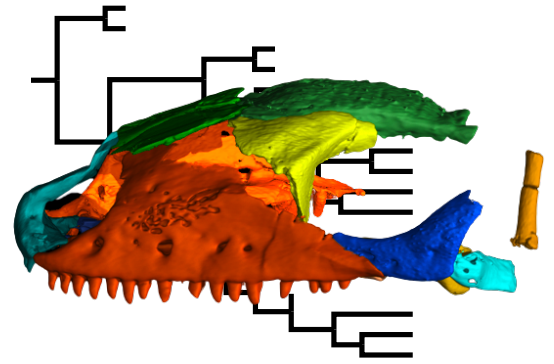


Chase Doran Brownstein

Graduate Student, Department of Ecology and Evolutionary
Biology, Yale University
Research Associate, Department of Collections and
Exhibitions, Stamford Museum and Nature Center
chase.brownstein@yale.edu



I. Education.

Yale University

Graduate Student, Ecology and Evolutionary Biology
Advisor: Thomas J. Near

New Haven, CT
2023–Present

Yale University

Bachelor of Science, with Distinction
Major: Ecology and Evolutionary Biology

New Haven, CT
2019–2023

II. Refereed publications.

1. **Brownstein, C.D.**, and Near, T.J. Colonization of the ocean floor by jawless vertebrates across three mass extinctions. *BMC Ecology and Evolution*, in review.
2. **Brownstein, C.D.**, Zapfe, K.L., Lott, S., Harrington, R. Ghezelayagh, A., Dornburg, A., and Near, T.J. Reproductive innovation enabled radiation in the deep sea during an ecological crisis. *Current Biology*, in revision. Preprint: <https://doi.org/10.1101/2024.01.12.575380>.
3. **Brownstein, C.D.**, and Near, T.J. A giant raptorial bowfin from a Paleocene hothouse ecosystem in North America. *Zoological Journal of the Linnean Society*, in press.
4. **Brownstein, C.D.**, MacGuigan, D., Kim, D., Orr, O., Yang, L., David, S.R., Kreiser, B., and Near, T.J. (2024). The genomic signatures of evolutionary stasis. *Evolution*, qpa028.
5. **Brownstein, C.D.** (2024). A juvenile bird with possible crown-group affinities from a dinosaur-rich Cretaceous ecosystem in North America. *BMC Ecology and Evolution* 24(20):1–12.
6. **Brownstein, C.D.**, and Near, T.J. (2023). Evolutionary origins of the lampriform pelagic radiation. *Zoological Journal of the Linnean Society*:zlad142.
7. Meyer, D., **Brownstein, C.D.**, Jenkins, K.A., and Gauthier, J.A. (2023) A Morrison stem gekkotan reveals gecko evolution and Jurassic biogeography. *Proceedings of the Royal Society B: Biological Sciences* 290:20232284.
8. **Brownstein, C.D.**, Simões, T.R., Caldwell, M.W., Lee, M.S.Y., Meyer, D., and Scarpetta, S. (2023). The Affinities of the Late Triassic *Cryptovaranoïdes* and the Age of Crown Squamates. *Royal Society Open Science* 10:230968.
9. **Brownstein, C.D.** (2023). *Palaeospondylus* and the early evolution of gnathostomes. *Nature* 620:E21–22.
10. **Brownstein, C.D.** (2023). A late-surviving phytosaur from the northern Atlantic rift reveals climate constraints on Triassic reptile biogeography. *BMC Ecology and Evolution* 23(33):1–20.
11. **Brownstein, C.D.** (2023). Syngnathoid evolutionary history and the conundrum of fossil misplacement. *Integrative Organismal Biology* 5(1):1–12.

