

Natalie Claunch

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NSF Postdoctoral Fellow: Department of Biology & Florida Museum
University of Florida
Gainesville, FL, USA 32611

EDUCATION

- 2021 Ph.D. Interdisciplinary Ecology
Wildlife Ecology and Conservation Concentration, University of Florida
Advised by Dr. Christina Romagosa
Dissertation: Physiological legacy of invasive reptiles
- 2016 M.S. Biology *with distinction*, California Polytechnic State University San Luis Obispo. Advised by Dr. Emily Taylor
Thesis: Stress ecology of the Pacific Rattlesnakes *Crotalus oreganus* and *Crotalus helleri*
- 2013 B.S. Zoology *summa cum laude*, North Carolina State University
- 2011 Semester abroad, University of the Sunshine Coast, Queensland, Australia

WORK AND LEADERSHIP EXPERIENCE

- 2022- curr. *NSF Postdoctoral Research Fellow*, Department of Biology and Florida Museum of Natural History, University of Florida
- 2022 *Co-leader and Instructor*. River Ecology and Conservation Workshop. Monterrico, Santa Rosa, Guatemala
- 2021-2022 *Postdoctoral Research Associate*, Department of Wildlife Ecology and Conservation, University of Florida
- 2021-2022 *Reptile Expert*, Invasive Species Horizon Scan Project
U.S. Geological Survey
- 2020 *Co-Instructor*, Invasion Ecology of Reptiles and Amphibians (WIS 4934)
University of Florida
- 2016-2021 *Graduate Research Assistant*, University of Florida
- 2019 *Instructor* Field Herpetology of the Southwest, American Museum
2016-18 *Student Assistant* of Natural History
- 2017-2018 *Instructor*, Environmental Science Lab (EVS 3000L), University of Florida
- 2017-2018 *Curatorial Assistant*, Ornithology, Florida Museum of Natural History
- 2017 *State Expert Instructional Materials Reviewer*, Florida Dept of Education
- Biology 1 Honors
 - Anatomy and Physiology

- 2014-2016 *Graduate Research Assistant, Graduate Teaching Assistant,*
California Polytechnic State University
- Diversity and History of Life Laboratory (BIO 160)
 - Introduction to Organismal Form and Function Laboratory (BIO 162)
 - Herpetology (ZOO 341) and summer Field Herpetology (ZOO s341)
- 2013 *Intern, Smithsonian National Zoological Park*
- 2010-2014 *Technician Assistant, Stahl Exotic Animal Veterinary Services*

FUNDING (\$224,125)

- 2022-2024 NSF Postdoctoral Research Fellowship in Biology: “Determining the functional and physiological tradeoffs of thermal plasticity on ectotherm hosts combatting a novel pathogen” (\$138,000)
- 2021-2022 Tropical Conservation and Development Working Group Grant: “Riverine Ecology and Conservation Working Group” (\$1000)
- 2016-2019 SNRE Graduate School Fellowship Award, University of Florida (\$22,000)
- 2017-2020 US Geological Survey (PI: Christina Romagosa) “Ecology, physiology and control of invasive reptiles in Florida” (\$58,225)
- 2020 Doris and Earl Lowe and Verna Lowe Scholarship, University of Florida CALS (\$2000)
- 2020 Sigma Xi Grants in aid of Research: Determining phylogeography of an invasive lizard with rapid range expansion (\$500)
- 2020 Dept Wildlife Ecology and Conservation Travel Grant, University of Florida (\$250)
- 2019 Office of Research Travel Grant, University of Florida (\$400)
- 2019 SNRE Travel Grant, University of Florida (\$250)
- 2018 Michael May Interdisciplinary Grant, University of Florida Dept. Biology (\$1000)
- 2014 Aryan I. Roest Memorial Scholarship, California Polytechnic State University (\$500)

