

Rediscovery of Curioni's slab: the oldest scientific description of vertebrate footprints from Italy

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Vertebrate ichnology in Italy fully developed rather recently, especially starting from the 70's of the last century. However, fossil footprints from Italian continental successions were known since the 19th century. The first scientific note, after a short report on the same material by Geinitz (1869), was published by Curioni (1870), who described and figured a small slab with tetrapod tracks from the lower Permian strata of Lombardy (upper Trompia Valley, Alps of Brescia, Collio Formation), found by the private collector Don Giovanni Bruni. Subsequent publications always referred to that description, but the original specimen was never restudied, due to the absence of references about the repository in Curioni (1870). The original specimen belongs to the prestigious collection Curioni (donated by Curioni to the "Regio Ufficio Geologico" in the year 1877) and is nowadays located in the Istituto Superiore per la Ricerca e la Protezione Ambientale (ISPRA) in Rome (Repository number 4426; <http://www.isprambiente.gov.it/it/museo/collezioni/collezioni-paleontologiche/paleo-reperti/impronta-di-orme-di-rettile>). It was newly analysed with the most advanced ichnological methods and approaches (i.e. digital photogrammetry). The study definitively confirmed the attribution of the pes-manus couple and the single manual imprint to the ichnogenus *Amphisauropus*, tracks probably produced by seymouriamorph reptiliomorphs. Other footprints on the same surface were instead assigned to *Dromopus*, tracks probably left by diapsid reptiles or bolosaurid parareptiles. Thus the description by Curioni (1870) represents in all respects the first description of vertebrate footprints from Italy and the first worldwide on material attributable to *Amphisauropus* (before Geinitz & Deichmüller, 1882) and one of the earliest on

material referable to *Dromopus*. The studied slab could also represent the earliest finding of *Amphisauropus*, but presently we only know a very approximate time range for Don Bruni's discovery (between 1856, starting date of the field work and 1869, date of first reference to this material). The new description of Curioni's slab constitutes a very significant contribution to the history of vertebrate ichnology in Italy and in the world. The case study highlights once again the importance of communication between the institutions that preserve fossil material and of proper repositories for the preservation of geo-paleontologic heritage, allowing further and advanced analyses of original specimens even after almost 150 years from the last study.

References

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