

## **MOTILITY IN *EUNOTIA*: WHAT CAN A REDUCED RAPHE DO FOR YOU?**

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Research on motility in diatoms often centers on motile groups with complex raphe systems, like those present in naviculoid or nitzschioid forms, whereas diatom taxa with reduced raphe systems, like those in the genus *Eunotia* Ehrenb., remain understudied. I review the current state of knowledge around movement in this weakly or slightly motile genus. Coverage of historical and current accounts of motility in a handful of *Eunotia* species reveals a variety of movement types that allow cells to move forward, pivot, and reorient to ventral-girdle view where raphe ends can connect with the substratum. The wide variation in growth form, overall valve morphology, location and shape of the raphe, and the number and location of rimoportulae likely drive patterns of movement across different species. The ability to move and to carry out different types of movements may influence resource interactions and habitat preferences. Examination of motility in *Eunotia* may provide unique insight into motility in diatoms overall, especially for raphid diatoms. Consideration of motility in *Eunotia* in the context of diatom evolution also reinforces the need for the inclusion of eunotioid taxa in studies on diatom motility. I pose directions for future study to increase knowledge around motility in *Eunotia* to help enrich understanding and provide novel insight into motility in diatoms as a whole.