

Julia Criscione

Rutgers Geology Museum • 85 Somerset St • New Brunswick, NJ • julicris@eps.rutgers.edu

Education

Rutgers University – New Brunswick, NJ – Doctoral Candidate, September 2020 – Present. Expected Graduation May 2024.

Rutgers University – New Brunswick, NJ – Master of Science, January 2017

- Graduate Program in Geological Sciences, with a specialization in Paleontology and Entomology
- Title: Pseudo-cryptic Speciation and Adaptive Morphology in the Paleontological Record: Examples from the Coccolithophore Species *Braarudosphaera* and the Aquatic Belostomatid Insect *Triassonepa*
- Advisors: Drs. Marie-Pierre Aubry (Rutgers University) & David Grimaldi (American Museum of Natural History)

Rutgers University – New Brunswick, NJ – Bachelor of Science, Summa Cum Laude, May 2013

- Double Major in Geological and Marine Sciences (with specialization in Marine Geology)
-

Research

Doctoral Research in Paleontology

- Goal: To complete a thorough examination of the Triassic insect fossil record, with a focus on the Cow Branch Formation of Virginia/North Carolina. In chapter one, I will focus on the diversity of the Cow Branch beetles (Order Coleoptera). In chapter two, I will describe some of the rare taxa in this formation. In chapter three, I will complete a phylogenetic analysis of a group of Hemipteran insects (Suborder Sternorrhyncha) in the Cow Branch Formation. In chapter four, I will broadly examine the patterns of insect abundance, diversity, and paleogeographic distributions from the Late Permian to the earliest Jurassic.

Graduate Research in Paleontology

- *Chapter One*: Used current knowledge of pseudo-cryptic speciation in the extant coccolithophore species *Braarudosphaera bigelowii* to determine the presence of pseudo-cryptic speciation in this species in the distant past (Advisor: Dr. Marie-Pierre Aubry)
- *Chapter Two*: Described the oldest species of the insect family Belostomatidae from the Triassic Cow Branch Formation of Virginia/North Carolina and used the species assemblage of the deposit to infer paleoenvironmental conditions (Advisor: Dr. David Grimaldi)

Research Internship at the American Museum of Natural History

- Worked on a number of projects involving both living and fossil insects under Dr. David Grimaldi
- Gained experience in SEM, CT Scanner, and photomicrography techniques

Honors Thesis Project in Geological Sciences: Inferred Pseudo-Cryptic Speciation in *Braarudosphaera*

- Project Goal: To differentiate pseudo-cryptic species among paleontological species of coccolithophores from Zumaia, Spain (Advisor: Dr. Marie-Pierre Aubry)

Honors Research Project in Marine Sciences: Reconstructing Indonesian Sea Surface Temperatures

- Project Goal: To reconstruct Indonesian sea surface temperatures and salinities for the past two thousand years using elemental ratios in the planktonic foraminifera *Globigerinoides ruber* (Advisor: Dr. Yair Rosenthal)

Publications

- Neitzke-Adamo, L., Blandford, A. J., **Criscione**, J., Olsson, R. K. and Gorder, E., 2018. The Rutgers Geology Museum: America's first geology museum and the past 200 years of geoscience education, in Rosenberg, G.D., and Clary, R.M., eds., *Museums at the Forefront of the History and Philosophy of Geology: History Made, History in the Making: Geological Society of America Special Paper 535*: 217–236.
- **Criscione**, J. and Grimaldi, D. A., 2017. The oldest predaceous water bugs (Insecta: Heteroptera: Belostomatidae) from the Triassic Cow Branch Formation of Virginia/North Carolina: *Journal of Paleontology*, 91(6): 1166–1177. doi: 10.1017/jpa.2017.48.
- **Criscione**, J., Bord, D., Godfrey, L. and Aubry, M.-P., 2017. Inferred pseudo-cryptic speciation in the coccolithophore species *Braarudosphaera bigelowii* (Gran and Braarud) during the Early Paleocene (Danian): *Marine Micropaleontology* 137: 1–15.
- Arillo, A., Peñalver, E., Pérez-de la Fuente, R., Delclòs, X., **Criscione**, J., Barden, P. M., Riccio, M. L. and Grimaldi, D. A., 2015. Long-proboscid brachyceran flies in Cretaceous amber (Diptera: Stratiomyomorpha: Zhangsolvidae). *Systematic Entomology* 40(1): 242–267.

