

Lauren A. Esposito, PhD

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PROFESSIONAL PREPARATION

University of Texas at El Paso, El Paso, TX BS *cum laude*, 2003

American Museum of Natural History/
City University of New York, New York, NY MS, 2010

Advisor: Lorenzo Prendini

American Museum of Natural History/
City University of New York, New York, NY PhD, 2011

Advisor: Lorenzo Prendini

APPOINTMENTS

California Academy of Sciences

Schlinger Chair of Arachnology, Assistant Curator 2015-present

San Francisco State University

Research Professor 2015-present

Columbia University

Conservation Biology Instructor (Summer Program) 2014-present

Islands & Seas

Co-Founder, Co-Director 2013-present

Lawrence Hall of Science, University of California at Berkeley

Science Curriculum Specialist/ Apps Developer 2014-2015

Essig Museum of Entomology, University of California at Berkeley

NSF Postdoctoral Fellow 2011-2014

American Museum of Natural History

Online Instructor/ Course Scientist (Seminars on Science) 2011-present

SiteMaster (Scorpion Systematics Lab) 2008-2011

Genetics Instructor (Science Research Mentorship Program) 2010

Molecular Lab Manager (Scorpion Systematics Lab) 2006-2008

City University of New York

College NOW Curriculum Developer/

Instructor/ Adjunct Professor 2006-2012

Bronx Community College Adjunct Professor 2008

University of Texas at El Paso

Assistant Biology Instructor 2003 2004

Teaching Assistant 2003 2004

El Paso Community College

RISE Mentor/Tutor 2003

HONORS, AWARDS AND FELLOWSHIPS

California State Senate Commendation 2019

NOGLSTP Walt Whitman Award 2019

Postdoctoral Fellowship in Biology, DBI-1003087, NSF 2010-2014

GK-12 Fellowship, City University of New York 2008-2010

Doctoral Dissertation Improvement Grant, DBI-0910147, NSF 2009

NESCent SMBE Conference Travel Award 2009

MAGNET Dissertation Fellowship, City University of New York 2008-2009

MAGNET President's Fellowship, City University of New York 2004-2008

Honorable Mention, Ford Foundation Dissertation Fellowship 2008

Theodore Roosevelt Award, American Museum of Natural History 2008

AGEP Summer Stipend, City University of New York 2008

AGEP Travel Award, City University of New York 2008

Ernst Mayr Award, Museum of Comparative Zoology, Harvard 2007

Doctoral Student Research Grant, City University of New York 2007

Travel Award, 17th International Congress of Arachnology 2007

AGEP Fellowship, City University of New York 2004-2006

Honorable Mention, Ford Foundation Doctoral Fellowship 2004

Research Experiences for Undergraduates Fellowship,
University of Texas at El Paso 2002-2003

Distinguished Graduating Senior in Biology,
University of Texas at El Paso 2003

Research Experiences for Undergraduates Fellowship,
American Museum of Natural History 2002

CURRENT GRANTS

REU: The Summer Systematics Institute training the next generation of scientists for the field, the lab, and sharing their science with the world. 2019 2022. BIO-1852276, NSF; \$442K.

SELECTED PUBLICATIONS

Thomas, G.W.C., **Esposito, L.A.**, et al. (in press). The Genomic Basis of Arthropod Diversity. *Genome Biology*:

Goodman, A.M. and **Esposito, L.A.** (in press). Spatial and Ecological Niche Partitioning in Congeneric Scorpions. *Invertebrate Biology*:

