sauropterygians.

STRATIGRAPHIC CONTEXT AND TAPHONOMY OF THE MIDDLE TRIASSIC LOS CHAÑARES FAUNA, LA RIOJA PROVINCE, ARGENTINA

ROGERS, R.R., Dept. of Geophysical Sci., Univ. of Chicago, Chicago, IL 60637; ARCUCCI, A.B., Museo de Paleontología, Univ. Prov. de La Rioja, 5300 La Rioja, ARGENTINA; FORSTER, C.A., Dept. Org. Biol. and Anat., Univ. of Chicago, Chicago, IL 60637; ABDALA, F., Sección Paleontología de Vertebrados, Univ. Nac. de Tucumán, Tucumán, ARGENTINA; SERENO, P.C., Dept. Org. Biol. and Anat., Univ. of Chicago, Chicago, IL 60637

The Chañares Formation (Ladinian?) of northwestern Argentina preserves an important and well-studied Middle Triassic tetrapod assemblage, and yet relatively little is known of the formation's geology or taphonomy. Mammalian and dinosaurian precursors including *Massetognathus*, *Probainognathus*, *Lagerpeton*, and *Marasuchus* dominate the Los Chañares local fauna. Skeletal remains of these and other tetrapod taxa are restricted to the blue-grey facies of the lower lithosome of the Chañares Formation. The ~30 m thick lower lithosome consists of massive volcaniclastic floodplain deposits and localized coarse-grained channel deposits, and is separated from light grey facies of the upper lithosome by a regional discontinuity characterized by several meters of relief. The ~25 m thick upper lithosome consists of massive, locally bioturbated lacustrine deposits, and is devoid of vertebrate fossils. Concretions are common to both lithosomes, and it is within large (up to 1.5 m diameter) iron-carbonate concretions in the lower lithosome that the majority of fossils are preserved. Fossiliferous concretions are segregated into local pockets that are separated by vast expanses of concretionary exposures with relatively few fossils. Preservational states vary among concretions, ranging from isolated bones and bone fragments to partially articulated skeletons. Many concretions preserve skeletal remains of more than one individual. Multi-individual concentrations of *Massetognathus* are particularly abundant, and may reflect preservation in burrows. Skeletal remains of *Massetognathus* are also frequently found co-mingled with the remains of small archosaurs. This association remains puzzling, however, because taphonomic data do not suggest postmortem concentration of carcasses or skeletal debris via physical processes.