

# What is a symbiotic relationship in an ecosystem?

Vidéo: Amazing Symbiosis: Ant Army Defends Tree | National Geographic

# Relationships in the ecosystem

## ANTS

- Protect the acacia from the vine



## ACACIA

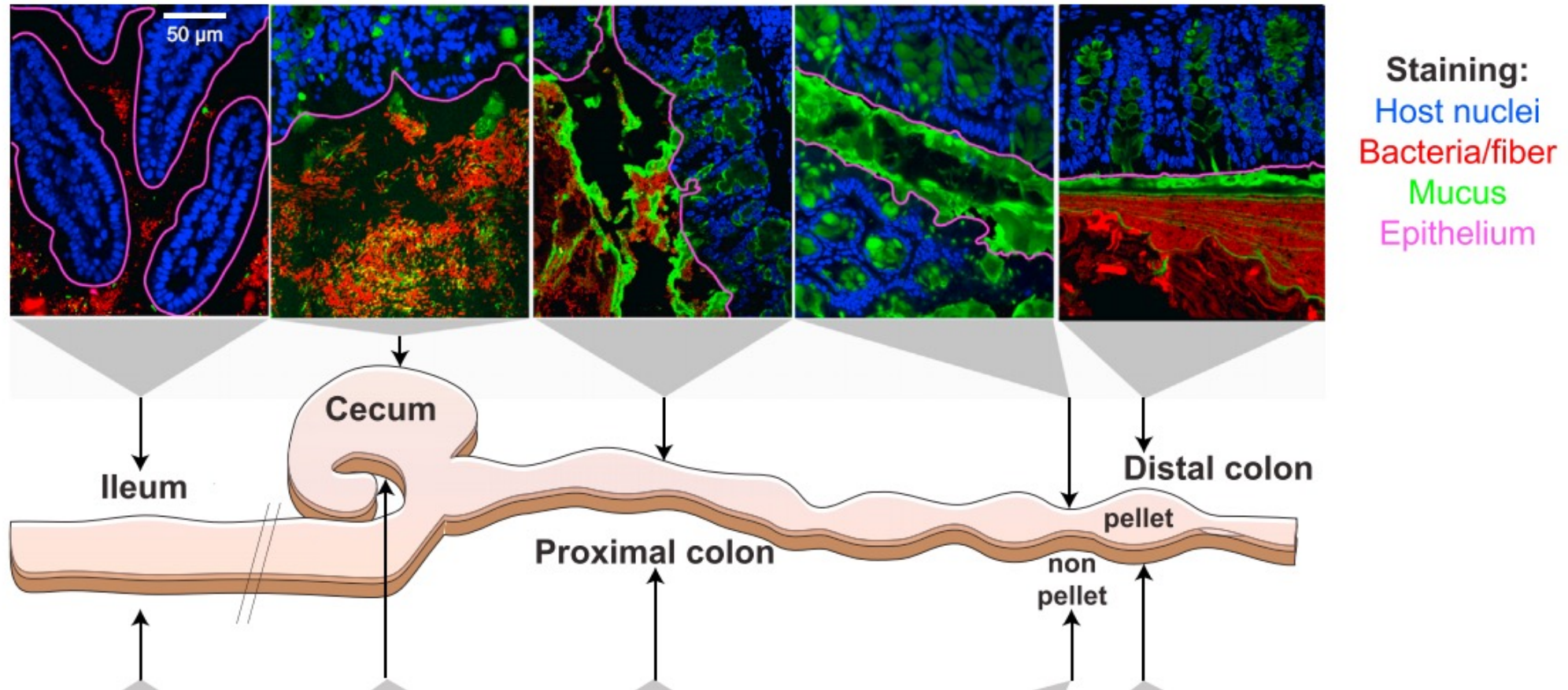
- Gives food (a sweet nectar for adults and nutrients contained in the pods for larvae) and shelter.



**A symbiosis: a lasting association between two (or more) species in which each partner finds a benefit.**

 **Macroscopic ecosystem**

# Microscopic ecosystems: gut microbiota



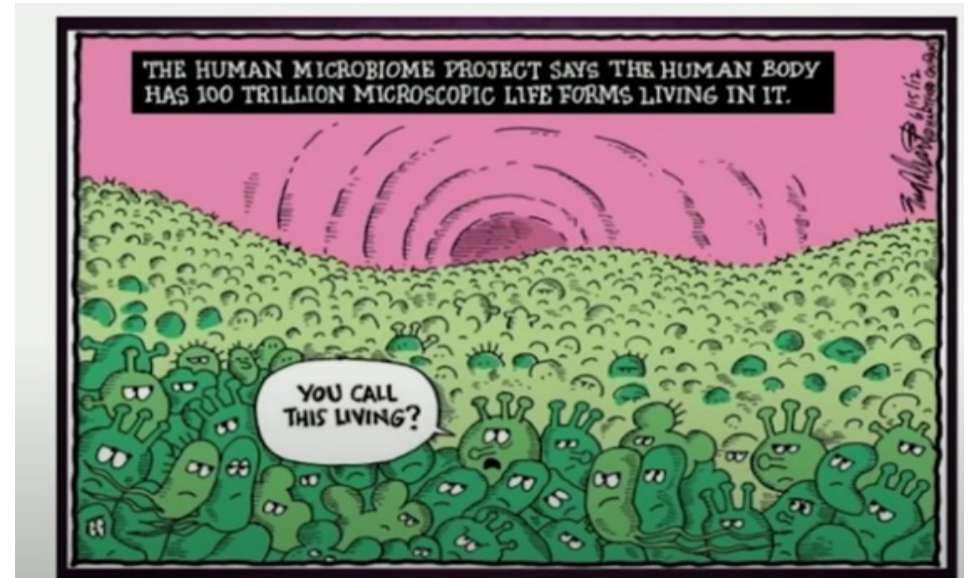


*From France genomique 2025*

Since 2006, new technologies have made it possible to discover the properties of many bacterial species in these ecosystems

At the European level, the European regulatory agency (EMA) has developed tools to promote therapies and technologies related to the microbiota.

*From the Benioff Center for Microbiome Medecine*



# **Problem : What is our microbiota made of and what is its impact on our health?**

**Activity 1: HOST-MICROBIOTA INTERACTIONS (20mn)**

**Activity 2: MICROBIOTA IMBALANCE (also called DYSBIOSIS) (20mn)**

**Activity 3: REBALANCING THE MICROBIOTA TO HEAL (20 mn)**