Presentations & Outreach

- **Criscione**, J., Neitzke Adamo, L. and Irizarry-Barreto, P., 2019. Crafting for science education. Presented poster at Rutgers Active Learning Symposium 2019.
- Neitzke Adamo, L. N., **Criscione**, J., Setera, J. and Bitting, K.S., 2018. Geological Society of America Annual Meeting 2018, Session 229, T76. Beyond the Road-Cut: Virtual, Local and Nontraditional Field Teaching and Learning Experiences. Session ran at GSA 2018 Indianapolis Annual Meeting.
- **Criscione**, J. and Grimaldi, D., 2018. The oldest predaceous water bugs (Insecta, Heteroptera, Belostomatidae), with implications for paleolimnology of the Triassic Cow Branch Formation. Presented poster at Geological Society of America, GSA 2018 Indianapolis Annual Meeting.
- **Criscione**, J., Neitzke Adamo, L. and Irizarry-Barreto, P., 2018. Crafting for science education. Presented poster at Geological Society of America, GSA 2018 Indianapolis Annual Meeting.
- Winfree, R., **Criscione**, J., Lowe, E. and Weinman, L., 2017. Supporting Bees in your Garden and on your Farm: Rutgers Cooperative Extension Fact Sheet FS1280. New Jersey Agricultural Extension Station.
- **Criscione**, J., Sarkar, R., Neitzke-Adamo, L. and Irizarry, P. Transforming the Museum Experience: A Look into the Rutgers University Geology Museum. Presented poster at the Mobile Laboratory Coalition Conference, Rutgers University, July 2017.
- **Criscione**, J., Bord, D. and Aubry, M.-P. Inferred Pseudo-cryptic Speciation in the Coccolithophore Genus *Braarudosphaera*. Presented poster at Rutgers ARESTY Research Symposium, New Brunswick, NJ, May 2013.
- **Criscione**, J., Rosenthal, Y. and Esswein, K. Reconstructing Indonesian Sea Surface Temperatures for the Past 2000 Years. Presented poster at Rutgers ARESTY Research Symposium, New Brunswick, NJ, May 2012.

Abstracts

- Neitzke Adamo, L., **Criscione**, J., and Sarkar, R., 2022. Using Technology to Create Inclusive Natural History Tours and Activities at the Rutgers Geology Museum. Abstract No. 12-5. Geological Society of America, Northeastern Section 2022 Meeting.
- Sarkar, R., **Criscione**, J., Adamo, L., and Drews, M., 2022. Virtual "Ask A Geologist" Program Developed to Engage Children during School Closures. Abstract No. 12-4. Geological Society of America, Northeastern Section 2022 Meeting.
- Sarkar, R., **Criscione**, J., Neitzke Adamo, L., and Irizarry, P., 2020. Virtual Merit Badge Program for Scouting Groups at the Rutgers University Geology Museum. Abstract ED023-08, 2020 Fall Meeting American Geophysical Union, AGU Annual Meeting.
- Sarkar, R., Neitzke Adamo, L., **Criscione**, J., and Irizarry-Barreto, P., 2020. Integrating 3d Printing and Geosciences to Visitor Experiences at the Rutgers University Geology Museum. Paper No. 65-7, Geological Society of America, GSA 2020 Annual Meeting.
- Sarkar, R., Neitzke Adamo, L., Irizarry-Barreto, P. and **Criscione**, J., 2019. Making Science Cool: A Look into the RUGM's Summer Stem Program. Paper No. 19-3, Geological Society of America, Joint 69th Annual Southeastern / 55th Annual Northeastern Section Meeting.
- Neitzke Adamo, L., **Criscione**, J., Irizarry-Barreto, P., Pagenkopf, L. and Hayden, D., 2019. Utilizing Photogrammetry and 3D Printers to Create Inclusive Natural History Tours and Activities for the Visually Impaired at the Rutgers Geology Museum. Paper No. 27-7, Geological Society of America, Joint 69th Annual Southeastern / 55th Annual Northeastern Section Meeting.
- **Criscione**, J., Neitzke Adamo, L. and Irizarry-Barreto, P., 2019. Using patch programs to engage new audiences at the Rutgers Geology Museum. Session 190, Booth 125. *Geological Society of America, GSA 2019 Phoenix Annual Meeting*.
- Amitai, W., Neitzke Adamo, L., Irizarry-Barreto, P. and **Criscione**, J., 2019. Applications for adaptations: Exploring animal adaptations through a mobile application at the Rutgers Geology Museum. Session 190, Booth 128. *Geological Society of America, GSA 2019 Phoenix Annual Meeting*.
- Kozachek, C., Neitzke Adamo, L., Irizarry-Barreto, P. and **Criscione**, J., 2018. Exploring the Ice Age period at the Rutgers Geology Museum: An informal learning experience. Geological Society of America, GSA 2018 Indianapolis Annual Meeting, Vol. 50, No. 6.
- Neitzke Adamo, L., Irizarry, P. and **Criscione**, J., 2018. Small Museums, Big Impact. American Geophysical Union, AGU 2018 Washington D. C. Annual Meeting.

