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A new Early Triassic gastropod genus and the recovery of gastropods from the Permian/Triassic extinction

Alexander Nützel
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The common Early Triassic (Olenekian) gastropod *Turbo rectecostatus* from the upper Werfen Formation of the Alps is placed in the new genus *Werfenella*. Elimination of the wrong or outdated generic assignments of Late Palaeozoic and Early Mesozoic gastropods to archetypical genera such as *Turbo*, *Trochus*, or *Natica* (all with Recent type species) represents an important step toward understanding the evolutionary history of the gastropods across the Permian/Triassic mass-extinction event. The first appearance of *Werfenella* in the Olenekian, as well as the origination of other groups of gastropods, suggests an early turnover in the aftermath of the end-Permian mass extinction event. The relatively large size of *Werfenella* (up to 35 mm) sheds doubt on assertions that all Early Triassic gastropods are microgastropods (Lilliput effect). The new genus is placed in the caenogastropod family Purpurinidae and represents its earliest occurrence. However, a placement of *Werfenella* in the Archaeogastropoda (Vetigastropoda) is also possible because it resembles the paraturbinid genus *Chartronella*. The characteristic *Werfenella rectecostata-Natiria costata* gastropod association from the Werfen Formation is not found in the approximately contemporaneous Sinbad Limestone of the Moenkopi Formation (Utah, USA) nor elsewhere outside Europe. This suggests that the similarities between Olenekian gastropod faunas from the Tethys and western North America are more limited than previously thought.

Key words: Gastropoda, Purpurinidae, Permian/Triassic mass extinction, Olenekian, Werfen Formation, Alps.

Alexander Nützel [nuetzel@pal.uni–erlangen.de], Universität Erlangen, Institut für Paläontologie, Loewenichstr. 28, D–91054 Erlangen, Germany.

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