

Sauropodian tracks from the Yacoraite Formation (Maastrichtian-Danian) - Valle del Tonco tracksite (Salta, northwestern Argentina)

Silvina de Valais^{1*}, Carlos Cónsole-Gonella², Alfredo Zelaya³ and Sergio Gorustovich³

1 CONICET–Instituto de Investigación en Paleobiología y Geología, Universidad Nacional de Río Negro, Av. Roca 1424, General Roca (8332), Río Negro province, Argentina. *Email: sdevalais@yahoo.com.ar

2 Instituto Superior de Correlación Geológica (INSUGEO), Universidad Nacional de Tucumán–CONICET. Miguel Lillo 205, Tucumán (4000), Tucumán province, Argentina.

3 CNEA–Gerencia de Exploración de Materias Primas. Av. Del Libertador 8250, Ciudad Autónoma de Buenos Aires (1429), Argentina.

The Valle del Tonco tracksite is located in the Salta province, owned by the Argentinean atomic commission (Comisión Nacional de Energía Atómica or CNEA). This is a well-known ichnosite, regarding a diverse avian and dinosaur track fossils described since the 80's (e.g., Alonso and Marquillas, 1986). The tracks come from the Yacoraite Formation (Upper Maastrichtian), which at the study area represents a carbonate lagoon shoreline, with progradacional/agradacional architecture. In the Valle del Tonco, three members are recognized, from base to top: Caliza Amblayo, Complejo Don Otto and Arenisca Pedro Nicolás. In the Quebrada de El Candado (25°34'54.96"S; 65°54'36.12"W), that is located in the middle of the Caliza Amblayo Member, there is a quadrupedal trackway, with heteropodial twelve manus-pes set impressions, preserved as positive hypichnial on a wackestone surface. The tracks are represented by pes tracks with subtriangular posterior edge, located posteriorly to the manus tracks. Both manus and pes tracks lack clear digital or claw impressions, maybe due to taphonomy bias. The pes tracks are longer than wide (averages of length and width: 67 cm and 42.6 cm respectively). The manus tracks have no clear morphological details and display about a half of the size of the pes tracks, are kidney-shaped with the major axis rotated outwards relative to the trackways midline (averages of length and width: 19.8 cm and 30.8 cm respectively). The trackway displays an average of stride length and pace angulation of the footprints of 220 cm and 122°, respectively. On the basis of the spatial-temporal

distribution and the general morphology of the tracks, they are assigned to titanosaur sauropod dinosaurs. Until now, this specimen represents the more detailed and clearest sauropodian tracks from the Yacoraite Formation. This trackway differs from those from the Cretaceous Bolivia (Toro Toro, Cal Orck'ó, Humaca and Fumanya localities), mainly because of the smaller internal trackway width and size of the manus imprint of the former (Lockley *et al.*, 2002). This finding extends the record of sauropodian tracks in Gondwana and provides new information to the understanding the palaeobiology of Upper Cretaceous sauropods.

References

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