12. **Brownstein, C.D.**, Harrington, R.C., and Near, T.J. (2023). The biogeography of extant lungfishes traces the breakup of Gondwana. *Journal of Biogeography* 50:1191–1198.
13. **Brownstein, C.D.** (2023). A large coelacanth, †*Whiteia giganteus* sp. nov., from the Triassic of Texas establishes a Pangean radiation of early Mesozoic actinistians. *Palaeontologia Electronica* 26(1):a11.
14. **Brownstein, C.D.** (2023). Evidence of large sturgeons in the Paleocene of North America. *Journal of Paleontology* 97(1):218–222.
15. **Brownstein, C.D.**, and Near, T.J. (2023). Phylogenetics and the Cenozoic radiation of lampreys. *Current Biology* 33:397–404.
16. **Brownstein, C.D.**, Yang, L., Friedman, M., Near, T.J. (2023). Phylogenomics of the ancient and species-depauperate gars tracks 150 million years of continental fragmentation in the Northern Hemisphere. *Systematic Biology* 72(1):213–227. *Cover Article.
17. **Brownstein, C.D.**, Kim, D., Orr, O., Hogue, G.M., Tracy, B.M., Worth Pugh, M., Singer, R., Myles-McBurney, C., Molish, J.M., Simmons, J.W., David, S.R., Watkins-Colwell, G., Hoffman, E., and Near, T.J. (2022). Hidden species diversity in an iconic living fossil vertebrate. *Biology Letters* 18:20220395.
18. **Brownstein, C.D.**, Meyer, D., Fabbri, M., Bhullar, B.A., Gauthier, J.A. (2022). Evolutionary origins of the prolonged extant squamate radiation. *Nature Communications* 13(7087):1–11.
19. **Brownstein, C.D.**, Bissell, I. (2022). Species delimitation and coexistence in an ancient, depauperate vertebrate clade. *BMC Ecology and Evolution* 22(90):1–15.
20. **Brownstein, C.D.**, Lyson, T. (2022). Giant gar from directly above the K–Pg boundary suggests healthy freshwater North American ecosystems existed within thousands of years of the asteroid impact. *Biology Letters* 18:20220118.
21. **Brownstein, C.D.** (2022). Unappreciated Cenozoic ecomorphological diversification of stem gars revealed by a new large species. *Acta Palaeontologica Polonica* 67(2):1–10. *Editor’s Choice.
22. **Brownstein, C.D.** (2022). High morphological disparity in a bizarre Paleocene fauna of predatory freshwater reptiles. *BMC Ecology and Evolution* 22(34):1–23.
23. **Brownstein, C.D.** (2021). Dinosaurs from the Santonian–Campanian Atlantic coastline substantiate phylogenetic signatures of vicariance in Cretaceous North America. *Royal Society Open Science* 8(8):210127.
24. **Brownstein, C.D.**, Bissell, I. (2021). An elongate hadrosaurid forelimb with biological traces informs the biogeography of the Lambeosaurinae. *Journal of Paleontology* 95(2):367–375.
25. **Brownstein, C.D.** (2021). Osteology and phylogeny of small-bodied hadrosauromorphs from an end-Cretaceous marine assemblage. *Zoological Journal of the Linnaean Society* 191(1):185–200.
26. **Brownstein, C.D.** (2021). Dromaeosaurid crania demonstrate the progressive loss of facial pneumaticity in coelurosaurian dinosaurs. *Zoological Journal of the Linnaean Society* 191(1): 87–112.
27. **Brownstein, C.D.** (2020). Caesar’s Bestiary: using classical accounts to statistically map changes in the large mammal fauna of Germany during the Pleistocene and Holocene. *Historical Biology* 32(5):635–644.

