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## CYCLIC POLYPLOIDY IN OBLIGATE AGAMIC AMOEBAE

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According to currently accepted doctrine, mutations in asexually reproduced lower eukaryotes are proposed to accumulate in series of sequential generations by a mechanism known as Muller's ratchet. Therefore, the efficient mechanisms have to be used for zeroing this effect in the life cycles of agamic protists. It is supposed that the strategy of the so-called «cyclic polyploidy» may be such a mechanism. The lobose amoebae *Amoeba proteus* and closely related species are obligate agamic organisms. Our results obtained from the karyological analysis and detailed study of the *A. proteus* and *A. borokensis* cell cycles by optical tomography allow us to conclude that these protists have a special type of cyclic polyploidy. The nucleus has euploid status during only the metaphase and telophase that take a very insignificant period of time from the duration of the whole nuclear cycle of these amoebae, while all the rest time is associated with the aneuploid status of the nucleus.

Key words: agamic protists, *Amoeba*, chromosomes, cell cycle, cyclic polyploidy