

MIOCENE DINOFLAGELLATE CYSTS OF THE STYRIAN BASIN, AUSTRIA

Ali SOLIMAN & Werner E. PILLER

Institut für Erdwissenschaften, Bereich Geologie und Paläontologie, Universität Graz,
Heinrichstrasse 26, A- 8010 Graz

From Miocene strata of the Styrian Basin no dinoflagellate cysts were described so far. For first investigations several sites have been selected. Two localities - Retznei and Wagna – represent surface outcrops along the Middle Styrian Swell, two represent deep wells of exploratory drill holes of the RAG – Waltersdorf-1 and Blumau-1.

Most samples studied were productive with fair to very good preservation state. Diverse neritic to deep marine dinoflagellate cysts were recorded characteristic of the Miocene. In addition, other palynomorphs as acritarchs (*Cymatiosphaera* spp. *Nannobarbophora* spp. and *Cyclopesilla* spp.), foraminiferal test linings and miospores were found. The dinoflagellate cyst assemblages are represented by common *Spiniferites/Achomosphaera* spp., *Nematosphaeropsis* spp., *Impagidinium* spp., *Melitasphaeridium choanophorum*, *Labyrinthodinium truncatum* subsp. *truncatum/modicum*, *Cleistosphaeridium* spp., *Batiacasphaera* spp., *Cribroperidinium* spp., *Tuberculodinium vancampoae*, *Operculodinium* spp., *Lingulodinium machaerophorum*, *Polysphaeridium zoharyi*, *Hystrichosphaeropsis obscura*, *Cordosphaeridium minimum*, *Hystrichokolpoma* spp., *Reticulosphaera actinocoronata*, *Tectatodinium pellitum*, *Selenopemphix* spp., and *Dapsilidinium* spp. A number of morphotypes were recorded for the first time including *Spiniferites* sp. A, *Operculodinium* sp. A, Gen. et sp. indet. 1 and Gen. et sp. indet. 2.

The presence of the *Unipotidinium aquaeductum* (late Langhian – early Serravallian), *Labyrinthodinium truncatum* (latest Burdigalian – late Tortonian) and *Palaeocystdinium striatogranulosum* (late Aquitanian - early Tortonian: NN1-NN7) support the Miocene age of the investigated samples.

The abundance of *Spiniferites/Achomosphaera* spp., *Tuberculodinium vancampoae* and *Melitasphaeridium choanophorum* in Retznei assemblages indicates shallow warm waters. The abundance of *Nematosphaeropsis* spp. and *Impagidinium* spp. indicates a deeper marine facies for the samples of Waltersdorf-1 and Blumau-1.

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Autor(en)/Author(s): Soliman Ali, Piller Werner E.

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