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Oligocene archaeomonad stomatocysts from the Polish Central Paratethys

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An unanticipated diversity of archaeomonad stomatocysts intermixed with marine plankton including diatoms, silicoflagellates, parmaleans and individual siliceous protistan scales was encountered in Rupelian diatomites from the Central Paratethys. In this initial report we document 27 previously described species attributed to three palaeomorphogenera (*Archaeomonas*, *Archaeosphaeridium*, and *Litheusphaerella*). An additional eight morphospecies from two genera (*Archaeomonas anterioconica* Kaczmarska sp. nov., *A. asharya* Samanta sp. nov., *A. genetynanii* Ehrman sp. nov., *A. jimstehrii* Ehrman & Kaczmarska sp. nov., *A. lenistriata* Kaczmarska sp. nov., *A. litheusphaerellamima* Samanta sp. nov., *A. sextapapillatus* Kaczmarska sp. nov., and *Litharchaeocystis centparatethianus* Ehrman sp. nov.) are proposed as new to science. We also found at least a dozen more distinct morphotypes in orientations and quantities insufficient for formal description that will be the subject of further studies. Our report is the first from the Central Paratethys and the most species rich archaeomonad flora reported from the Oligocene worldwide. The combination of previously described archaeomonad species recovered with the associated diatoms, parmaleans, silicoflagellates, ebridians, and other marine biota suggest that our stomatocysts are native to their basin and inhabited the neritic part of the Paratethys. Unfortunately, the small number of dedicated studies and archaeomonad species known to date still hampers a better understanding of their biostratigraphy and paleoecology.

Key words: Chrysophyta, Haptophyta, Archaeomonadaceae, *Archaeomonas, Archaeosphaeridium, Litheusphaerella* , diatomites, siliceous nannofossils, stomatocyst, Rupelian, Oligocene, Polish Flysch Carpathians.

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