

Thomas S. Lechner & Madelaine Böhme

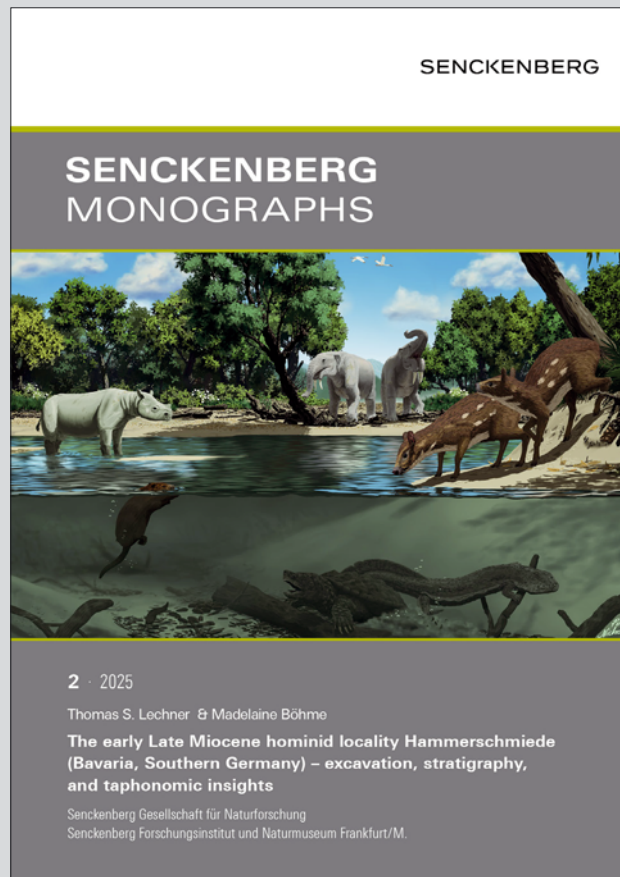
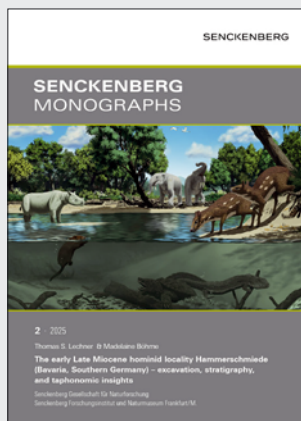
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Thomas S. Lechner & Madelaine Böhme

The early Late Miocene hominid locality Hammerschmiede (Bavaria, Southern Germany) – excavation, stratigraphy, and taphonomic insights

The early Late Miocene fossil site of Hammerschmiede, known for over fifty years, has revealed unprecedented insights through recent excavations by the University of Tübingen. Since 2011, and especially after 2017 with enhanced methods, fossil finds have surged in both quality and quantity, enabling detailed spatial and taphonomic studies. The site's sedimentary sequence, gently dipping northward, comprises seven fossil-bearing layers dated to 11.62–11.56 million years ago at the base of the Tortonian stage. Current research focuses on two distinct fluvial deposits: HAM4, a dynamic meandering river, and HAM5, a smaller, stable rivulet. Differences in fauna, microfossils and charcoal point to contrasting environments, with HAM4 reflecting a fire-prone, sparsely wooded riparian landscape and HAM5 a denser, more sheltered habitat. Both water bodies hosted clean, oxygen-rich conditions, supporting diverse aquatic life including giant salamanders and unionid mussels. Complex bone accumulations reveal episodic carcass input and varied preservation linked to flow dynamics and sediment composition. Hammerschmiede's exceptionally high vertebrate biodiversity – 151 species, including 86 mammals – offers a rare window into Late Miocene ecosystems with high temporal resolution, bridging fossil and modern biodiversity. This monograph highlights the significance of detailed stratigraphic and taphonomic documentation for understanding past climates and ecological dynamics.

Palaeoart reconstruction of the HAM4 channel (early Late Miocene, Hammerschmiede). Aquatic fauna includes *Silurus* (catfish), *Andrias* (giant salamander), *Chelydropsis* (snapping turtle), *Margaritifera* (freshwater pearl mussel), and *Euroxenomys* (dwarf beaver). Terrestrial mammals shown are *Dorcatherium* (tragulid), *Hoplacatherium* (rhinoceros), and *Deinotherium* (shovel-tusked elephant). Vegetation is a hypothetical interpretation. Illustration: Peter Nickolaus



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