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BIBLIOGRAPHY OF NEW MEXICO INVERTEBRATE PALEONTOLOGY

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Introduction

New Mexico has a rich record of invertebrate fossils, which have been reported in publications since 1848. Several thousand species have been documented from the state, and they represent each of the geologic periods from Cambrian to Neogene. The literature on the invertebrate paleontology of New Mexico is vast. Reference to much of this literature through 1979 was brought together by Kues and Northrop (1981) in a bibliography that included vertebrate and plant as well as invertebrate fossil groups reported in the state. A separate bibliography on vertebrate paleontology was published by Kues and Lucas in 1993, and this has been recently updated by Lewis et al. Much work on New Mexico invertebrate paleontology has been published since 1979, especially by paleontologists associated with the New Mexico Museum of Natural History and Science (which opened in the mid-1980s), the University of New Mexico, and the U. S. Geological Survey. More than 500 papers published since 1979 mark an increase of 67% above the total published through 1979, making a considerably expanded and updated bibliography of invertebrate fossils desirable as an aid to present and future workers.

It is important to understand the criteria utilized in selecting papers to be included in this bibliography. Coverage includes papers dealing with all of the metazoan invertebrate groups, as well as nonphotosynthesizing protists (chiefly foraminiferans) and conodonts (isolated phosphatic elements of an extinct group of animals that are now considered as probably non-vertebrate chordates). In addition, trace fossils, representing evidence in the sediments of the behavior of invertebrates (such as burrows and trackways) are also included.

Papers dealing in one way or another with invertebrate fossils range from those entirely devoted to description of species and their occurrence, to papers on nonpaleontological aspects of geology in which the presence of “invertebrates” in a rock unit is mentioned in passing. This bibliography focuses on papers providing significant information about the invertebrate paleontology of New Mexico. Foremost among these are publications providing documentation of invertebrate taxa through description and illustration, often with definition of new species, detailed biostratigraphic information, and/or paleoecological interpretation. Also important are papers providing extensive lists of identified taxa from a particular rock unit, even if these taxa are not described or figured. Papers on invertebrate taxa from outside of New Mexico, or which deal with taxonomic changes or evolution within a group, sometimes include discussion and figures of New Mexico specimens, and these papers are also included. Bibliographic catalogs that compile occurrences of all species within a group from an area like North America, and which include New Mexico occurrences are likewise included in this bibliography, as are more general references, like some volumes of the *Treatise on Invertebrate Paleontology*, which contain description or illustrations of specimens from New Mexico.

Because most marine sedimentary rocks in New Mexico contain fossils, a large number of papers on stratigraphy, sedimentology, sedimentary petrology and regional geology include some mention of invertebrate fossils, typically unidentified except for example as brachiopods, crinoids or bivalves. As most of these types of papers deal only superficially with New Mexico's paleontological record and present no new or detailed paleontological information they are excluded from this bibliography. One or more taxa identified to the generic or specific level may qualify a paper for inclusion if these taxa are new reports from a stratigraphic unit or a new locality, or are illustrated, or if the report is of unusual historical interest. Likewise, hundreds of papers and several books have been written on the Permian Capitan reef and associated strata in southern New Mexico. The majority of these are excluded from this bibliography because they focus on the structure, architecture, depositional environments, carbonate petrography, or economic geology of the reef complex rather than providing new information on the ancient organisms that built the reef. Similarly, there has been rapid growth in the number of papers applying sequence-stratigraphic approaches to interpreting sedimentary sequences in New Mexico, but unless these contain significant paleontological information they are not listed in this bibliography.

Finally, this bibliography does not cover Quaternary invertebrates (mainly gastropods) because most are extant species and many are not fossilized. Entry into this literature may be achieved through a recent memoir, edited by Metcalf and Smartt (1997), which is cited in the bibliography.

Citations included here are restricted to published papers. Theses and dissertations, and open-file and other unpublished reports are omitted. Published abstracts based on talks presented at professional meetings are not included because they are too short to provide much information, are not subject to peer or editorial review of content, and are (or should be) superseded by papers that would qualify for inclusion.

Coverage of this bibliography is intended to be complete through 2004, with periodic updates planned for the future. Because the record of New Mexico invertebrate paleontology is spread widely through a great variety of publications, some of which are obscure, it is possible that a few references meeting the criteria outlined above have been overlooked. The author would appreciate any omissions being brought to his attention.

A total of 1299 papers are included in this bibliography. The following decade-by-decade distribution of these publications provides a rough indication of the level of activity in studying and publishing upon New Mexico invertebrate fossils through time. Prior to 1940 study of New Mexico invertebrate fossils proceeded at a modest pace, resulting in less than 40 papers per decade. In the 1940s, the number of publications more than doubled over those of the 1930s, and by the 1960s had increased dramatically to more than 150 in that decade. Subsequently (1970s to 2000s), publications have ranged from about 190 to 230 papers per decade.

Number of papers published per decade:

1840s = 3

1850-1859 = 29

1860-1869 = 13

1870-1879 = 20

1880-1889 = 18

1890-1899 = 32

1900-1909 = 35
1910-1919 = 32
1920-1929 = 18
1930-1939 = 38
1940-1949 = 81
1950-1959 = 112
1960-1969 = 157
1970-1979 = 191
1980-1989 = 232
1990-1999 = 195
2000-2004 = 93

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