *Southwestern Naturalist*, and *Western North American Naturalist*.

- 2015 Member of the FY2015 1890 Capacity Building Grants (CBG) Teaching and Extension Peer Review Panel. National Institute of Food and Agriculture, U.S. Department of Agriculture.
- 2014-date Member of the Small Mammal Specialist Group from the International Union for Conservation of Nature (IUCN).
- 2010 Reviewer for the **National Science Foundation** (Dissertation Improvement Grants).
- 2010 Member of the COTACyT review committee to evaluate applications for federal fellowships to study graduate degrees abroad (Biology/Chemistry division).
- 2008 Participated as a Mexican mammal expert in the **Global Mammal Assessment** Workshop organized by IUCN-World Conservation Union in Zamorano, Honduras. Aided assessment of conservation status of 150+ mammal species (<http://www.iucnredlist.org/mammals>).
- 2007– date Associate editor. *Revista Mexicana de Mastozoología* (Mexican Mammalogy Journal).
- 2005- 2007 Member of the Conservation Committee of the American Society of Mammalogists.
- 2005 - 2010 Member of the International Relations Committee of the American Society of Mammalogists.
- 2000 - 2003 Co-chair of the Graduate Program Enhancement Fund (GPEF) Committee at the Department of Wildlife and Fisheries Sciences, Texas A&M.

- 1999 - 2003 Member of the GPEF committee at the Department of Wildlife and Fisheries Sciences, TAMU.
- 2002 Co-chair organizing Committee. Third Annual Ecological Integration Symposium: *Evolutionary Perspectives in Ecological Integration*. This symposium is multidisciplinary event completely run by graduate students at Texas A&M.
- 1999 Treasurer of the TAMU chapter of the Society for Conservation Biology.

E. Organizations

1. Honorary:

N/A

2. Professional:

Member of the following professional organizations:
American Society of Mammalogist.
Association of Tropical Biology and Conservation.
Southwestern Association of Naturalists.
Asociación Mexicana de Mastozoología.
Asociación Mexicana de Medicina de la Conservación.
Sociedad Mexicana de Ecología.
Wildlife Disease Association.

F. Service Honors and Awards:

N/A

Please note: For all entries, list most recent items first.