Gliding mechanism of *Bacillaria paradoxa*

Nozomi YAMAOKA[1], Yasutaka SUETOMO[2], Teruo SHIMMEN[1] and Seiji SONOBE[1]
([1]Dept. Life Sci., Fac. Sci., Univ. Hyogo, [2]Iwakuni City Microlife Museum)

SUMMARY

Bacillaria paradoxa belongs to pinnate diatom and forms a colony consisting of 2–30 cells. Adjacent cells show active mutual sliding, but its mechanism and physiological meanings are not understood. We established a culture system of *B. paradoxa* with artificial seawater in our laboratory. Electron microscopy revealed the connection between cells along with the raphe, an elongated slit in the frustule. Two actin fibers a cell along the raphe were observed by staining with Alexa 488-phalloidin. Latrunculin B, an inhibitor for actin, completely inhibited sliding. These results suggest an important role of actin in sliding and the presence of a similar mechanism postulated in other pinnate diatoms.