Honors, Awards & Grants

- Paleontological Society Student Research Grant: Currano Scholarship/Bearded Lady Project (\$1,200) – May 2022
- Theodore Roosevelt Memorial Fund Research Grant (\$2,465.00) – April 2015
- Rutgers Earth and Planetary Sciences Chair Award for Research and Service to the Department – May 2013
- Vinton Gwinn Award for Excellence in Research by an Undergraduate Student in Geological Sciences – May 2012
- The George O. Scott Scholarship for Undergraduate Field Study in Geological Sciences – May 2012
- Rutgers Academic Excellence Award – April 2011
- Dean's List, January 2010 – May 2013
- Rutgers SAS Honors Program, September 2009 – May 2013

Teaching Experience

- Teaching Assistant for Rutgers Paleontology Laboratory Course (01:460:303) – Fall 2014, 2015, 2016
- Teaching Assistant for Rutgers Online Planet Earth Course (01:460:100) – Spring 2015
- Teaching Assistant for Rutgers Planet Earth Course (01:460:100) – Spring 2014
- Teaching Assistant for Rutgers Dinosaurs Course (01:460:206) – Fall 2013, Spring 2016, Fall 2016

Work Experience

Rutgers University Geology Museum

- Program Coordinator II, November 2019 – Present
 - Management of Museum staff, coordination of day-to-day Museum operations, and creation of educational programming, activities, and exhibits
- Museum Assistant under Drs. Lauren Adamo & Patricia Irizarry, January 2017 – November 2019
 - Creation of educational materials & publications, exhibit design, coordination of museum events

Rutgers University, Department of Ecology, Evolution, and Natural Resources

- Dr. Rachael Winfree (PI), May 2017 – November 2019
 - Curating (pinning, sorting, labeling, identifying) native bee collections
- Michael Roswell, Dr. Rachael Winfree (PI), October 2016 – April 2017 (Volunteer)
 - Pinning and identifying native bees from New Jersey
- Jeffrey Brown, Dr. Julie Lockwood (PI), November 2016 – June 2017
 - Sorting and identifying arthropods collected from pitfall traps

Rutgers University, Department of Earth and Planetary Sciences

- Dr. Marie-Pierre Aubry, February 2012 – Present
 - Bibliographic work and figure creation for *Cenozoic Coccolithophores* publication series
- Dr. James Browning, January 2012
 - Organizing and repackaging core samples
- Dr. Carl Swisher III, May 2010 – September 2010
 - Preparing igneous rocks for geochronological analysis
- Dr. Kenneth Miller, January 2010 – September 2010
 - Preparing core samples for analysis

Rutgers University, Department of Marine and Coastal Sciences

- Dr. Yair Rosenthal, October 2010 – August 2011; June 2012 – August 2013
 - Sample preparation of foraminifera for isotopic analysis

References

- Dr. David Grimaldi (Entomology) – American Museum of Natural History, Division of Invertebrate Zoology
 - Email: grimaldi@amnh.org; Phone: 212-769-5615
- Dr. Rachael Winfree (Pollination Ecology) – Rutgers University, Dept of Ecology, Evolution and Natural Resources
 - Email: rwinfree.rutgers@gmail.com; Phone: 848-932-8315
- Dr. Lauren Neitzke Adamo (Education/Outreach) – Rutgers University Geology Museum
 - Email: lneitzke@eps.rutgers.edu; Phone: 848-932-7243
- Dr. Marie-Pierre Aubry (Stratigraphy) – Rutgers University, Department of Earth and Planetary Sciences
 - Email: aubry@eps.rutgers.edu; Phone: 848-445-0822