

Summary

The objective of this research was to document fossil plants from two newly discovered sites in the Upper Triassic of Upper Silesia (Zawiercie-Marciszów, Lipie Śląskie-Lisowice) and the well-known Czerwone Żlebki in the Tatra Mountains. The aim was to create a comprehensive understanding of the plant communities in both regions by identifying and classifying the collected remains. Additionally, the study sought to update the taxonomical description of the historical collection of Upper Triassic plant fossils from Czerwone Żlebki. The research also focused on studying plant remains preserved in coprolites to reconstruct plant-animal interactions. Despite the limitations of fossilized plants as an incomplete ecological record, this study successfully utilized the examined plant fossils to address knowledge gaps regarding Upper Triassic vegetation in Poland. The findings also contributed to the reconstruction of paleoecological and paleoclimatological conditions during that period. The research revealed interesting details about the Upper Silesian Norian floras found in Lipie Śląskie-Lisowice and Zawiercie-Marciszów. These floras were characterized by a dominance of Coniferophyta macrofossils, but the abundance of Sphenophyta remains was particularly noteworthy, with Zawiercie-Marciszów showing a higher prevalence. The preservation of plant remains in the Lipie Śląskie-Lisowice flora was notably superior, allowing for the collection of data from dispersed cuticles, macrofossils, and coprolites, which significantly contributed to the diversity record. Analysis of coprolite material from Lipie Śląskie-Lisowice provided insights into the dietary preferences of herbivorous dicynodonts, such as *Lisowicja bojani*. Moreover, the examination of plant remains retrieved from coprolites revealed a higher taxonomic diversity than initially indicated by the macroremains. In the Rhaetian Tomanova Formation of the Tatra Mountains, plant fossils, primarily in the form of macrofossils, were examined. The flora within this formation was characterized by a dominance of Sphenophyta and Pteridophyta, with relatively minimal representation of Coniferophyta. It became evident that spore-producing plants, which have a greater dependence on water compared to Gymnosperms, met their specific ecological requirements. Significant differences in taxonomic composition were observed between the Norian Grabowa Formation flora and the Rhaetian Tomanova Formation flora. These differences were attributed to their distinct paleogeographic locations, with the Grabowa Formation situated in the Central European Basin and the Tomanova Formation located in Tatricum, northeast Thetys. Additionally, variations in paleoclimatic conditions contributed to the divergence, with the Grabowa Formation experiencing a predominantly dry to semi-dry climate with occasional episodes of humidity, while the Tomanova Formation represented a consistently humid environment.