HONORS AND AWARDS

- 2021 Frederick H. Stoye Award in Herpetology for a Virtual Presentation, JMIH
- 2017 Best Session Talk, 2017 Joint Meeting of Ichthyologists and Herpetologists Lightning Talk
- 2016 Outstanding Graduate Student of the Year, California Polytechnic State University
- 2016 Outstanding Graduate Student in Biological Sciences, California Polytechnic State University
- 2016 Honorable Mention, National Science Foundation Graduate Research Fellowship

2015 Honorable Mention, National Science Foundation Graduate Research Fellowship

PUBLICATIONS (33)

Published manuscripts (16 peer-reviewed papers):

*Undergraduate student

1. Guzy JC, Falk BG, Smith BJ, Willson JD, Reed RN, Aumen NG, Avery ML, Bartoszek IA, Campbell E, Cherkiss MS, **Claunch NM**, et al. **Accepted**. Burmese pythons in Florida: A synthesis of biology, impacts, and management tools. *NeoBiota*
2. **Claunch N**, Lind C, Lutterschmidt DI, Moore IT, Neuman-Lee L, Stahlschmidt Z, & Taylor EN. **In press**. Stress Ecology in Snakes. *Invited book chapter in forthcoming edited volume: Snakes: Morphology, Function, and Ecology*. Ed: Penning, D.
3. **Claunch N**, Downs CJ, Schoenle LA, Oakey S, Romagosa C, Ely T, & Briggs CW. **2022**. Snap-freezing in the field: effect of sample processing time on performance of bactericidal assays. *Integrative and Comparative Biology*, icac007.
<https://doi.org/10.1093/icb/icac007>
4. **Claunch N**, Bartoszek IA, Tillis S, Ossiboff RJ, Wellehan JFX, Stacy NI, Oakey S, Schoenle LA, & Romagosa CM. **2022**. Physiological effects of capture and short-term captivity in an invasive snake species, the Burmese python (*Python bivittatus*) in Florida. *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology*. 267: 111162. <https://doi.org/10.1016/j.cbpa.2022.111162>
5. **Claunch N**, Goodman C, Reed R, Romagosa CM, & Taylor EN. **2021**. Invaders from Islands: Thermal Matching, Potential, or Plasticity? *Biological Journal of the Linnean Society*: 134: 587-603. <https://doi.org/10.1093/biolinnea/blab103>
6. **Claunch NM**, Holding ML, Frazier JA, *Huff EM, *Schonour RB, Vernasco B, Moore IT, Rokyta DR, Taylor EN. **2021**. Experimental manipulation of corticosterone levels does not affect venom composition or functional activity in free-ranging rattlesnakes. *Physiological and Biochemical Zoology*: 94: 286-301. DOI: 10.1086/714936
7. **Claunch N**, Moore IT, Waye H, Schoenle L, Oakey S, Reed RN, & Romagosa CM. **2021**. Understanding metrics of stress in the context of invasion history: the case of the brown treesnake (*Boiga irregularis*). *Conservation Physiology* 9: coab008.
<https://doi.org/10.1093/conphys/coab008>
8. **Claunch NM**, *Nix E, *Royal AE, Burgos LP, *Corn M, *DuBois PM, Ivey KN, *King E, *Rucker KA, *Shea TK, *Stepanek J, *Vansdadia S, & Taylor EN. **2020**. Body size

