

2017-2018 Outstanding Thesis Award Winner Jason Jung



Jason Jung, MS in Biology

Although the ink on his diploma is barely dry, Jason Jung is already recognized as an expert in paleontology. His work is outstanding for its contribution to our understanding of the evolutionary history of vertebrate species and the relationship between these earliest reptiles and many of the terrestrial animals we see today. Considering these early achievements, it is only fitting that his thesis, *Redescription and Phylogenetic Analysis of the Materials Assigned to the Taxon "Captorhinikos" chozaensis*, written for his Master of Science in Biology, earned him the Outstanding Thesis Award for 2017-2018.

Captorhinikos chozaensis is a member of a family of early reptiles called Captorhinidae, and one of the earliest creatures to live completely on dry land. It predates dinosaurs by 60 million years, having roamed what is now north-central Texas approximately 280 million years ago during the Permian period. It is his interest in the Permian Period that led Jason to study at CSUSB under his mentor, Dr. Stuart Sumida.

"Dr. Sumida is very well-known in the field," Jason noted. "The period he works in – the Permian period – is when interesting things were happening. Things started to walk on land and flying animals began to evolve. I like to say that the 'cool kids' in paleontology study dinosaurs, but I am interested in the Permian period, when things were really changing."

In his thesis, Jason sets out to identify the evolutionary relationships of *Captorhinikos chozaensis* and its placement in the phylogenetic tree. After receiving fossils from two major museums, the Chicago Field Museum and the Smithsonian Institution, he went to work on performing an anatomical redescription: "My analysis involved constructing a table of traits belonging to the species, (called a morphological character matrix) then plugging in the features you actually see in the fossils and making a comparison," he explained.

"My study confirmed two things: that the fossils I received from the two museums were of the same species, and that the species' genus had previously been misidentified and so, was wrongly named. What has been called *Captorhinikos chozaensis* occupies its own branch on the phylogenetic tree of Captorhinidae, and is a new species that needs to be named."

Jason's next step is to submit his work for review and publication, and he hopes his work will be corroborated by others in the field. He is presently exploring Ph.D. programs while he serves as the academic coordinator for the Biology department and teaches two labs: Human Anatomy and Cell Biology.

Jason's interest in paleontology took root when he was a child, but his career path took a detour about the time he started high school. "It all started when my grandfather brought home a software program on dinosaurs. I was super into it, up until I was 12. I wanted to be a paleontologist. As I got older, my parents pushed me away from paleontology because they didn't really see how I could make a career out of it. By high school I had put it aside."

After receiving his Bachelor of Science in Biology at CSUSB, Jason had every intention of pursuing a career in medicine. He was on the cusp of attending medical school at Western University when he came to realize that his heart wasn't in it. At first, he was unsure of what to do. "Then it dawned on me that I

could continue as a graduate student in biology here, and focus on paleontology. I love it. I lose track of time doing it. In a way I've come full circle, back to my first passion."

Jason's thesis is available on ScholarWorks. We look forward to hearing more about his achievements in the coming years.