28. **Brownstein, C.D.** (2019). New records of theropods from the latest Cretaceous of New Jersey and the Maastrichtian Appalachian fauna. *Royal Society Open Science* 6(11):191206.
29. **Brownstein, C.D.** (2019). *Halszkaraptor escuilliei* and the evolution of the paravian *bauplan*. *Scientific Reports* 9(16455):1–16.
30. **Brownstein, C.D.** (2019). First record of a small juvenile giant crocodyliform and its ontogenetic and biogeographic implications. *Bulletin of the Peabody Museum of Natural History* 60(1):83–92.
31. **Brownstein, C.D.** (2018). Large basal tyrannosauroids from the Maastrichtian and terrestrial vertebrate diversity in the shadow of the K-Pg extinction. *The Mosasaur* 10:105–115.
32. **Brownstein, C.D.** (2018). The northernmost occurrence of *Chelydra serpentina* in the eastern US during the Pleistocene. *The Mosasaur* 10:13–19.
33. **Brownstein, C.D.** (2018). Review: *The Rise and Fall of the Dinosaurs*. *Systematic Biology* 68(1):184–186.
34. **Brownstein, C.D.** (2018). The distinctive theropod assemblage of the Ellisdale site of New Jersey and its implications for North American dinosaur ecology and evolution during the Cretaceous. *Journal of Paleontology* 92(5):1115–1129. *Editor’s Choice.
35. **Brownstein, C.D.** (2018). A large dromaeosaurid from North Carolina. *Cretaceous Research* 92:1–7.
36. **Brownstein, C.D.** (2018). Evidence persists for two Arundel ornithomimosaurids: a response to McFeeters et al. (2018). *Vertebrate Anatomy, Morphology, Paleontology* 6:68–72.
37. **Brownstein, C.D.** (2018). Trace fossils on dinosaur bones reveal ecosystem dynamics along the coast of eastern North America during the latest Cretaceous. *PeerJ* 6(e4973):1–23.
38. **Brownstein, C.D.** (2018). A tyrannosauroid from the lower Cenomanian of New Jersey and its evolutionary and biogeographic implications. *Bulletin of the Peabody Museum of Natural History* 59(1):95–104.
39. **Brownstein, C.D.** (2018). A tyrannosauroid tibia from the Navesink Formation of New Jersey and its biogeographic and evolutionary implications for North American tyrannosauroids. *Cretaceous Research* 85:309–318.
40. **Brownstein, C.D.** (2018). The biogeography and ecology of the Cretaceous non-avian dinosaurs of Appalachia. *Palaeontologia Electronica* 21.1.5A:1–56.
41. **Brownstein, C.D.** (2017). A tyrannosauroid metatarsus from the Merchantville Formation of Delaware increases the diversity of non-tyrannosaurid tyrannosauroids on Appalachia. *PeerJ* 5(e4123):1–19.
42. **Brownstein, C.D.** (2017). Description of Arundel Clay ornithomimosaur material and a reinterpretation of *Nedcolbertia justinhofmanni* as an “Ostrich Dinosaur”: biogeographic implications. *PeerJ* 5(e3110):1–20.

IV. Other publications and preprints.

43. **Brownstein, C.D.** (2020). Naturalistic animal depiction in Roman sacrifice reliefs. *Second Annual SUNY New Paltz Undergraduate Art History Symposium*, pp. 46–53.

V. Conference abstracts.

44. **Brownstein, C.D.**, Kim, D., Stokes, M.F., and Near, T.J. (2023). Phylogenomic species delimitation in North American shiners allows for recognition of the Sawfin Shiner, a species undescribed for over half a century. *Southeastern Fishes Council Annual Meeting*.
45. **Brownstein, C.D.** (2022). High morphological disparity in a bizarre Paleocene fauna of predatory freshwater reptiles. *Society of Vertebrate Paleontology Annual Meeting*.
46. **Brownstein, C.D.** (2022). Isolated skull reveals a new Triassic coelacanth from Texas. *Society of Vertebrate Paleontology Annual Meeting*.
47. Meyer, D., **Brownstein, C.D.**, and Gauthier, J.A. (2022). Analysis of a stem-gekkotan from the Morrison Formation places the Solnhofen squamates on the Tree of Life. *Society of Vertebrate Paleontology Annual Meeting*.
48. **Brownstein, C.D.** (2022). High morphological disparity in a bizarre Paleocene fauna of predatory freshwater reptiles. *ASN/SSB/SSE Evolution Conference*.
49. **Brownstein, C.D.** (2022). High morphological disparity in a bizarre Paleocene fauna of predatory freshwater reptiles. *EAVP Conference*.
50. Meyer, D., **Brownstein, C.D.**, and Gauthier, J.A. (2021). A Jurassic stem-gekkotan from the Morrison Formation revealed via computed tomography imaging. *Geological Society of America Abstracts with Programs*.
51. Meyer, D., **Brownstein, C.D.**, and Gauthier, J.A. (2021). Computed tomography reveals a Jurassic stem-gekkotan from the Morrison Formation. *Society of Vertebrate Paleontology Annual Meeting*.
52. **Brownstein, C.D.**, Napoli, J., Ruebenstahl, A., Forcellati, M.R., and Norell, M.A. (2021). Diminutive theropods from Appalachia and the early evolution of the avian braincase. *Society of Vertebrate Paleontology Annual Meeting*.
53. **Brownstein, C.D.**, MacGuigan, D., Kim, D., Orr, O., Yang, L., Near, T.J. (2021). Gars reveal the signatures of extreme evolutionary stasis. *ASN/SSB/SSE Evolution Conference* (Oral Presentation).
54. **Brownstein, C.D.** (2020). A new Santonian Dinosaur assemblage from the coast of the Atlantic Ocean. *Yale Undergraduate Research Symposium* (Oral Presentation).
55. **Brownstein, C.D.** (2020). Reevaluation of dinosaur material from Atlantic Coastal Plain illuminates a bizarre new assemblage. *Society of Vertebrate Paleontology Annual Meeting*.

