

# BIOLOGISCHE SYSTEMATIK: GENERATION NEXT

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Burgring 7, A-1010 Wien, e-mail: [nobis@nhm-wien.ac.at](mailto:nobis@nhm-wien.ac.at)

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## A giant among dwarfs – *Gyatermes styriensis*, a new termite from the Late Miocene of Styria

Gross, M.<sup>1</sup> & Engel, M.S.<sup>2</sup>

<sup>1</sup>Landesmuseum Joanneum, Geologie & Paläontologie, Raubergasse 10, A-8010 Graz, Austria, e-mail: martin.gross@museum-joanneum.at

<sup>2</sup>Division of Entomology (Paleoentomology), Natural History Museum and Department of Ecology & Evolutionary Biology, 1501 Crestline Drive – Suite 140, University of Kansas, Lawrence, Kansas 66049-2811, USA, e-mail: msengel@ku.edu

Modern climates supporting “giant” insects are tropical or warm xeric environments, while such hotter conditions along with hyperoxic atmospheres were conducive to enormous arthropods in Paleozoic and other palaeofaunas. Among the ecologically pervasive and highly social termites, such giants are exceptionally rare. Recently, however, a giant termite, representing a new genus and species, which is primitive in overall features but shares some similarity with the dampwood termites (Termopsidae s.l.), was recovered in floodplain deposits of a meandering river system at Paldau (Late Miocene, Lower Pannonian, c. 11.3 mya). The associated insect fauna consists of beetle fragments (e.g. ground beetles) and wings of formicine ants, crane flies and brachyceran flies as well (Engel and Gross, in press a, b). Earlier palaeobotanical investigations indicate a warm-temperate, or even subtropical climate. *Gyatermes styriensis* gen. n. et sp. n. is represented by a relatively complete forewing, complete with basal scale. The presence of this species in the Late Miocene fauna of Europe indicates that climatic conditions were appropriate for the persistence of species and colonies requiring relatively stable, warm conditions. The largest extant reproductives being those of the genus *Syntermes* (Termitidae: Syntermitinae) from the tropics of South America, with individual wings up to 35 mm in length. Among more primitive termite families, several species of the family Termopsidae and the sole survivor of the Mastotermitidae, *Mastotermes darwiniensis*, are all robust and can have wing lengths up to 26 mm. The new discovery was certainly a giant among living and fossil termites and is the largest fossil termite on record.

### References

- Engel, M.S., Gross, M. (in press, a): A giant termite from the Late Miocene of Styria, Austria (Isoptera). *Naturwissenschaften*.
- Engel, M.S., Gross, M. (in press, b): The Pannonian Insect Fauna of Styria: A Preliminary Overview. *Austrian Journal of Earth Sciences*.