Early Permian tetrapod ichnofauna from the Sangre de Cristo Formation of north-central New Mexico

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Early Permian tetrapod footprints from the Sangre de Cristo Formation of the Pecos River Valley area in north-central New Mexico have been known for more than two decades. Initial finds from 1989 were the first Paleozoic vertebrate tracks from New Mexico described in detail. Currently, the New Mexico Museum of Natural History stores 167 footprint specimens from seven localities in the upper part of the Sangre de Cristo Formation in San Miguel County. A recent increase of material and knowledge necessitates revision of this ichnofauna. The assemblage comprises tracks of *Batrachichnus* Woodworth, 1900, *Limnopus* Marsh, 1894, *Ichnothorium* Pohlig, 1892, *Dimetropus* Romer and Price, 1940, *Tambachichnium* Müller, 1954, cf. *Hyloidichnus* Gilmore, 1927, and *Dromopus*, Marsh, 1894. They can be referred to temnopspondyl, diadectomorph, 'pelycosaur', captorhinid, and araeoscelid trackmakers. This assemblage represents a typical Early Permian red-bed tetrapod ichnofauna. Relatively large (pes length ~ 70 mm) imprints of cf. *Hyloidichnus* referred to moradisaurine captorhinids may indicate a late Early Permian (Artinskian-Kungurian; late Wolfcampian-Leonardian) age of the footprint-bearing strata. The remarkable abundance of *Ichnothorium* (referred to diadectomorphs) and *Tambachichnium* (referred to varanopid 'pelycosaurs') suggests that the occurrence represents an inland tetrapod ichnofauna. Such an interpretation coincides with paleogeographic reconstructions locating the study area during the Early Permian in an intramontane foreland basin (Taos trough) of the ancestral Rocky Mountains at least 160 km landward from the nearest marine shoreline. Given the rarity of fossil sites with Paleozoic inland (and upland) tetrapod communities, the Sangre de Cristo tetrapod ichnofauna is of global interest and deserves further research.

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