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## The fossil land and freshwater snails of Gündlkofen (Middle Miocene, Germany)

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### Abstract

The molluscan fauna from the Middle Miocene (MN 5–6) fossil site of Gündlkofen in southern Germany was first reported by Gall (1980: *Mitt. Bayer. Staatssaml. Paläont. hist. Geol.*, 20, 51–77). He listed 34 continental gastropod species, which were neither figured nor properly described in many cases. Here a revision of his identifications is presented, with a full description of the material and illustration of the best preserved specimens. Following this revision, 20 species are listed for Gündlkofen. Unfortunately, part of the original material was missing and the record of a few species could not be confirmed. The depositional environment seems to have been a temporary water body, like an oxbow lake, surrounded by a humid and warm forest and scrubland.

**Key words:** Caenogastropoda, Gastropoda, MN 5–6 European Mammal Neogene zones, Pulmonata

### Introduction

The molluscan fauna from the Middle Miocene fossil site of Gündlkofen in southern Germany was reported by Gall (1980), who first described the site and listed 34 land and freshwater gastropod species from there. He also offered an age estimate for the site and conducted a paleoecological reconstruction based on the mollusks. Nevertheless, he neither figured nor properly described most of the snails in his work. Moreover, his identification of the larger snails was biased due to the bad preservation of the material, resulting in deformation of the shells. Further works present a fraction of the material from Gündlkofen, but, since they dealt only with very specific taxa (e.g., Schnabel 2006, 2007, for the family Filholiidae), a complete treatment of the material is still lacking. As such, a revision of Gall's classification is presented here, with a full description of the material and illustration of the best preserved specimens.

### Geological setting

As described by Gall (1980), all material from the Gündlkofen fossil site comes from a single fine sand/marl horizon, half meter thick, in a gravel pit located 750 m northwest of Gündlkofen (a small region part of the Bruckberg municipality in Bavaria, SW Germany). The site is located in the Molasse Basin of southern Germany. Based on fossil and lithological evidence, Gall (1980), following Meier (1965), related it to the lower section of the Nördlicher Vollschocter, which in turn is a member of the Upper Freshwater Molasse ("Obere Süßwassermolasse", OSM; Abdul Aziz *et al.* 2008). As such, Gall (1980) suggested an age of roughly 15 Ma for the site, correlating it with the Middle Silvana-beds ("Silvanaschichten") and the Langhian/Badenian stages (Middle Miocene; MN 5–6 European Mammal Neogene zones). For a more thorough description of the site's lithology and age correlation see Gall (1980).

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