

The Influence of Hypergravity on the *Paramecium bursaria*-*Chlorella* sp. Symbiotic Association

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Z. Naturforsch. **64c**, 743–746 (2009); received May 7/June 4, 2009

The aim of the research was to determine the influence of strong hypergravity on the *Paramecium bursaria*-*Chlorella* sp. symbiotic association, which is considered to be a model example of symbiosis between a heterotroph and an autotroph. The paramecia cells were exposed to $1073 \times g$, $4293 \times g$, and $9658 \times g$ hypergravity for 15 min. Then they were incubated for 21 d on a standard lettuce medium. The experiments were conducted in parallel under constant white light and in the dark. The changes in the number of paramecia cells during incubation were determined. Measurements of the number of *Chlorella* sp. endosymbionts inside host cells were also made. The results showed that a 15-min exposure to hypergravity attenuates the subsequent growth of *Paramecium bursaria* in the dark, but it may stimulate the growth of paramecia under constant light. Moreover, it causes an increase in the number of algae inside the paramecia cells. Presumably, the influence of hypergravity on the studied symbiotic complex is connected with its effect on the endosymbiotic *Chlorella* sp. cells. This subject requires further research, focused on the influence of hypergravity on the physiology and growth of the *Chlorella* sp. endosymbionts living inside the *Paramecium bursaria* cells.

Key words: Endosymbiosis, Hypergravity, *Paramecium*