

Meeting Report

16th INTERNATIONAL PERMIAN-TRIASSIC FIELD WORKSHOP IN ARDÈCHE (SOUTHEAST BORDER OF THE FRENCH MASSIF CENTRAL)**Bourquin, Sylvie**

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The coordination of the International Permian-Triassic Workshop was passed in 2020 from G. H. Bachmann, Halle/Germany, to S. Bourquin, and the 16th field workshop took place on September 10–13, 2021 in France. It was organized by the AGPT (Association des Géologues du Permian et du Trias, <https://agpt.wordpress.com/>) of which S. Bourquin is the president. This excursion was guided by J.B. Regnet, Cergy Paris Univ., C. Bailly, Paris Saclay Univ., E. Fara, Univ. Bourgogne - Franche-Comté and D. Bonijoly, BRGM (French geological survey) Orléans (Regnet et al., 2021). The aim of this excursion, initially intended for AGPT members, in July 2020, was to present recent research on the Ardèche Triassic. We were to organize another excursion in 2021 as part of the 16th workshop in order to present a synthesis of the Triassic of

Ardèche. The pandemic forced us to reschedule the AGPT field trip in July 2021, which was cancelled a second time, and then in September 2021, preventing us from scheduling another field trip in 2021. Therefore, we have decided to open our field trip to the 16th International Permian-Triassic Field Workshop. In consequence, this excursion welcomed 15 participants from France, Italia, Spain and Germany, who were accommodated in a hotel in the small village of Sanilhac and two rented minibuses were used for transport.

The first morning was devoted to a presentation of the Ardèche Paleomargin, well studied in 1990s and which had led to the acquisition of seismic lines and two drilling in order to study the Triassic successions from the Anisian to the Rhaetian. At the beginning of the Mesozoic, the Ardèche area was on the western



Figure 1 – Top of fluvial sandstone deposits with vertebrate footprints of le Sartre outcrop, Formation Bariolée d’Ucel, Late Triassic. The ichnoassociation is dinosaur-dominated (*Grallator*, *Otozoum*) and rare pseudosuchian tracks (*Brachychirotherium*) also occur (Szewczyk et al., 2017; Fara et al., 2021).



Figure 2 – Workshop participants on Anisian sandstones, Grès de base Formation, of the Tétine du Vernon outcrops showing pedogenic structure.

edge of the Ligurian Ocean Basin. The subsurface data show that sedimentary thicknesses increase rapidly eastward and become more complete toward the so-called Southeast Basin. Outcrops at Uzer, 6 km SE of Sanilhac, show erosive gaps from Sinemurian to Aalenian overlain by Bathonian marls. The afternoon was focus on the observation of Middle and Late Triassic vertebrate footprints (Chirotherium at Blaze, near Sanilhac, and of dinosaurs at Le Sartre, near Aubenas, Fig. 1), whose preservation criteria in fluvial sandstone deposits (Grès du Roubreau et Formation Bariolée d’Ucel respectively) have been recently studied (Szewczyk et al., 2017, Fara et al., 2021).

The second day was devoted to fluvial deposits. First, colleagues from the Universities of Cergy and Saclay presented the ongoing studies concerning an integrated approach in sedimentology, diagenesis and rock physics. From the example of the Upper Triassic outcrops and cores, the objective is to better understand the 3D architecture of cyclic deposits of alluvial fans and dolomitic paleosols (Formation Bariolée d’Ucel) and potential applications in geothermal energy. This formation is covered, at the outcrop of Les Vans, by fine Rhaetian sandstones, topped by marls rich in Callovian fossils. In a second step, we also observed the unconformity between the Variscan basement and the first preserved fluvial deposits, the Grès de base Formation, attributed to the Anisian. These outcrops also allowed us to discuss pedogenic structures, attributed to stumps, well observed in these early Triassic deposits of Ardeche (Fig. 2). During lunch,

N. Klee presented the UNESCO Monts d’Ardèche Global Geopark.

In 2022, the 17th workshop associated with the AGPT field trip will be organised in the Cantabrian Mountains, Spain, probably in early July. The excursion will focus on the Permian and the Triassic of that region based on new data and a multidisciplinary approach. We expect a more detailed announcement by the end of December.

REFERENCES:

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