

Diatom-bacteria interactions: Symbiosis on the move



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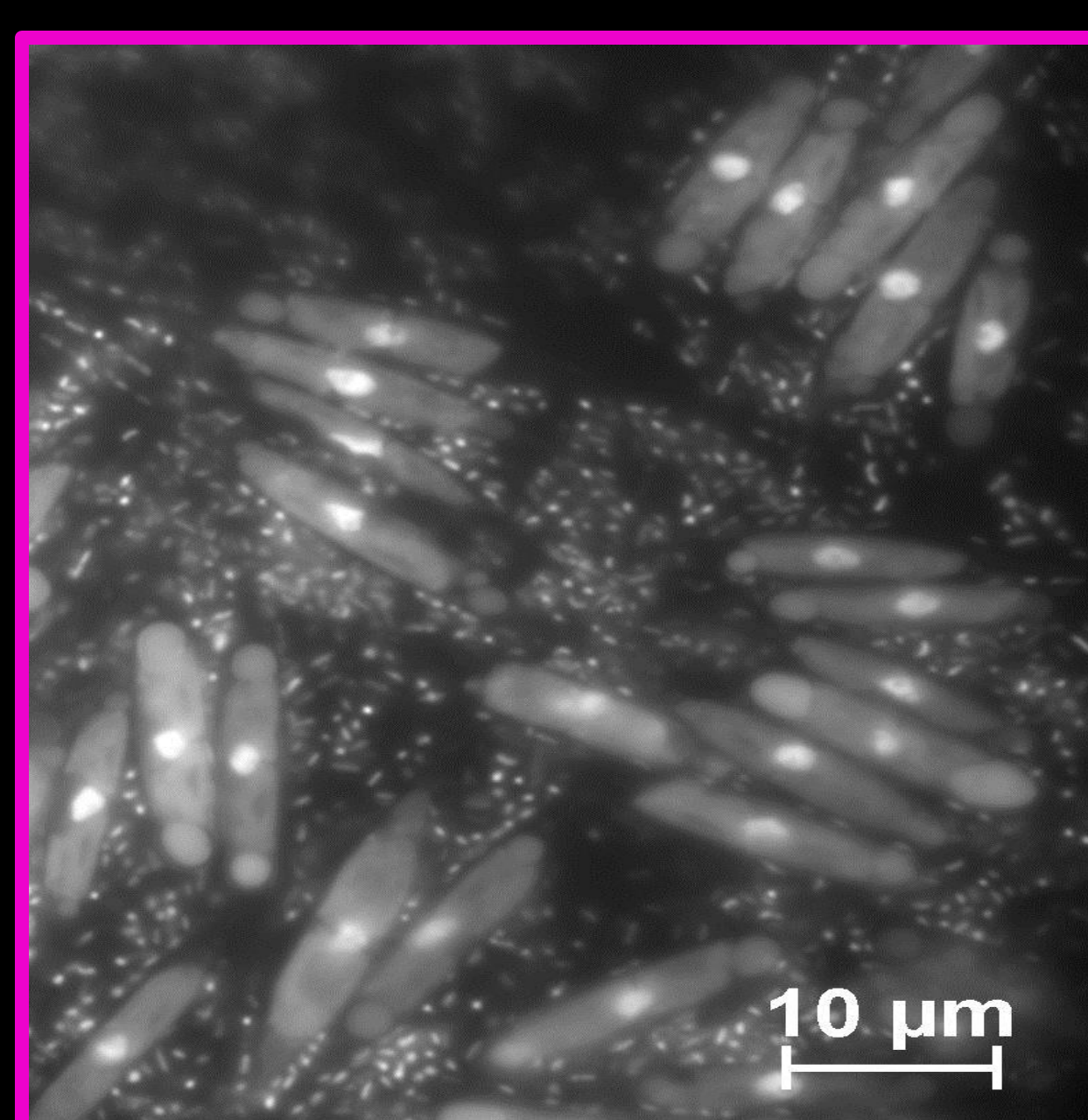
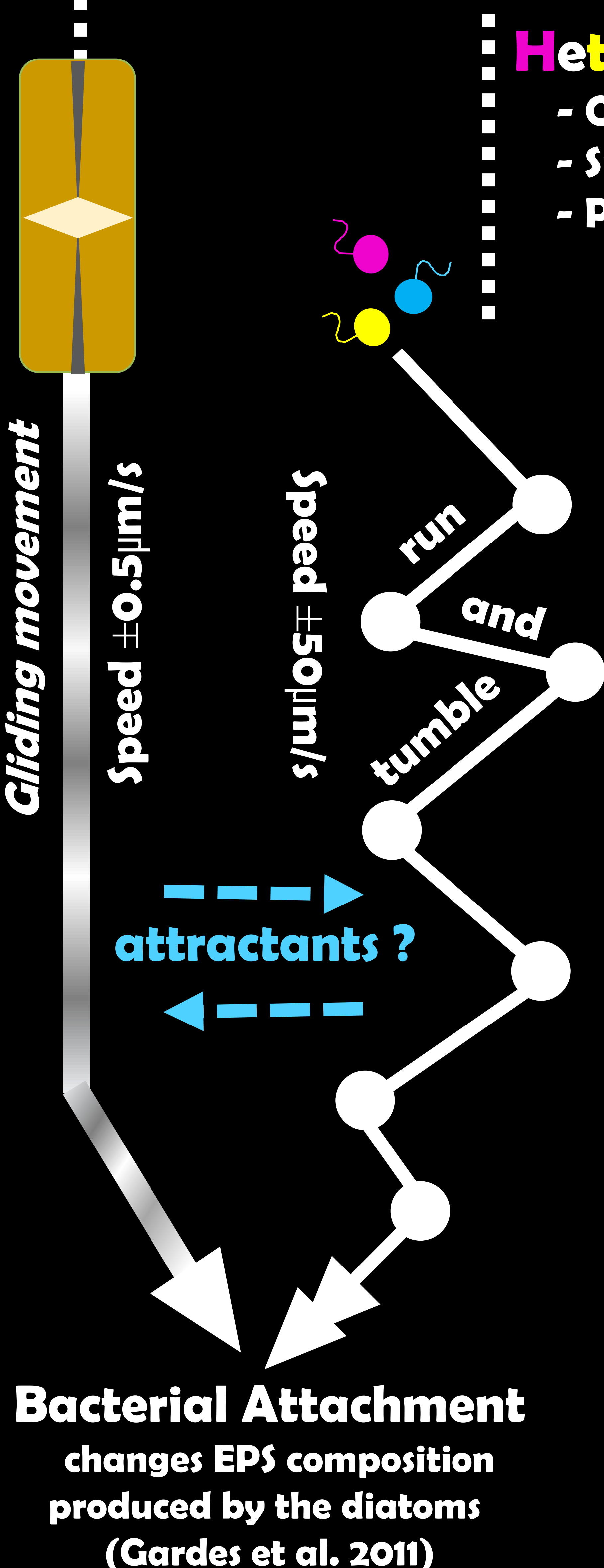
Who attracts whom? Who moves to whom?

