



Dinoflagellates

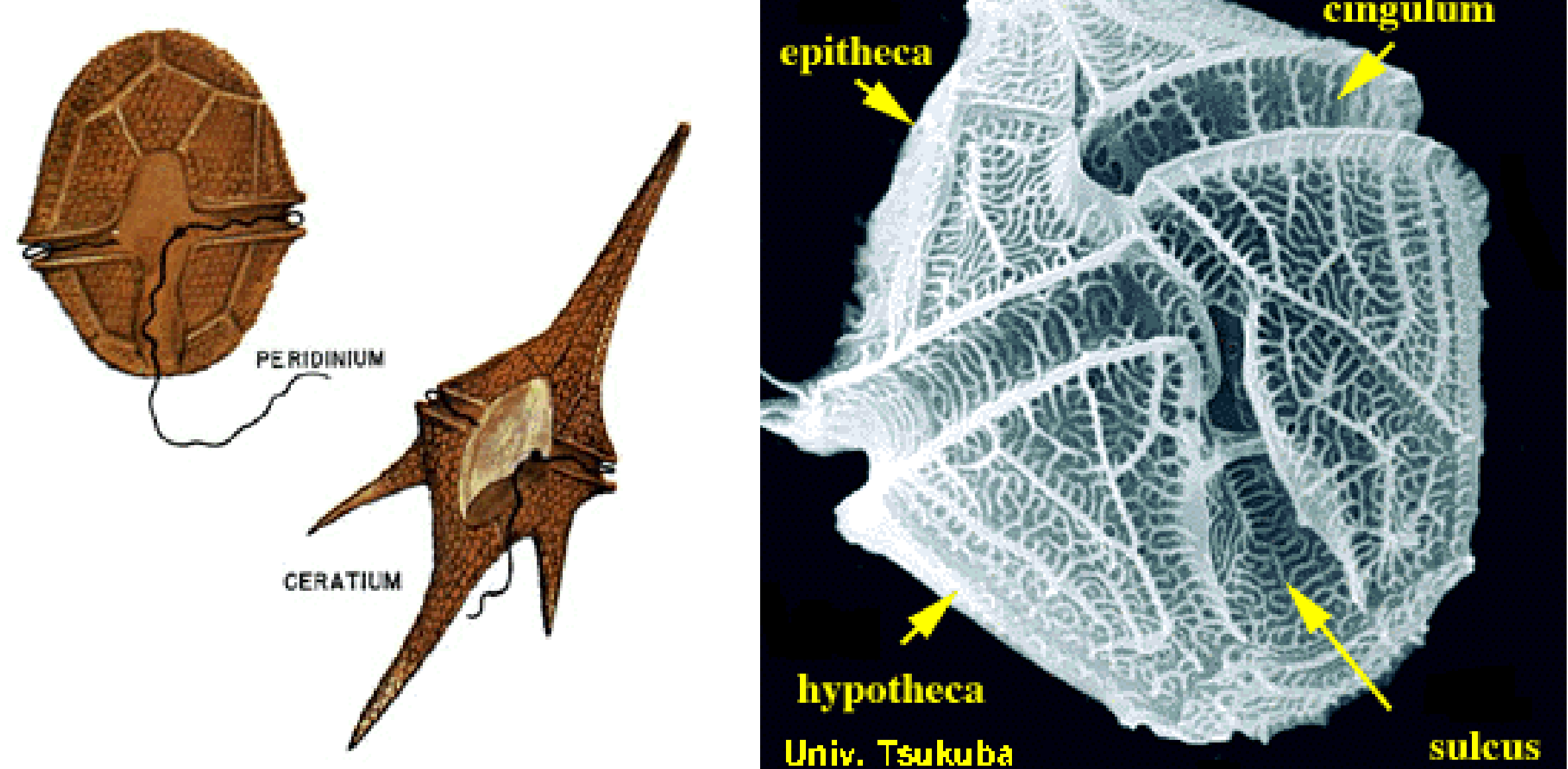


Amber Douglas, Oklahoma State University

How is knowledge about this behavior advantageous?

Common name: Bioluminescent bacteria
 Important part of the experiment is the ethogram:
 understanding how/and why they work

Dinoflagellates



Habituation

Before I could define my Operational Definition. I ran test to establish when the decline in luminescence occurs. (note it is still unknown exactly why, effectors fatigue it a possibility but that can be challenged by the group)



The Biology Behind It All

Anatomy that is significant to the experiment.

The ability to produce light is in their availability to light source and the concentration of organisms in the water

What allows them to 'light up' is the 16S ribosome in their RNA. This is just a ribosome that is used to classify luminescent animals. Fireflies ect

They excite a chemical reaction within them, called Luciferase, and with this they can generate light. (there is a need for oxygen to perform this)

In high concentrations they can also generate a chemical reaction called an autoinducer this allows them to tap into the luciferase chemical in high concentration and movement (same thing)

It is still mostly unknown why they stop lighting up after brief periods of time.



- Operational definition: Habituation will have occurred if, over variable intervals, spontaneous recovery of any kind still occurred for at least 5 trials.
- Maximum number of trials done under fixed 90 seconds is 3 before a decline in recovery occurs.

The Goal of the Study

- Habituate the bacteria to the stimulus of motion using a metronome with vibration as a distracter.
- Understanding that habituation tends to lead in the dying out of a response but in this case habituation to motion would be shown by a recovery of a response.

Future Experiments

- Classical Conditioning
- Possible use in military tactics.
- Limitless possibilities.

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