- Crews, S.C. and **L.A. Esposito**. (in press). Towards a Synthesis of the Caribbean Biogeography of Terrestrial Arthropods. *BMC Evolutionary Biology*.
- Garcia, E., Griswold, C., **Esposito, L.A.** (in press). Systematics and evolution of Kibramoa Chamberlin 1924 (Araneae: Plectreuridae) from the California Floristic Province. *Journal of Zoological Systematics and Evolutionary Research*.
- Crews, S.C., Spagna, J., **Esposito, L.A.** (2019). The Life Aquatic with Spiders (Araneae): Repeated Evolution of Aquatic Habitat Association in Dictynidae and Allied Taxa. *Zoological Journal of the Linnean Society*; zlz139.
- Esposito, L.A.** & L. Prendini. (2019). Island Ancestors and New World Biogeography: A Case Study from the Scorpions (Buthidae: Centruroidinae). *Scientific Reports* 9: 3500.
- Crews, S.C., Debrot, A.O., van Hoorn, G., Galvis, W., **Esposito, L.A.** (2019). The Arachnids of Aruba, Bonaire, and Curaçao. *Caribbean Journal of Science* 49(2-3): 125-140.
- Van Dam, M.H., Trautwein, M., Spicer, G.S., **Esposito, L.** (2018). Advancing mite phylogenomics: Designing ultraconserved elements for Acari phylogeny. *Molecular Ecology Resources* 19:2.
- Esposito, L.A.**, Yamaguti, H.Y., Pinto-da-Rocha, R., Prendini, L. (2018). Plucking with the plectrum: Phylogeny of the New World buthid scorpion subfamily Centruroidinae Kraus, 1955 (Scorpiones: Buthidae) reveals evolution of three pecten-sternite stridulation organs. *Arthropod Systematics and Phylogeny* 76(1): 87-122.
- Schwager, E.E., **Esposito, L.A.** et al. (2017). The house spider genome reveals an ancient whole-genome duplication during arachnid evolution. *BMC Biology* 15:62.
- Esposito, L.A.**, Yamaguti, H.Y., Souza, C.A., Pinto-da-Rocha, R., and Prendini, L. (2017). Systematic revision of the neotropical club-tailed scorpions, *Physoctonus*, *Rhopalurus*, and *Troglophopalurus*, revalidation of *Heteroctenus*, and descriptions of two new genera and three new species (Buthidae, Rhopalurusinae). *Bulletins of the American Museum of Natural History* 415: 1-134.
- Crews, S.C. and **L.A. Esposito**. (2017). Desert salt flats as refugia for terrestrial arthropods. *Mojave National Preserve Science Newsletter* April 2017: 4-7.
- Sharma, P., Fernández, R., **Esposito, L.A.**, González-Santillán, E., Monod, L. (2015). Phylogenomic resolution of scorpions reveals multilevel discordance with morphological phylogenetic signal. *Royal Proceedings B*, 282(1804):20142953.
- Esposito, L.A.**, Bloom, T., Caicedo, L., Alicia-Serrano, A., Sánchez-Ruiz, J.A., Binford, G., Agnarsson, I. (2015). Islands within islands: cryptic radiation of tailless whip spiders (Amblypygi, *Phrynus*) in Caribbean caves. *Molecular Phylogenetics and Evolution*, 93: 107-117.
- Crews, S.C., **Esposito, L.A.**, Cala-Raquelme, F. (2015). The Arachnids of Hellshire Hills, Jamaica. *The Caribbean Naturalist*, 28: 1-14.

- Esposito, L.A.,** Dana, J., Walkup, S., Curley, J. (2014). *Microbiome, middle school curriculum unit*. Learning Design Group, Amplify Education, New York, NY.
- Scinta, P., Duncan, K., **Esposito, L.A.,** Romano, C., Loper, S. (2014). **Phase Change and Temperature, middle school curriculum unit**. Learning Design Group, Amplify Education, New York, NY.
- Quintero, D. & **Esposito, L.A.** (2014). A new species of *Centruroides* Marx (Scorpiones: Buthidae) from Panama and new distribution records for *Centruroides bicolor* (Pocock, 1898) and *Centruroides granosus* (Thorell, 1876). *Zootaxa*, 3795:373-82.
- Bloom, T., Binford, G., **Esposito, L.A.,** Alayon Garcia, G., Peterson, I., Nishida, A., Loubet-Senear, K., Agnarsson, I. (2014). Convergent loss of eyes in two families of Caribbean cave spiders within a Hispaniola cave. *Journal of Arachnology*, 42(2):148-154.
- Esposito, L.A.** (2011). Systematics and Biogeography of the New World Scorpion Genus *Centruroides* Marx, 1890 (Scorpiones: Buthidae). Doctoral Dissertation, City University of New York.
- Prendini, L. and **Esposito, L.A.** (2010). New *Parabuthus* species (Scorpiones: Buthidae) endemic to the Central Namib gravel plains, Namibia, a reanalysis of *Parabuthus* phylogeny and comments on arachnid endemism in the Central Namib. *Zoological Journal of the Linnaean Society* 159(3): 673-710.
- Prendini, L., **Esposito, L.A.,** Huff, J.C., and Volschenk, E.S. (2009). Redescription of *Rhopalurus abudi* (Scorpiones: Buthidae), with first description of the male and first record from mainland Hispaniola. *Journal of Arachnology*, 37:2.