- impacts critical thermal maximum measurements in lizards. *Journal of Experimental Zoology A* 335: 96-107. <https://doi.org/10.1002/jez.2410>
9. *Schonour RB, *Huff E, Holding ML, **Claunch NM**, Ellsworth S, Hogan M, Wray K, McGivern J, Margres M, Colston T, & Rokyta D. **2020**. Gradual and discrete ontogenetic shifts in rattlesnake venom composition and assessment of hormonal and ecological correlates. *Toxins* 12: 659 <https://doi.org/10.3390/toxins12100659>
 10. Sandfoss M, **Claunch N**, Stacy N, Romagosa C, & Lillywhite H. **2020**. A tale of two islands: evidence for impaired stress response and altered immune functions in an insular pit viper following ecological disturbance. *Conservation Physiology* 8: coaa031
 11. *Stepanek, J, **Claunch, NM**, Frazier, JA, Escallon, C, Vernasco, BJ, Moore, IT, & Taylor, EN. **2019**. Corticosterone and Color Change in Southern Pacific Rattlesnakes (*Crotalus helleri*). *Herpetologica* 75(2): 143- 152. <https://doi.org/10.1655/D-18-00008>
 12. **Claunch, N**, Holding, M, Moore, I, Escalon, C, Vernasco, B, & Taylor EN. **2017**. Good vibrations: Assessing the stability of snake venom composition after researcher-induced disturbance in the laboratory. *Toxicon*. 133: 127-135. <https://doi.org/10.1016/j.toxicon.2017.05.010>
 13. **Claunch, NM**, Frazier, JA, Escallon, C, Vernasco, BJ, Moore, IT, & Taylor, EN. **2017**. Physiological and behavioral effects of exogenous corticosterone in a free-ranging ectotherm. *General and Comparative Endocrinology* 248: 87-96. <http://dx.doi.org/10.1016/j.ygcen.2017.02.008>
 14. *DuBois, PM, *Shea, TK, **Claunch, NM**, & Taylor EN. **2017**. Effects of oxygen on responses to heating in two lizard species along an elevational gradient. *Journal of Thermal Biology* 68B: 170-176. <http://dx.doi.org/10.1016/j.jtherbio.2017.02.008>
 15. *Shea, T, *DuBois, M, **Claunch, N**, *Murphey, N, *Rucker, K, Brewster, R, & Taylor, E. **2016**. Oxygen concentration affects upper thermal tolerance in a terrestrial vertebrate. *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology* 199: 87-94. <https://doi.org/10.1016/j.cbpa.2016.05.026>
 16. **Claunch N**, & Augustine L. **2015**. Morphological description of Spindly Leg Syndrome (SLS) in Golden Mantella, (*Mantella aurantiaca*) at the Smithsonian National Zoological Park. *Journal of Herpetological Medicine and Surgery* 25 (3-4): 72-77. <https://doi.org/10.5818/1529-9651-25.3.72>

Publications in review (3 submitted):

17. Goodman C, **Claunch N**, Steele Z, Episcopio-Sturgeon D, & Romagosa C. ***In review***. Colorful lizards and the conflict of collection.
18. Claunch NM, Goodman CM, Harman M, Vilchez M, Smit SD, Kluever BM, Wellehan JFX, Ossiboff RJ, Romagosa CM. ***In review***. Dermatomycosis caused by *Paranannizziopsis australasiensis* in non-native panther chameleons (*Furcifer pardalis*) captured in Central Florida, USA
19. Claunch NM, Clancy KL, Harman MEA, Hengstebeck KC, Juarez-Sanchez D, Haro D, Hartmann A, Vilchez M, McKee RK, Sutton A, Romagosa CM. ***In review***. Welcome to paradise: snake invasions on islands. *Invited book chapter in forthcoming edited volume: Island Snakes Volume II*. Eds: Lillywhite H, Martins M.

Peer-reviewed notes and extension documents (12):

