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Ichnotaxonomy and paleobiology of a bird track assemblage from the Miocene Vinchina Formation of La Rioja Province, Argentina

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This study examines the bird ichnoassemblage of the Miocene Vinchina Formation (La Rioja Province, Argentina), recorded in fluvio-lacustrine environments. Both unpublished material and previously collected specimens were analysed across three transverse sections cropping out from north to south in the Quebrada Pedregal Negro, the Quebrada de la Troya, and the Quebrada del Yeso. The Pedregal Negro creek has yielded only *Aviadactyla vialovi*, recently synonymised with *Ornithotarnocia lambrechti*. The low ichnodiversity observed is likely due more to limited exploration efforts and poor outcrop exposure in the creek than to palaeoenvironmental constraints. Exposures at Quebrada de la Troya yield six ichnotaxa preserved in fluvial and lacustrine settings: *Aramayoichnus rheae* (a large rheid and the oldest rheid track in southern South America), *Phoenicopterichnus rector* (Phoenicopteridae), *Ardeipeda* isp. (Ciconiiformes), cf. *Jindonornipes*, cf. *Aquatilavipes* (small aquatic birds, possibly Recurvirostridae or Charadriidae), and *Rionegrina* isp. (a functional didactyl phorusrhacid). At Quebrada del Yeso creek, five ichnospecies of birds were recognised and preserved in a playa-lake environment: *Phoenicopterichnus rector, Gragliavipes gavenskii* (Threskiornithidae), *Avipeda* isp. (likely Scolopacidae or Charadriidae), together with a ralliform morphotype and a Cariamidae morphotype. Overall, the trackmakers represented in the three ichnoassemblages correspond well with the globally known Miocene avian body fossil record. While the Pedregal Negro section warrants further exploration, differences in ichnodiversity between Quebrada del Yeso and Quebrada de la Troya likely reflect ecological factors, as the track-bearing levels in the latter represent environments with greater freshwater availability, which may have supported more diverse bird communities.

Key words: Aves, trace fossil, palaeoecology, continental environments, ichnodiversity, fluvial environments, playa-lake, Miocene, Argentina.

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