Diatoms

- most successful group of marine eukaryotic microalgae: 20% of the global primary production
- raphid diatoms produce extracellular polymeric substances, which they use for attachment and gliding
- the extracellular polymeric substances (EPS) can be used by bacteria as substrate

Heterotrophic bacteria

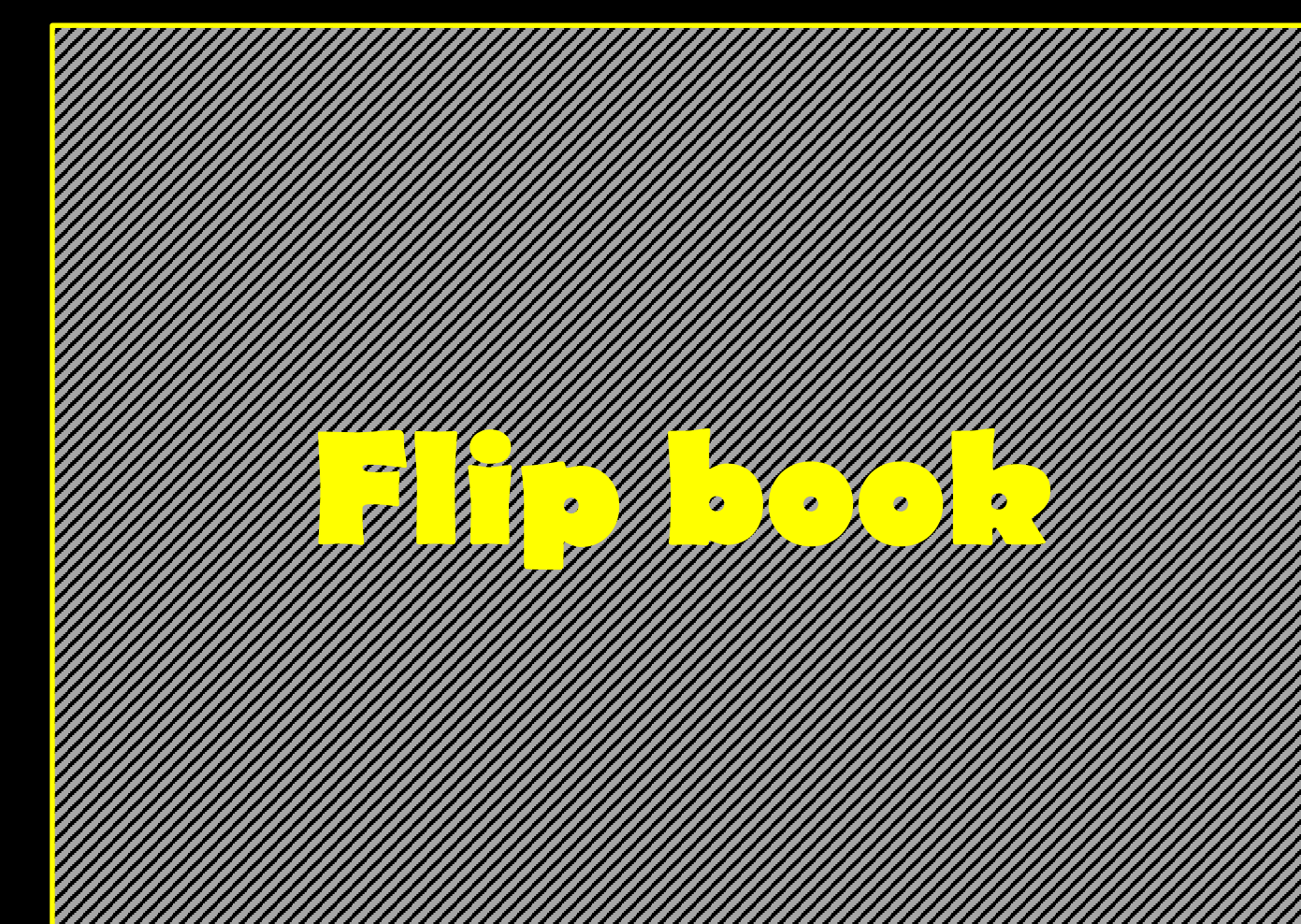
- Only Proteobacteria and Bacteroidetes are typically associated with diatoms
- Specificity suggests recognition mechanisms between host and bacterium
- Produce vitamins and recycle nutrients for the diatoms



Cylindrotheca,
our model
organism.
A common
diatom in
coastal waters
worldwide. In
between the
diatoms, the
bacteria

How to test attraction?

Tracking cells in culture



(sloppy) agar assays



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