*Undergraduate student I mentored

1. Johnson SA, *Reyes C, *Dodge B, & **Claunch N**. 2021. Florida's introduced reptiles: brown anole (*Anolis sagrei*). UF IFAS Extension Document. doi.org/10.32473/edis-uw486-2021
2. Borczyk P*, Fortner E*, **Claunch NM**, & Johnson SA. 2021. Florida's introduced reptiles: green iguana (*Iguana iguana*). UF IFAS Extension Document. doi.org/10.32473/edis-uw485-2021
3. Fieldsend T, **Claunch N**, Fridie B, Goodman C, Harman M, Krysko K, Raxworthy C, Romagosa C, & Collins T. 2021. Extreme male color polymorphism supports the introduction of multiple native-range Panther Chameleon (*Furcifer pardalis*) lineages to Florida, USA. *Reptiles and Amphibians* 28:257-261. <https://doi.org/10.17161/randa.v28i2.15599>
4. *Thomason SM, *Broxton JM, Romagosa CM, & **Claunch NM**. 2020. *Leiocephalus carinatus* (Northern Curly-tailed Lizard). Geographic Distribution. *Herpetol. Review: 51(2): 272*
5. **Claunch NM**, Stanley E, & Romagosa CM. 2020. *Leiocephalus carinatus* (Northern Curly-tailed Lizard). Extreme Fecal Impaction. *Herpetol. Review: 51(1): 127*.
6. *Broxton JM, *Thomason SM, Romagosa CM, & **Claunch NM**. 2019. *Agama picticauda* (Peters' Rock Agama). Geographic Distribution. *Herpetol. Review* 50(4): 745.

7. *Henigan LE, Blais CB, *Dzikowski NT, Romagosa CM, & **Claunch NM. 2019.** *Agama picticauda* (Peters' Rock Agama). Cannibalism. *Herpetol. Review* 50(1): 132-3.
8. *Dzikowski NT, Blais CB, *Henigan LE, Romagosa CM, & **Claunch NM. 2019.** *Agama picticauda* (Peters's Rock Agama). Reproduction. *Herpetol. Review* 50(1): 132.
9. Blais CB, *Henigan LE, *Dzikowski NT, & **Claunch NM. 2019.** *Leiocephalus carinatus armouri* (Northern Curly-tailed Lizard). Diet. *Herpetol. Review* 49(2): 374.
10. **Claunch N**, Denton R, Holding M, Taylor E, & Mullin SJ. **2018.** *Scaphiopus couchii* (Couch's Spadefoot Toad). Predation. *Herpetol. Review* 49(2): 312-3.
11. **Claunch N**, & Crowe-Riddell, J. **2018.** *Leiocephalus carinatus* (Northern Curly-tailed Lizard). Extreme Fecal Impaction. *Herpetol. Review* 49(1): 118-119.
12. **Claunch NM**, & Taylor EN. **2017.** *Gambelia wislizenii* (Long-nosed leopard lizard). Saurocaudophagy. *Herpetol. Review* :48(1): 190-192.

Non-refereed publications (5):

1. Hill JE, Johnson SA, **Claunch N**, Tuckett QM, & Romagosa CM. **2021.** Bioprofiles and Risk Screens of African Clawed Frog *Xenopus laevis* (Pipidae), Cane Toad *Rhinella marina* (Bufonidae), and Spectacled Caiman *Caiman crocodilis* (Alligatoridae) in Florida. Submitted to Wildlife Impact Management Section, Florida Fish and Wildlife Conservation Commission, Tallahassee, FL.
2. Frazier J, **Claunch N**, & Trunzo J. **2016.** BIO 162 Lab manual: Plant and Animal Physiology. Online. *PolyLearn*. California Polytechnic State University.
3. Ruttenberg B, Frazier J, **Claunch N**, Ritter M, Trunzo J & Yost J. **2015.** BIO 160 Lab manual: Diversity and history of life. *San Luis Obispo, CA: Cal Poly University Store*.
4. **Claunch N** & Frazier J. **2015.** BIO 160 Lab Instructional Video Series. *PolyLearn: California Polytechnic State University*.
5. **Claunch N. 2015.** "BIO 160 Lab Dissection Guides and Supplemental Figures." Illustrations. Online. *PolyLearn*. California Polytechnic State University.

