

## A peep into a private life of a Late Cretaceous burrowing shrimp: a case study from Muthmannsdorf, Austria.

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Callianassid ghost shrimps are soft-bodied, usually heterochelous fossorial decapod crustaceans living in a variety of marine environments or environments under marine influence. They are among major bioturbators of muddy and sandy marine substrates where their behaviour involves digging complex permanent or semi-permanent burrow systems. This behaviour is often preserved in the fossil record in the form of the trace fossils. These trace fossils usually do not contain any body fossils, thus, their attribution to ghost shrimps often is indirect. In some cases, however, a tracemaker is preserved, providing invaluable information about the private life of these shrimps (SWEN et al., 2001; MOURIK et al., 2005; HYŽNÝ, 2011; HYŽNÝ & KLOMPMAKER, 2015).

Numerous individuals of a new ghost shrimp species *Mesostylus* sp. n. are reported from the Upper Campanian–Lower Maastrichtian of the Piesting Formation exposed at Muthmannsdorf (Lower Austria, Austria). They are preserved *in situ* within their burrows. Often more than one individual is preserved in the same burrow structure; the orientation of the specimens suggests they represent moults. Interestingly, the presumed moults from the same burrow structure do not seem to belong to the same individual suggesting that more animals were sharing the same burrow system at a time. This may come as a surprise since extant callianassid ghost shrimps are known to exhibit strong antagonistic behaviour (SHIMODA et al., 2005).

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