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# *RIOARRIBASUCHUS,* A NEW NAME FOR AN AETOSAUR FROM THE UPPER TRIASSIC OF NORTH-CENTRAL NEW MEXICO

SPENCER G. LUCAS, ADRIAN P. HUNT AND JUSTIN A. SPIELMANN

New Mexico Museum of Natural History and Science, 1801 Mountain Rd. NW, Albuquerque, NM 87104-1375

**Abstract**—*Rioarribasuchus* is a new generic name for the aetosaur previously named *Desmatosuchus chamaensis*. *Rioarribasuchus* is most similar to *Desmatosuchus* and *Paratypothorax* but is distinguished from these two genera and other aetosaur genera by the long curved spikes on its paramedian scutes as well as by features of scute shape and ornamentation.

## INTRODUCTION

Aetosaurs are extensively-armored archosaurs with a fossil record in Upper Triassic strata of North America, Europe, India, Madagascar and South America. Aetosaurs are principally known from armored scutes that covered their neck, trunk and tail. Associated and articulated specimens are rare, but individual scutes have taxonomic utility, allowing identification to genus or species level (e.g., Long and Ballew, 1985; Long and Murry, 1995; Heckert and Lucas, 2000).

Zeigler et al. (2002) named a new species of aetosaur, *Desmatosuchus chamaensis*, for armor plates from the Revueltian Snyder quarry in the Chama basin of north-central New Mexico. Here, we propose a new generic name for this very distinctive aetosaur species. In this paper, NMMNH = New Mexico Museum of Natural History and Science, Albuquerque and UCM = University of Colorado Museum, Boulder.

## SYSTEMATIC PALEONTOLOGY

### ARCHOSAURIA
### AETOSAURIA
### STAGONOLEPIDIDAE
### *Rioarribasuchus,* new genus

**Type Species:** *Desmatosuchus chamaensis* Zeigler, Heckert and Lucas, 2002 (Fig. 1).

**Diagnosis:** *Rioarribasuchus* is an aetosaur most similar to *Desmatosuchus* and *Paratypothorax* but is distinguished from these two genera and other aetosaur genera by the long, curved spikes on its paramedian scutes. It also differs from *Desmatosuchus* in having presacral lateral scutes in which the spikes are relatively gracile and have rounded cross sections, in contrast to the robust spikes with pyramidal cross sections characteristic of *Desmatosuchus*. Furthermore, the scutes of *Rioarribasuchus* have a deep and radial, ridge-and-groove pattern of pitting, whereas those of *Desmatosuchus* have semicircular and deep pits that have only a faintly radial pattern. *Rioarribasuchus* also differs from *Paratypothorax* in its relatively narrow paramedians that lack the long, ray-like ornamentation characteristic of *Paratypothorax*. Besides the paramedian spikes, the anterior lamina, scute shape and ornamentation in *Rioarribasuchus* also differ from the other aetosaur genera *Aetosaurus*, *Stagonolepis*, *Neoaetosauroides*, *Typothorax* and *Longosuchus*.

**Distribution:** Upper Triassic (Revueltain) of the Chinle Group in north-central and east-central New Mexico and east-central Arizona.

**Etymology:** Named for Rio Arriba County, New Mexico, where the type locality is situated, and Greek *souchos* (crocodile), a common suffix in the generic names of aetosaurs.

**Discussion:** Zeigler et al. (2002) and Heckert et al. (2003) placed the species *chamaensis* in the genus *Desmatosuchus* because of a general similarity in the overall shape and ornamentation of the scutes. However, the differences between the *chamaensis* scutes, particularly the long, curved spikes on the paramedian scutes, are at least as great as those between the other aetosaur genera, so this justifies assigning *D. chamaensis* to another genus (also see Parker and Irmis, 2005). The spikes on the paramedian scutes of *chamaensis* are most similar to those of *Paratypothorax*, but they are much larger, longer and curved. Further-

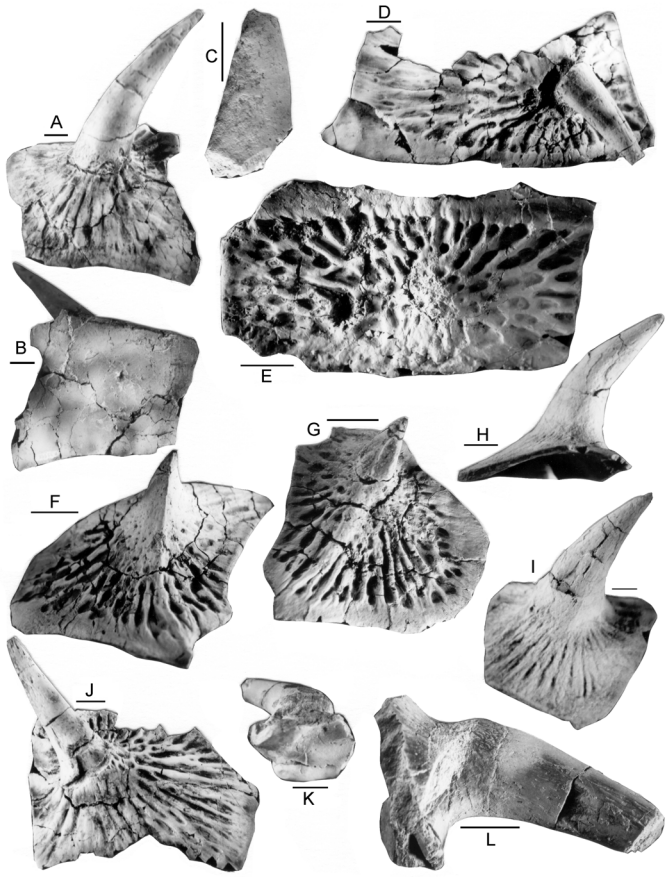


FIGURE 1. The original type and referred specimens of *Rioarribasuchus chamaensis*. **A-B**, Paratype, NMMNH P-32795, right paramedian scute in dorsal (**A**) and ventral (**B**) views. **C**, NMMNH P-4894, portion of a recurved spike from a cervical scute. **D**, Holotype, NMMNH P-32793, right presacral paramedian scute, in dorsal view. **E**, Paratype, NMMNH P-32797, right presacral paramedian scute in dorsal view. **F**, Paratype, NMMNH P-31295, right lateral scute in dorsal view. **G**, Paratype, NMMNH P-32796, left lateral scute in dorsal view. **H-I**, UCM 47725, right paramedian scute in lateral (**H**) and dorsal (**I**) views. **J**, Paratype, NMMNH P-33099, left paramedian scute in dorsal view. **K-L**, Paratype, NMMNH P-33100, third lateral cervical horn in medial (**K**) and dorsal (**L**) views. Scale bars = 2 cm. All specimens from Snyder quarry, except **C** and **H-I**, which are from the Bull Canyon Formation in east-central New Mexico.