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STRATIGRAPHIC DISTRIBUTION OF MOSASAURS IN THE NIOBRARA FORMATION OF KANSAS

M. Amy Sheldon

Department of Geology and Geography, University of South Alabama, Mobile, Alabama 36688, and
Rochester Institute of Vertebrate Paleontology, 928 Whalen Road, Penfield, New York 14526.

ABSTRACT

Hypotheses concerning mosasaur ecology and geographic distribution have been based on historic collections from western Kansas, from the Smoky Hill Member of the Niobrara Formation. The analysis presented here reexamines many of the classic localities in order to more precisely determine the stratigraphic position of mosasaur specimens in museum collections. Unfortunately, less than 10% of the more than 2000 specimens examined have sufficient locality information to ascertain stratigraphic position. Nonetheless, analysis of the newly compiled data shows that all growth stages of mosasaurs were recovered from throughout the Smoky Hill Member, contrary to previous hypotheses. Juveniles and adults of the same species occur in the same stratigraphic horizon. Thus juveniles were present throughout the Niobrara seaway and not restricted to nearshore nurseries.