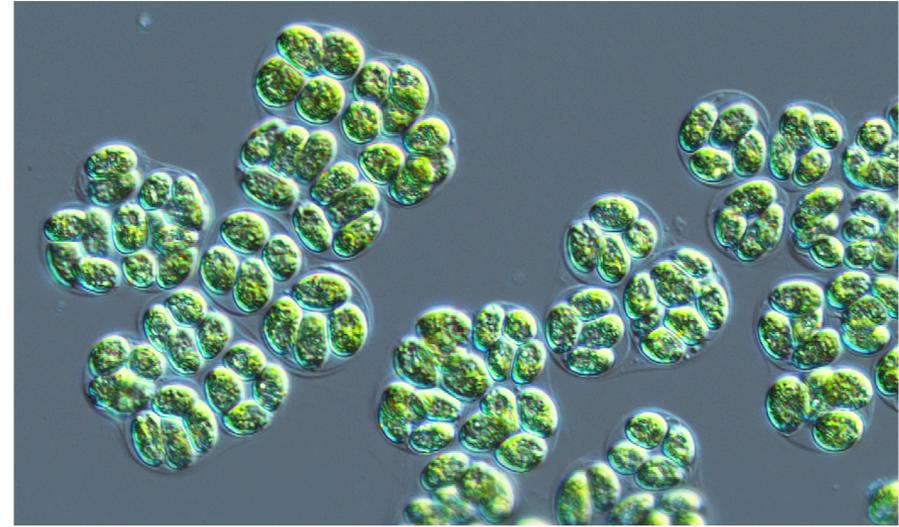


# Evolution of Multicellularity in Response to Predation

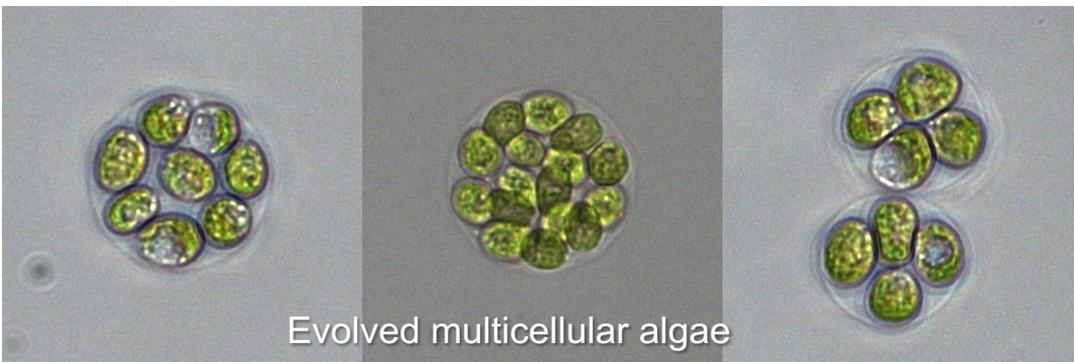
The transition from unicellular to multicellular life was one of a few major events in the history of life that created new opportunities for more complex biological systems to evolve. Predation is hypothesized as one selective pressure that may have driven the evolution of multicellularity. This team subjected outcrossed populations of the unicellular green alga *Chlamydomonas reinhardtii* to selection by the filter-feeding predator *Paramecium tetraurelia*.

- Two of five experimental populations evolved multicellular structures not observed in unselected control populations within ~750 asexual generations.
- Survival assays show that evolved multicellular traits provide effective protection against predation.

**These results support the hypothesis that selection imposed by predators may have played a role in some origins of multicellularity.**



- Some authors have suggested a “chicken and egg” problem for the predation hypothesis: How could predation have driven the evolution of multicellularity before there were multicellular predators?
- Since our experiment used a unicellular predator, our results demonstrate that this scientific dilemma does not exist.



Evolved multicellular algae