PUBLISHED ILLUSTRATIONS

1. Larson JG, Crowell HL, Walsh LL, Davis Rabosky AR. **2022.** The Batrachian barf bowl: an authentic research experience using ecological data from frog diets. *Ecology and Evolution*: e9095. (Figure 2)
2. Hengstebeck KC, & Romagosa CM. **2020.** A Trap for Capturing Large Burrow-dwelling Snakes. *Herpetol. Review* 51: 468-471. (Figure 1)

3. Shea T, DuBois M, **Claunch N**, Murphey N, Rucker K, Brewster R, & Taylor E. **2016**. Oxygen concentration affects upper thermal tolerance in a terrestrial vertebrate. *Comparative Biochemistry and Physiology Part A: Molecular & Integrative Physiology* 199: 87-94.
4. **Claunch N** & Augustine L. **2015**. Morphological description of Spindly Leg Syndrome (SLS) in Golden Mantella, (*Mantella aurantiaca*) at the Smithsonian National Zoological Park. *J. Herp. Med. Surg.* 25 (3-4): 72-77.
5. Ruttenberg B, Frazier J, **Claunch N**, Ritter M, Trunzo J & Yost J. **2015**. BIO 160 Lab manual: Diversity and history of life. *San Luis Obispo, CA: Cal Poly University Store*.
6. **Claunch N**. **2015**. "BIO 160 Lab Dissection Guides and Supplemental Figures." Illustrations. Online. *PolyLearn*. California Polytechnic State University.

PRESENTATIONS: TALKS

- 2022 Thermal factors influencing distribution of Panther chameleons (*Furcifer pardalis*) in Florida. Joint Meeting of Ichthyologists and Herpetologists, Spokane, WA.
- 2022 Herpetofaunal ecology (often) makes sense in the light of thermal physiology. Invited Speaker for the Symposium: Celebrating the contributions of Hal Heatwole and Hal Cogger to Herpetology. 55th Meeting of the Australian Society of Herpetologists, Mylor, South Australia.
- 2022 Invasive Reptiles: A Primer. Invited Public Talk. Little St. Simons Island, GA.
- 2022 Extreme variation in functional immunity among populations of non-native lizards in Florida. Complement to Symposium. Society of Integrative and Comparative Biologists Meeting, Phoenix, AZ
- 2021 Islanders on the mainland: exploring thermal influences on establishment in an invasive lizard. FLMNH Seminar Series
- 2021 Invasive herpetofauna: a focus on cane toads and Cuban treefrogs. Natural Areas Training Academy: Managing for Diversity across Florida's Unique Landscapes Workshop
- 2021 Glucocorticoid profiles vary with establishment history in invasive lizards. International Society of Wildlife Endocrinologists Virtual Event
- 2021 When Island Lizards Colonize the Mainland: Thermal Matching, Potential, or Plasticity? Joint Meeting of Ichthyologists and Herpetologists, Phoenix, AZ *Awarded Frederick H. Stoye Award for Best Virtual Presentation*
- 2021 Physiological effects of capture and captivity in invasive Burmese pythons (*Python bivittatus*) Florida Cooperative Fish and Wildlife Research Unit Cooperators Meeting, Gainesville, FL
- 2021 Thermal Influences on Invaders from Islands. SNRE Student Research Symposium

- 2021 Physiological Legacies of Reptile Invasions. School of Natural Resources and Environment Departmental Research Seminar. University of Florida.
- 2021 Let's talk about Stress. Invited Research Seminar. Florida International University
- 2021 Invaders sourced from islands: thermal matching, potential or plasticity? Society of Integrative and Comparative Biology, Virtual Meeting
- 2020 A Curly Tale: stress and immunity across nonnative populations of differing ages in *Leiocephalus carinatus*. World Congress of Herpetology, Dunedin, Otago, New Zealand
- 2019 Reptile Invasions: Your Backyard and Beyond. Invited Speaker, Audubon Western Everglades
- 2019 Stress, Immunity, and Invasion: A case study of multiple populations of two lizards in their introduced range. Joint Meeting of Ichthyologists and Herpetologists, Snowbird, UT
- 2019 Border follies as applied to invasive herpetofauna. American Museum of Natural History Southwestern Research Station, Portal, AZ
- 2017 Do Invasive Reptiles Shed Immune Armor to Conquer New Lands? *Awarded Best Session Talk*. Joint Meeting of Ichthyologists and Herpetologists, Austin, TX
- 2016 Stress Ecology of the Southern Pacific Rattlesnake. Joint Meeting of Ichthyologists and Herpetologists, New Orleans, LA

