



## **The end-Permian mass extinction in the Southern and Eastern Alps**

Hendrik Nowak (1), Evelyn Kustatscher (1,2,3), and Guido Roghi (4)

(1) Naturmuseum Südtirol/Museo di Scienze Naturali dell'Alto Adige, Bozen/Bolzano, Italy (hendrik.nowak@naturmuseum.it; evelyn.kustatscher@naturmuseum.it), (2) Department of Earth and Environmental Sciences, Paleontology & Geobiology, Ludwig-Maximilians-Universität München, Munich, Germany, (3) SNSB-Bayerische Staatssammlung für Paläontologie und Geologie, Munich, Germany, (4) Istituto di Geoscienze e Georisorse - CNR, Padova, Italy (guido.roghi@igg.cnr.it)

The end-Permian mass extinction event had a profound impact on terrestrial and marine ecosystems. Still not much is known about the exact effect and timing of this event in terrestrial ecosystems and about the possible influence of preservational/taphonomic bias on the apparent extinction patterns. The Southern Alps are one of the most important regions for the study of the end-Permian mass extinction, since the corresponding succession is continuous, fossiliferous, crops out in numerous places, and represents terrestrial, as well as coastal and marine settings. A three-year research project has now been conducted to examine the Permian–Triassic boundary interval in various outcrops across the Southern and Eastern Alps and across different palaeoenvironmental settings with a multidisciplinary approach. A main goal is to compare findings from different sections in order to identify taphonomic constraints. The study area includes the Dolomites and Carnic Alps of Northern Italy (Southern Alps) and the Lienz Dolomites and Gailtal Alps of Austria (Drau Range, Eastern Alps). Over the course of this project, we logged and sampled ten sections in the Dolomites (Bletterbach, Tramin/Termeno, Montan/Montagna, Gabbio, Seres, Laurinswand, Rotwand, L'Om Picol, Valfreda, Pizzo Forca), two in the Carnic Alps (Felempele near Sauris di Sopra, Dierico) and two in the Drau Range (Simmerlacher Klamm, Riedgraben). Several more localities were sampled, but not logged (Seis, Würzjoch/Passo delle Erbe, Pufelsgraben, Naraun, Olang, Somor, Passo San Pellegrino). Samples were collected for isotope geochemistry (organic and inorganic), palynology, conodonts, microfossils and magnetostratigraphy. Macrofossils (invertebrates, tetrapod ichnofossils, plants, fishes) were collected where possible.