

# Conjugation in *Tetrahymena thermophila* – positioning and morphological change of nucleus

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## **SUMMARY**

During conjugation in ciliate, meiosis, gametic nuclei formation, nuclear exchange, fertilization and nuclear differentiation occur. Using newly developed methods which make cells, living and fixed, transparent, and using nuclear envelope and DNA stain with fluorescence dye, nuclear positioning and morphological change in *Tetrahymena thermophila* were observed. Free cytoplasmic organelles were also observed and found to be positioned stage-specifically. Shape and position of the nuclei and position of free cytoplasmic organelles were easily disturbed by conventional methods of handling and preparation of cells: centrifuge, pipetting, cell flattening with coverglass, staining and fixation. The best way of avoiding disturbance was to observe them continuously in living, non-flattened swimming cells. This is only achieved using transparent cells. Outline of the nuclear events had been reported before. Details of known and new stages together with positioning of free cytoplasmic organelles are described and summarized here. This normal table would provide basic and usefull reference of conjugation of the model organism, *Tetrahymena*.