PRESENTATIONS: POSTERS

- 2022 Investigating the influence of thermal environment on infection dynamics of *Bsal* in Plethodontid salamanders
- 2022 Cool chameleons can't change critical limits. Society of Integrative and Comparative Biologists Meeting, Phoenix, AZ
- 2021 Colorful Lizards and the Conflict of Collection, Joint Meeting of Ichthyologists and Herpetologists, Phoenix, AZ
- 2019 Stress Indices in the infamous island invader, *Boiga irregularis*. Joint Meeting of Ichthyologists and Herpetologists, Snowbird, UT
- 2019 A case for physiological metrics in the management and prevention of reptile invasions. Greater Everglades Ecosystem Restoration Meeting, Coral Springs, FL
Florida Cooperative Fish and Wildlife Research Unit Cooperators Meeting, Gainesville, FL
- 2019 Stress and Immune Responses in Prominent Reptile Invaders. Suds and Science, Cypress and Grove Brewery, Gainesville, FL

- 2019 Stress Responses of an Infamous Island Invader. Society of Integrative and Comparative Biologists Meeting, Tampa, FL
- 2018 Stress and Immune Responses in Prominent Reptile Invaders. Florida Cooperative Fish and Wildlife Research Unit Cooperators Meeting, Gainesville, FL
- 2018 What Can a Blood Sample Reveal About Reptile Invasions? Suds and Science, First Magnitude Brewery, Gainesville, FL
- 2017 Do Reptilian Invaders Shed Immune Armor to Conquer New Lands? Florida Cooperative Fish and Wildlife Research Unit Cooperators Meeting, Gainesville, FL
- 2017 Physiological and behavioral effects of exogenous corticosterone in a free-ranging ectotherm. Society of Integrative and Comparative Biology Meeting, New Orleans, LA
- 2014 Manifestation of Spindly Leg in Golden Mantella (*Mantella aurantiaca*) National Capital American Association of Zookeepers Regional Conference, Washington, D.C.

ACADEMIC SOCIETY MEMBERSHIPS

- International Society of Wildlife Endocrinologists (2017-current)
- The Guild of Natural Science Illustrators (2021-current)
- Society for the Study of Amphibians and Reptiles (2015-2020)
- The Herpetologists' League (2015-2020)
- American Society of Ichthyologists and Herpetologists (2015-current)
- Society of Integrative and Comparative Biologists (2017-current)
- The Phi Beta Kappa Society (2013-current)

SERVICE

- 2022 American Society of Ichthyologists and Herpetologists: Moderator and Judge
- 2020-2021 *Secretary*, SNRE Graduate Student Council
- Organized panels and professional development workshops
 - Organized departmental student research symposium
 - Served as liaison for graduate students to department and college
- 2016 *Graduate Student Representative*, Biology Department fiscal committee

Peer reviewer:

- | | |
|---------------------------------------|------------------------------|
| General and Comparative Endocrinology | Zoo Biology |
| Biological Invasions | Biotropica |
| Current Herpetology | Herpetological Review |
| Journal of Herpetology | Southeastern Naturalist |
| Current Zoology | Herpetology Notes |
| The Herpetological Journal | Journal of Wildlife Diseases |
| Conservation Physiology | |

CERTIFICATIONS

CIRTL Associate Certificate May 2021

DEI TRAINING

2019 Participant, Ally Skills Workshop at UF Informatics Institute

2019-2021 Member, Gainesville Ally Skills Network

MENTORSHIP EXPERIENCE

Undergraduate Thesis Committee Member

Savanna Thomason Santa Fe College Honor's Thesis

Morphology Differences of Invasive Populations of *Leiocephalus carinatus* in Florida

Awarded 20 May 2020