

# Feeding behavior of the ciliate *Lacrymaria olor*

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## SUMMARY

The ciliate *Lacrymaria olor* exhibits repeating shortening and extension of proboscis in feeding behavior. Results of previous studies suggest that shortening of the proboscis is driven by twisting of the cortical structures, but details remain unclear. In this study, scanning electron microscopy revealed that surface striations (kineties) on the cell surface of both the proboscis and the cell body of contracted cells are almost parallel to the cell's long axis. They become coiled in a left-handed manner when the cell body and the proboscis are elongated, indicating that shortening and extension of proboscis cannot be explained using the mechanism of cell surface coiling. During shortening of the proboscis, the distance between two adjacent cilia along the same ciliary row decreased from 1.92  $\mu\text{m}$  to 0.78  $\mu\text{m}$ . These results demonstrate that shortening of cortical structures along the ciliary row is involved in shortening and extension of the proboscis in *Lacrymaria*.