

Stanford



Pedro M. Monarrez

Postdoctoral Scholar, Geological Sciences

Bio

PROFESSIONAL EDUCATION

- Doctor of Philosophy, University of Georgia (2019)
- Master of Science, California State University, Fullerton (2012)
- Bachelor of Science, California State University, Fullerton (2009)

STANFORD ADVISORS

- Jonathan Payne, Postdoctoral Faculty Sponsor

LINKS

- Personal Website: <https://www.pmmonarrez.com>
- History of Life Internship Program: <https://historyoflife.stanford.edu>
- Orcid: <https://orcid.org/0000-0002-4221-0693>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My research at Stanford focuses on the evolution of body size of marine animals throughout the fossil record. Specifically, I am using body size as a predictor for marine animal extinction and origination throughout the last 500 million years. I am also working on body size evolution during intervals of rapid diversification of marine invertebrates during the early Paleozoic.

My overall research interests broadly focus on stratigraphic paleobiology. In particular, I seek to understand the various environmental and biotic factors driving macroevolutionary patterns of marine invertebrates in the fossil record within a sequence stratigraphic context. I am also interested in the variation and reconciliation of local and regional expressions of global macroevolutionary patterns and perturbations, such as mass extinctions.

LAB AFFILIATIONS

- Erik Sperling, Historical Geobiology Research Group (9/1/2021)
- Jonathan Payne, Payne Paleobiology Lab (8/26/2019)

Publications

PUBLICATIONS

- **History of Native American land and natural resource policy in the United States: impacts on the field of paleontology** *PALEOBIOLOGY*

Hensel, H. L., Olson, H. C., Monarrez, P. M., Bradley, L., Keane, C., Carlson, S. J.

2023; 1–13

- **Breathless through Time: Oxygen and Animals across Earth's History** *BIOLOGICAL BULLETIN*
Sperling, E. A., Boag, T. H., Duncan, M. I., Endriga, C. R., Marquez, J., Mills, D. B., Monarrez, P. M., Sclafani, J. A., Stockey, R. G., Payne, J. L.
2022
- **Our past creates our present: a brief overview of racism and colonialism in Western paleontology** *PALEOBIOLOGY*
Monarrez, P. M., Zimmt, J. B., Clement, A. M., Gearty, W., Jacisin III, J. J., Jenkins, K. M., Kusnerik, K. M., Poust, A. W., Robson, S. V., Sclafani, J. A., Stilson, K. T., Tennakoon, S. D., Milagros Thompson, et al
2022; 48 (2): 173–185
- **Ecological and evolutionary responses of terrestrial arthropods to Middle–Late Pennsylvanian environmental change** *GEOLOGICAL SOCIETY, LONDON, SPECIAL PUBLICATIONS*
Donovan, M. P., Schatchat, S. R., Monarrez, P. M.
2022; 535: 1–42
- **Mass extinctions alter extinction and origination dynamics with respect to body size** *PROCEEDINGS OF THE ROYAL SOCIETY B*
Monarrez, P. M., Heim, N. A., Payne, J. L.
2021; 288: 1–8
- **The interaction of recovery and environmental conditions: An analysis of the outer shelf edge of western North America during the early Triassic** *PALAEOGEOGRAPHY PALAEOCLIMATOLOGY PALAEOECOLOGY*
Woods, A. D., Alms, P. D., Monarrez, P. M., Mata, S.
2019; 513: 52–64
- **Regional and environmental variation in escalatory ecological trends during the Jurassic: a western Tethys hotspot for escalation?** *PALEOBIOLOGY*
Monarrez, P. M., Aberhan, M., Holland, S. M.
2017; 43 (4): 569–86
- **Patterns of fossil distributions within their environmental context from the Middle Triassic in South Canyon, Central Nevada, USA** *JOURNAL OF PALAEOGEOGRAPHY-ENGLISH*
Monarrez, P. M., Bonuso, N.
2014; 3 (1): 74–89
- **A Holocene record of Pacific Decadal Oscillation (PDO)-related hydrologic variability in Southern California (Lake Elsinore, CA)** *JOURNAL OF PALEOLIMNOLOGY*
Kirby, M. E., Lund, S. P., Patterson, W. P., Anderson, M. A., Bird, B. W., Ivanovici, L., Monarrez, P., Nielsen, S.
2010; 44 (3): 819–39