VI. Miscellaneous science writing.

1. **Brownstein, C.D.** (February 2022). Changes in Earth's oxygen levels sculpted origins of multicellular diversity. *Yale Daily News*.
2. **Brownstein, C.D.** (February 2019). What the Government Shutdown Means for Museum-led Conservation: A Curatorial Perspective. *Quinnehtukqut, the magazine of the Connecticut Sierra Club*.
3. **Brownstein, C.D.** (September 2018). Return of the Bone Wars: the fight to save scientifically important sites in the western United States continues. *Quinnehtukqut, the magazine of the Connecticut Sierra Club*.
4. **Brownstein, C.D.** (March 2018). The lost continent under our feet. *Quinnehtukqut, the magazine of the Connecticut Sierra Club*.

5. **Brownstein, C.D.** (February 2018). Is Our Planet Facing a Sixth Extinction? *Quinnehtukqut, the magazine of the Connecticut Sierra Club*.

VII. Review service.

Journals: *Cretaceous Research, Geological Magazine, Neues Jahrbuch für Geologie und Paläontologie, Journal of South American Earth Sciences (2), PeerJ (2), The Mosasaur (2), BMC Ecology and Evolution, Paleobiology.*

Funding Agencies: *US NSF Graduate Research Fellowships Program.*

VIII. Lectures.

Mellon Forum, Pierson College, Yale University	2023
Undergraduate Thesis Presentation, “Static tempo and mode in evolution”	
Yale Peabody Museum of Natural History	2023
Presentation of the intersection of Classics and Paleontology to Yale College seminar: “Ecocultures of Antiquity”	
Earth Sciences Club of Northern Illinois	2022
Vertebrate Paleontology of Mesozoic Eastern North America	
Yale Peabody Museum of Natural History	2020
Presentation of current research on Appalachian dinosaurs, gaps to undergraduate intern in the Yale Peabody collections	
University of Edinburgh Paleontology Research Group	2020
Insular biogeography in the dinosaur record and evolutionary convergence	
Yale Peabody Museum of Natural History	2020
Appalachian dinosaur evolution and ecology	
New York Paleontological Society	2016
Dinosaurs of a lost landmass: insights from eastern North America	
Stamford Museum and Nature Center	2015
The science behind <i>Dinotopia</i>	

IX. Honors.

Honorary plaque for educational work at the Children’s School	2020
Article specially selected as one of a handful of articles published freely open-access deemed by the editorial board of the <i>Journal of Paleontology</i> as “scientifically significant with the potential for high impact in the scientific community”	2018
Top five most viewed article in the fields of biogeography, ecology, paleontology, and/or taxonomy published in <i>PeerJ</i> in 2017	2017
Honorary plaque and special reception for curatorial and exhibition work at the Stamford Museum	2015

X. Grants and funding.

David A. Etnier Award, 1st Place, for Best Student Talk, SFC Annual Meeting (\$300)	2023
William R. Belknap Prize, for Best Senior Thesis in Biology (\$1000)	2023
OceanX Young Explorer (2000\$ + travel funding)	2023
Earth Sciences Club of Northern Illinois Lecture (\$100)	2022
Yale University Mellon Forum Fellowship (\$500)	2022
Yale University Richter Fellowship (\$700)	2022
NSF REU, American Museum of Natural History (\$4000, turned down)	2022
Society of Systematic Biologists miniARTS Award (\$1700)	2021
Yale Peabody Museum Summer 2021 Internship (\$3000)	2021
Total: \$13,300.	

XII. Teaching experience.

Yale Graduate School of Arts and Sciences	New Haven, CT
E&EB 290, 291L: Vertebrate Comparative Anatomy	2024
BIOL 104: Introduction to Ecology and Evolutionary Biology	2023
EVST 040: Collections of the Peabody Museum	2023
• Mentored Undergraduate Nikos Makridis on species delimitation, meristics, and phylogenetic analysis	
Yale College	New Haven, CT
Yale Splash Guest teacher, “Dinosaurs of Eastern North America”	2022
Calculus (MATH 115) tutor	2021
The Children’s School	Stamford, CT
Science teacher and guest scientist	2013-2019
• Taught biology, paleontology, geology, and chemistry to pre-K—2nd graders	
Walking Mountains Science Center	Avon, CO
Scientist in residence	2017-2021
• Taught Colorado paleontology and geology and accompanied camps to local sites	
Pierrepont School	Westport, CT
Guest science teacher	2018-2019

