

BIBLIOGRAPHY OF ARIZONA VERTEBRATE PALEONTOLOGY

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Abstract—We provide a bibliography of Arizona vertebrate paleontology that consists of approximately 625 references covering vertebrate occurrences ranging in age from Devonian to Holocene. Not surprisingly, references to Triassic and Neogene vertebrates are the most numerous, reflecting the particular strengths of the Arizona record. We break the bibliography down into various taxic groups and provide a complete, unified bibliography at the end of the paper.

Keywords: Arizona, bibliography, fossil, vertebrate, paleontology

INTRODUCTION

Our aim in presenting a bibliography of Arizona vertebrate paleontology is to provide a valuable research tool for all those conducting vertebrate paleontology research in Arizona. This bibliography will also be made available as individual, downloadable Endnote® libraries on the New Mexico Museum of Natural History and Science paleontological resources website (www.nmfossils.org).

The bibliography is separated into broad taxonomic groups. These are Chondrichthyes, Osteichthyes, primitive amphibians, Lissamphibia, anapsids, Lepidosauromorpha, non-dinosaurian archosaurs, dinosaurs, Aves, non-mammalia synapsids, and Mammalia. There is also a separate category for trace fossils.

As used here, “primitive amphibians” are all non-lissamphibian, non-amniote tetrapods known from the state, and consists primarily of temnospondyls. Anapsids includes turtles, procolophonids, and some enigmatic Triassic reptiles of unknown affinities. “Lepidosauromorpha” consists of all non-archosauromorph diapsids, and thus includes marine reptiles in addition to lepidosaurs, and again contains some taxa of unknown affinities. Non-dinosaurian archosaurs includes basal archosauromorphs, pterosaurs, and crurotarsans, including crocodylians. The bulk of this record reflects study of “thecodont”-grade archosauromorphs—very few papers have been published on Arizona fossil crocodylians. Dinosaurs, given their popular and academic interest, and the importance of Arizona’s role in the early evolution of dinosaurs, were given their own category separate from the rest of the archosaurs. Aves covers all bird fossils from the state, and the synapsids are split into non-mammalian synapsids and mammals to reflect Arizona’s relatively sparse, but important record of “mammal-like reptiles” and larger, exceptionally important mammalian faunas. Trace fossils include not just references related to footprints, but also those covering coprolites, fossilized dung, packrat middens, and skin impressions.

Some generalities about Arizona vertebrate paleontological research can be made based on the bibliography. The greatest amount of research and publications dealing with Arizona vertebrate paleontology are on non-dinosaurian archosauromorphs. This is due to the great outcrop area of Triassic strata in Arizona, and subsequent large amount of preserved Triassic vertebrate fossils from the state. The next most researched group is the dinosaurs, dominated by Late Triassic and Early Jurassic forms from the Chinle Group and Kayenta Formation as well as scattered Cretaceous records in the southern portion of the state. Neogene faunas, particularly of mammals but also of lissamphibians and lepidosaurs, reflect the strength of the late Neogene and Quaternary record of the state. Also notable are the amount of vertebrate

tracks from the Paleozoic and Mesozoic of the state. The Lower Permian Coconino and Lower Jurassic Navajo sandstones in northern Arizona are especially known for their vertebrate and invertebrate trackways.

Abstracts were generally omitted from the bibliography partly to save space, but also due to the difficulty in tracking down all published abstracts, many of which exist only in the “gray literature” and are duplicated by subsequent full-length publications. The occasional exception to this rule is an abstract that serves as the only record of a particular taxonomic group or age. This bibliography also was designed to be a research tool and not a historical record of all publications on vertebrate paleontology from the state, so we focused on complete articles. Doubtless this bibliography is incomplete, and some may take issue with how we indexed some of the faunal papers, but we believe that utilizing this bibliography will allow any new researcher, be they professional or avocational, to enter the literature and find all significant references to a particular taxonomic group. We do not provide a separate index of article by time period, in large part because that would duplicate the many comprehensive papers found elsewhere in the volume.

Resources used for the assembly of this bibliography were Georef, Bioone, Google Scholar, New Mexico Museum of Natural History bulletins and the references therein, and references from many individual papers. Clearly, this bibliography cannot be considered complete, but it should provide an extensive entrée into the growing literature on the vertebrate paleontology of Arizona.

BIBLIOGRAPHY BY TAXONOMIC GROUPS

CHONDRICHTHYES

- Brew, D. C., 1970, The Naco Formation (Pennsylvanian) in central Arizona: *Plateau*, v. 42, p. 126-138.
- Brew, D. C., and Beus, S. S., 1976, A Middle Pennsylvanian fauna from the Naco Formation near Kohl Ranch Central Arizona: *Journal of Paleontology*, v. 50, p. 888-906.
- Cappetta, H., 1987, Chondrichthyes II: Mesozoic and Cenozoic Esamobranchii, in Schultze, H.-P., ed., *Handbook of Paleichthyology*: Stuttgart, Gustav Fischer Verlag, p. 193.
- Colbert, E. H., 1972, Vertebrates from the Chinle Formation, in Breed, C. S., and Breed, W. J., eds., *Investigations in the Triassic Chinle Formation*: Museum of Northern Arizona Bulletin: Flagstaff, Museum of Northern Arizona Press, p. 96-103.
- Curtis, K. M., 1989, A taxonomic analysis of a microvertebrate fauna from the Kayenta Formation (Early Jurassic) of Arizona and its comparison to an Upper Triassic microvertebrate fauna from the Chinle Formation. [M.A. thesis]: University of California.
- Curtis, K., and Padian, K., 1999, An Early Jurassic microvertebrate fauna

