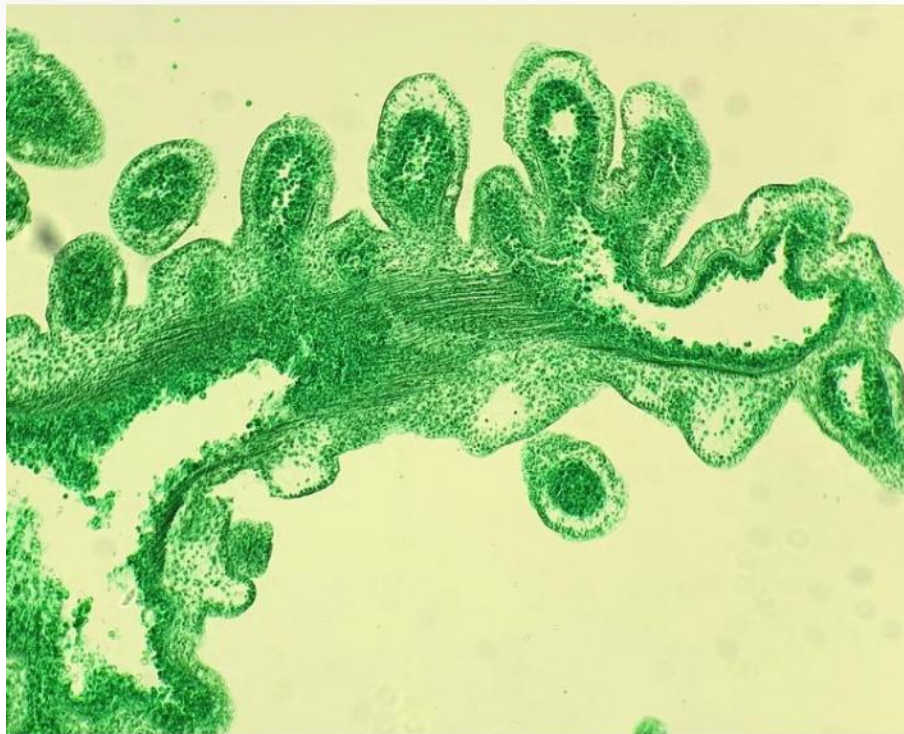


# ENDOSYMBIOSIS AND GLOBAL WARMING

Reference : ENDOSYMBIOSE



Endosymbiosis in *Xenia*, observation of the effect of global warming

## Study the subject of symbiosis!

### Ecosystems: dynamic interactions between living things and between them and their environment

Global warming has major impacts on biodiversity and ecosystems disturbances. This tutorial allows us to develop a concrete case of the consequences of temperature rise: coral bleaching. The polyps of the coral *Xenia*, an invasive species of marine ecosystems, present a symbiosis with photosynthetic *zooxanthellae* integrated in the cells of the endoderm; it is thus an endosymbiosis.

Bleaching is due to the expulsion of endosymbionts, in this case zooxanthellae which give their colors to corals. If this thermal elevation lasts too long, the corals die. Otherwise, the endosymbionts recreate themselves.

This kit allows you to approach the themes of endosymbiosis and the impact of global warming on sensitive species very important for ecosystems: corals.

Kit composed of :

- 2 microscopic preparations of *Xenia* (thin sections stained with light green) :
  - A preparation of *Xenia* living at 28°C (presence of endosymbiotic *zooxanthellae*)
  - A preparation of *Xenia* kept for 12 hours at 35°C (expulsion of *zooxanthellae*)
- 1 educational manual with online video support