SYNERGISTIC ACTIVITIES

Invited Presentations:

- Esposito, L.A. February 11, 2019. It's Complicated: Patterns of Caribbean biogeography in arthropods", 21st International Congress of Arachnology; Christchurch, New Zealand
- Esposito, L.A. February 27, 2019. Hidden Beneath the Surface: Adaptive Radiation and Scorpion Venoms", UC Davis Entomology Department Seminar, Davis, CA.
- Esposito, L.A. March 6, 2019. Can Scorpions Save the World?, Saint Mary's College Pathways to Science Speaker Series, Moraga, CA.
- Esposito, L.A. November 27, 2017, Processes and patterns of evolution in the oldest terrestrial arthropods on Earth, International Conference of Entomology; Denver, CO. "Biogeographic patterns in Caribbean arthropods", Entomological Society of America, November 14, 2018; Vancouver, Canada
- Esposito, L.A. September 25-30, 2016. Adaptive radiation in morphologically unremarkable scorpions. XXV International Congress of Entomology, Orlando, FL.
- Esposito, L.A. October 13-15, 2016. Can arachnids save the planet? A journey through natural history and conservation. 2016 SACNAS The National Diversity in STEM Conference, Long Beach, CA.

- Esposito, L.A. October 26, 2016. Enhancing Biodiversity Discovery through Education and Exploration. Pacific Coast Entomological Society, Berkeley, CA.
- Esposito, L.A. 2014. "Island Biogeography: Lessons from Caribbean Scorpions." Biology Seminar, Santa Clara University, Santa Clara, CA.
- Esposito, L.A. 2013. "Scorpion Biogeography: the Antilles." 2013 Annual Meeting of the Entomological Society of America, Austin, TX.
- Esposito, L.A. 2013. "Secret Lives of Scorpions (and Spiders)." Sea and Learn, Saba, Netherlands Antilles.
- Esposito, L.A. 2013. "Scorpions: Encounters with a Living Fossil." Bugfest, North Carolina Museum of Natural Sciences, Raleigh, NC.
- Esposito, L.A. 2013. "The Secret Lives of Scorpions." Science Cafe, North Carolina Museum of Natural Sciences, Raleigh, NC.
- Esposito, L.A. 2012. "Biogeography of Caribbean Scorpions." Essig Brunch Seminar Series, University of California at Berkeley.
- Esposito, L.A. 2011. "The Systematics of the New World Scorpion Genus *Centruroides* (Marx, 1890)." Essig Brunch Seminar Series, University of California at Berkeley.

Membership in Scientific Societies:

Society for Systematic Biologists, International Society of Arachnology, American Arachnological Society, Southwestern Association of Naturalists, Society for the Advancement of Chicanos and Native Americans in Science; Entomological Society of America

Field Research:

NORTH AMERICA: Baja California Sur, Mexico 2014, 2015, 2016, 2017, 2018; Baja California, Mexico 2000, 2001; Indio Mountain Research Station, Texas 2001-2004; Southwestern USA 2002. CARIBBEAN: Jamaica 2005, 2008, 2009, 2013; Puerto Rico 2005, 2008, 2010, 2011; Dominican Republic 2005, 2012; Turks and Caicos 2009; Lesser Antilles 2009, 2013, 2016. SOUTH AMERICA: Colombia 2014. AFRICA: Sao Tome and Principe 2016. SOUTHEAST ASIA: Penang, Malaysia 2017

Collections Research:

British Museum of Natural History, London: 2008; Humboldt University Zoologisches Museum, Berlin: 2008; Museum National d'Historie Naturelle, Paris: 2008; American Museum of Natural History: 2004-2009, 2014; Denver Museum: 2012; California Academy of Sciences: 2010, 2012, 2013, ongoing.