XIII. Community leadership experience.

Yale Ecology and Evolutionary Biology Undergraduate Group	New Haven, CT
President	2021-2023
Diversity, Equity, and Inclusion Officer	
Yale College Council	New Haven, CT
Senator for Pierson College, Yale University	2020-2021
Member, Health & COVID-19 and Accessibility and Disability Policy Teams	

XIV. Curatorial experience.

Yale Peabody Museum	New Haven, CT
Collection cataloging and exhibition production	2023-Present

- Catalogued ichthyological collections from TVA, old USGS trawls, and misc. sources
- Advised the construction and articulation of freestanding Dodo skeleton for new fossil hall
Stamford Museum and Nature Center Stamford, CT
- Collection addition and curation 2014-Present
- Reorganized vertebrate, invertebrate, and plant fossil collections totaling over 200 specimens
- Prepared fossils, labels, and reconstructions to accompany exhibition “Dinotopia: The Fantastical Art of James Gurney”

XV. Professional societies.

Sigma Xi	2023-Present
Southeastern Fishes Council	2022-Present
Society of Systematic Biologists	2021-Present
The Palaeontological Society	2021-Present
Society of Vertebrate Paleontology	2017-Present
New York Paleontological Society	2015-2019

XVI. Selected media coverage.

Daily Mail, Newsweek, BBC Magazine, Wall Street Journal, Science, NPR (Science Friday), Science Daily, Cosmos Magazine, New Scientist, Live Science, Popular Mechanics, Futurity, The Sun, Phys, Yale News, Popular Science, Yahoo News, Sigma Xi NewsBrief, Cambridge University Press News, BMC Series Highlights, Palaeocast, Palaeo After Dark, Sci-News, Yale Daily News, Yale Scientific, SciTech Daily, Yale Undergraduate Research Journal, ScienceBlog.com, New Zealand Online News, Broome Online News, CTInsider, Connecticut Post, Greenwich Time, Stamford Advocate, Great Lakes Echo, Connecticut Public Radio.

XVII. Techniques.

Key Software: ASTRAL, BAMM, BEAST suite, Blender, FigTree, Geneious, GPlates, ImageJ, IQTREE, Linux, Mesquite, MorphoJ, MrBayes, PAUP, PAST3, R (incl. ape, BAMMTools, BioGeoBears, diversitree, geomorph, geiger, hisse, phytools, TeSS-ComET, tidyverse), TNT, tpsDig2, tpUtil64, VGStudio, 3DSlicer.

Wet Lab and Collections: DNA tissue extractions, polymerase chain reaction, gel electrophoresis, vertebrate dissection, meristic and standard measurements, light microscopy, fossil and living specimen collection, cataloguing, preparation, and storage.

Field experience: Colorado Highlands, CO, USA (invertebrate fossils, 2015-2018); Big and Ramanessin Brooks, NJ, USA (Cretaceous marine fossils, 2016-2017); Catskills, NY, USA (freshwater fishes, 2021); Death Valley National Park, CA, USA (Geological field trip, 2022), Cyclades, Peloponnese, and Crete, Greece (Geological field trip, 2023), North Sea, English Channel (OceanX Young Explorers Program, 2023), Tennessee and Cumberland Drainages (freshwater fishes, 2023).

XVIII. Professional References.

Dr. Thomas J. Near

Chair, Department of Ecology and Evolutionary Biology, Yale University
370 ESC, Yale University, New Haven, CT 06520 U.S.A.

thomas.near@yale.edu

Dr. Martha M. Muñoz

Department of Ecology and Evolutionary Biology, Yale University
370 ESC, Yale University, New Haven, CT 06520 U.S.A.

martha.munoz@yale.edu

Dr. Richard Harrington

Department of Ecology and Evolutionary Biology, Yale University
370 ESC, Yale University, New Haven, CT 06520 U.S.A.

richard.harrington@yale.edu

Dr. Matteo Fabbri

Field Museum of Natural History
1400 S Lake Shore Dr, Chicago, IL 60605 U.S.A.

mfabbri@fieldmuseum.org

Dr. Tyler Lyson

Denver Museum of Nature and Science
2001 Colorado Blvd. Denver, CO 80205 U.S.A.

tyler.lyson@dmns.org