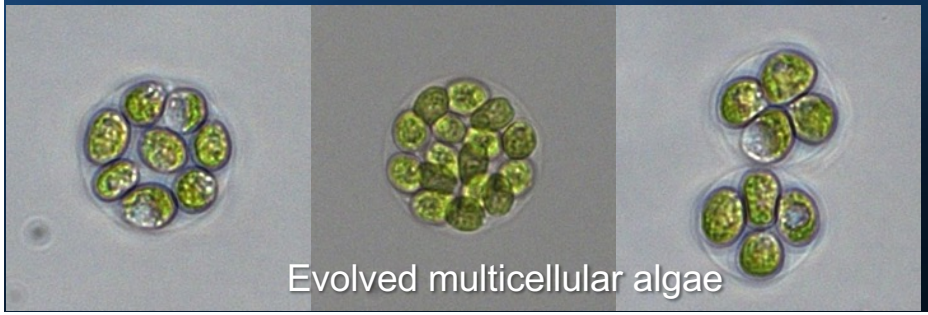
Evolution of Multicellularity in Response to Predation

Selection imposed by predators may have played a role in the origins of complex life.

- The transition to multicellularity from single cells was a major event in the history of life and created new opportunities for complex biological systems to evolve. Predation has been hypothesized as one selective pressure that may have driven this evolution.
- In a recent study with unicellular algae and paramecium predators, two of five tested populations evolved multicellularity not observed in control populations within ~750 generations.



Evolved multicellular algae

A recent study used the unicellular green alga *Chlamydomonas reinhardtii (pictured)* to selection by the filter-feeding predator *Paramecium tetraurelia*.

- Survival assays showed that evolved structures protected against predation.
- By using a unicellular predator, this study addressed previous concerns about how predation before multicellular predators could drive a transition to multicellularity.
- By exploring factors that may have led to major transitions in life on Earth, this research can help inform the search for life elsewhere.

Herron et al. (2019) *Sci. Rep.*