Conference Presentations:

- Sauer, A. and L.A. Esposito. January 3-7, 2018. Communicating Science: Creating a Field Guide of the Vizcaino Biosphere Reserve for Community Outreach, Society for Integrative and Comparative Biology, San Francisco, CA
- Esposito, L.A. and S.C. Crews. July 2-9, 2016. Biogeography of Caribbean arthropods. 20th International Congress of Arachnology, Golden, CO.

- Esposito, L.A. January 20, 2017. Research Talk. San Francisco State University Biology Department Retreat, Tiburon, CA.
- Esposito, L.A., Binford, G., Agnarsson, I., Gillespie, R. 2014. “Caribbean Arachnids: What we know about a mega-diverse group in a biodiversity hotspot.” Network For Neotropical Biogeography 3, Bogota, Colombia.
- Esposito, L.A., Brewer, M.S., Gillespie, R. 2013. “Hidden Beneath the Surface: Adaptive Radiation in the Scorpion Genus *Centruroides* Marx, 1890.” 19th International Congress of Arachnology, Kenting National Park, Taiwan.
- Esposito, L.A., Prendini, L., Gillespie, R. 2012. “Caribbean Biogeography: insights from the buthid scorpion genus *Centruroides* Marx, 1890.” 27th European Congress of Arachnology, Ljubljana, Slovenia.
- Esposito, L.A. and Prendini, L. 2010. “The systematics of the New World scorpion genus *Centruroides* (Marx, 1890).” 18th International Congress of Arachnology, Siedlce, Poland.
- Esposito, L.A. and Prendini, L. 2010. “Systematics of the New World scorpion genus *Centruroides* (Marx, 1890).” Hennig XXIX, Honolulu, HI.
- Esposito, L.A. 2009. “Teaching molecular evolution in an urban jungle: Lessons from New York City public schools”. 2009 Annual Meeting of the Society for Molecular Biology and Evolution,
- Esposito, L.A. and Prendini, L. 2009. “New molecular and morphological insights into the systematics of New World buthid scorpions”. 8th Annual GK-12 Meeting, Washington, DC.
- Esposito, L.A. and Strozak, V. 2009. “Using the living urban environment to engage high school students in authentic research experiences”. 8th Annual GK-12 Meeting, Washington DC.
- Esposito, L.A., Volschenk, E.S., and Prendini, 2008. “New molecular and morphological insights into the systematics of New World buthid scorpions”. 32nd Annual Conference of the American Arachnological Society, Berkeley, CA.
- Esposito, L.A. and Prendini, L. 2008. “Biogeography of the Bark-scorpions, *Centruroides* Marx, 1890”. 24th European Congress of Arachnology, Bern, Switzerland.
- Esposito, L.A. and Prendini, L. 2007. “Phylogeny of the southern African thick-tailed scorpion genus *Parabuthus* Pocock, 1890 (Buthidae) based on morphology and DNA”. 17th International Congress of Arachnology, São Pedro, Brazil.

Editorial Roles: Bioscience (2018-present)

Reviews: Revista Ibérica de Aracnología, Zootaxa, Molecular Ecology, Molecular Phylogenetics and Evolution, Journal of Arachnology, PLoS, Zootaxa, ZooKeys, Cladistics, Scientific Reports, Invertebrate Systematics

Curriculum Development:

iSearch: Introduction to Biological Research Course for City University of College NOW Program (2010)- a semester-long high school course examining invertebrate biodiversity through project based learning.

Invertebrate Biodiversity Lab for City University of New York GK-12 Program (2009)- introduces students in an urban setting to the hidden world of invertebrates living all around them. Incorporates lessons on the energy pyramid, taxonomy and classification, and ecosystem roles.

Wildlife Forensics: Caviar Capers Lab for American Museum of Natural History (2008)- inquiry-based biotechnology mystery lab where students must determine an unknown species of sturgeon from confiscated caviar.

Shorebird Beak Lab for City University of New York GK-12 Program (2008)- an inquiry-based lab looking at natural selection and Mendelian genetics.

Backyard Toxicology Course for City University of New York College NOW Program (2007)- introduces high school students to critical thinking and science research skills through authentic toxicology research.

Mentorees: (*Minority, ^Attending Graduate School, @Authored Publication)

Aaron Goodman@^ (current) San Francisco State University, MS

Erika Garcia@*^ (graduated 2017) San Francisco State University, MS

Jacob Gorneau, Tate Yawitz (2019) Summer Systematics Institute (REU), California Academy of Sciences

Perla Ponce*^ (2018) Summer Systematics Institute (REU), California Academy of Sciences

Ashley Sauer^ (2017) Scientific Illustration Intern, California Academy of Sciences

Yuliana Rowe*^ (2016) Summer Systematics Institute (REU), California Academy of Sciences

Joivenae Uribe* (2016) Achieve High School Intern, California Academy of Sciences

Aprilgate Wang, 2014; Edward Rojas*^, Alexandra Withers^, 2013 Undergraduate Research Apprenticeship Program, University of California at Berkeley

Guillaume Vandenesch (MSc), 2012 Agro Paris Tech

Valerie Garcia* and Brittany Dickens*, 2010 Science Research Mentoring Program, American Museum of Natural History

Sarah Schoenbrun*, 2009 Research Experiences for Undergraduates, American Museum of Natural History

Sylvia Johnson*^, 2008 Collegiate Science and Technology Entry Program, American Museum of Natural History

Additional mentorees: Gena Esposito*^ (University of Texas at Austin), 2007; Michelle Bayefski*^ (High School student), 2007-8; Angela Holuba*^ (Barnard University), 2008; Susan Tosier^ (High School teacher), 2009; Michelle Yim^ (York College), 2009-2010; Diego Agostini* (University of Puerto Rico), 2011; Laura Caicedo*^@ (University of Puerto Rico), 2011; Angela Alicea*^@ (University of Puerto Rico), 2011; Jose Rivera*^@ (University of Puerto Rico), 2011; Trevor Bloom@ (Lewis and Clark College) 2011-2012;

Ian Peterson@ (Lewis and Clark College) 2011-2012; Katy Loubet-Senear@ (Lewis and Clark College) 2012; Alex Nishida@ (Lewis and Clark College) 2012; Angela Chuang^ (UCB) 2012-2013; Ana Miller-ter Kuile (Stanford) 2013; Julia Cosgrove*^ (Lewis and Clark College) 2014.

Equity and Inclusion:

Creator of 500 Queer Scientists, a visibility campaign for LGBTQ+ people working in STEM and STEM-supporting fields. Have given talks in dozens of venues about the importance of equity and inclusion in STEM, and the need for ally-ship. Currently maintain the 500QS website with over 900 stories of scientists around the world, and social media accounts with an audience of over 10K and annual reach of over 1 million direct engagements.

SELECTED OUTREACH MEDIA

[Saving human kind one scorpion at a time @ TEDx San Francisco](#)

[Science in the Extremes @ Seeker](#)

[Research Coverage @ New York Times](#)

[Meet the Researchers Who Scour the World's Most Dangerous Corners in Search of Biological Riches @ Smithsonian Magazine](#)

[The Interesting Hour Podcast](#)

[Life on the Salt Flats @ Video by California Academy of Sciences](#)

[The Secret Lives of Scorpions Science Cafe @ NC Museum of Natural Sciences](#)

[Scorpions of Saba @ Saba Sea and Learn](#)

[Team CarBio Expedition @ Twitter](#)

[Searching for Scorpions @ Audio Slideshow by Ryder Diaz](#)

[Stinging Scorpion vs. Pain-Defying Mouse @ Video by KQED](#)

[Absurd Creature of the Week @ Wired Magazine](#)

[World's only female scorpion expert on lookout for new species @ SF Chronicle](#)

[New curator of Arachnology at the California Academy of Sciences @ Video by SF Chronicle](#)

[Lauren Esposito x Charles Darwin @ Re:Model Project by Lauren Tabak](#)

[Entomologists Worth Following @ Untamed Science](#)

[Drugs, Sex, & Arachnids @ Nerd Nite East Bay](#)

twitter: [ArachnologyNerd](#)

instagram: [cas_arachnerds](#)