



# Lab 13

# Balantidium coli

By

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# Classification of *Balantidium coli*

- Kingdom Protista
  - Sub-Kingdom Protozoa
    - Phylum Ciliophora
      - Class Litostomatea
        - Order Vestibuliferida
          - Family Blantidium
            - Genus Balantidium
              - Species coli

# General characteristics

- *Balantidium coli*, is the largest protozoan.
- The only ciliated parasite of humans.
- Resides in the large intestine of man, pig and other animals.
- **Disease:** balantidiasis (ciliary dysentery with mucus and blood).
- **Host:** Life cycle is completed in a **single host**.
  - Pig is the natural host
  - Man is the accidental host.
- **Mode of transmission:** Man gets infection by ingestion of food and water contaminated with cysts.
- Infective form: cyst.
- Invasive form: trophozoite.

# General characteristics

- *Balantidium coli* have two forms: trophozoite and cyst.
- Both of the forms are bi-nucleated:
- large macronucleus
- small micronucleus

# Morphology

- Trophozoite features:
  - **Cilia**
  - **Adoral cilia**
  - **Peristome**: the anterior end bears a groove.
  - **Cytostome**
  - **Cytopharynx**: short funnel shaped gullet extending up to one third of the body.
  - **Cytopyge**: excretory opening
  - **Cytoplasm** divided into **outer clear ectoplasm** and **inner granular endoplasm**.
  - **The endoplasm** contains the macronucleus, micronucleus and numerous food vacuoles.
  - **Food vacuoles**

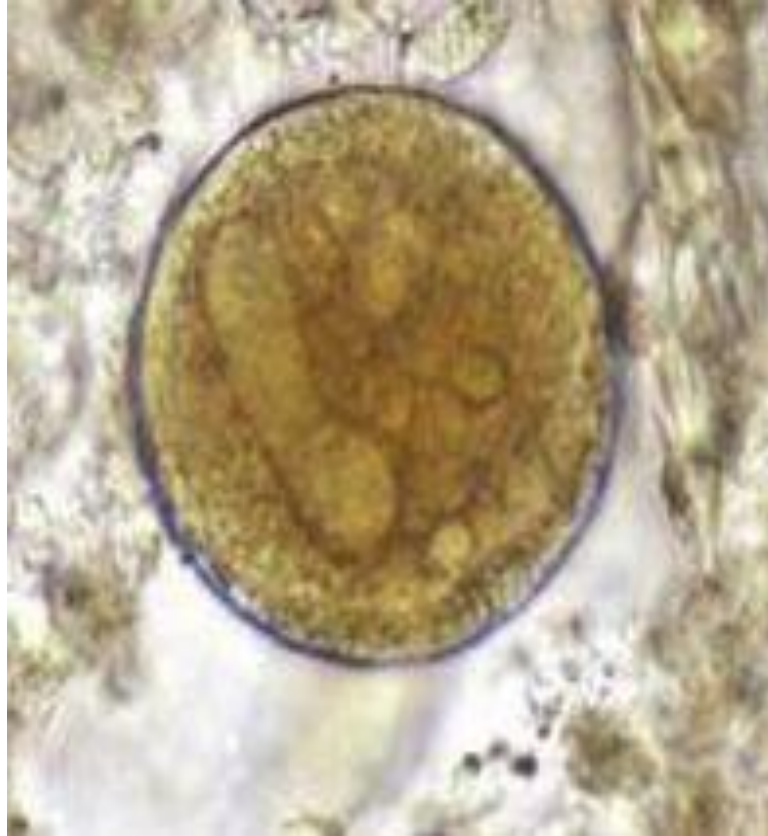


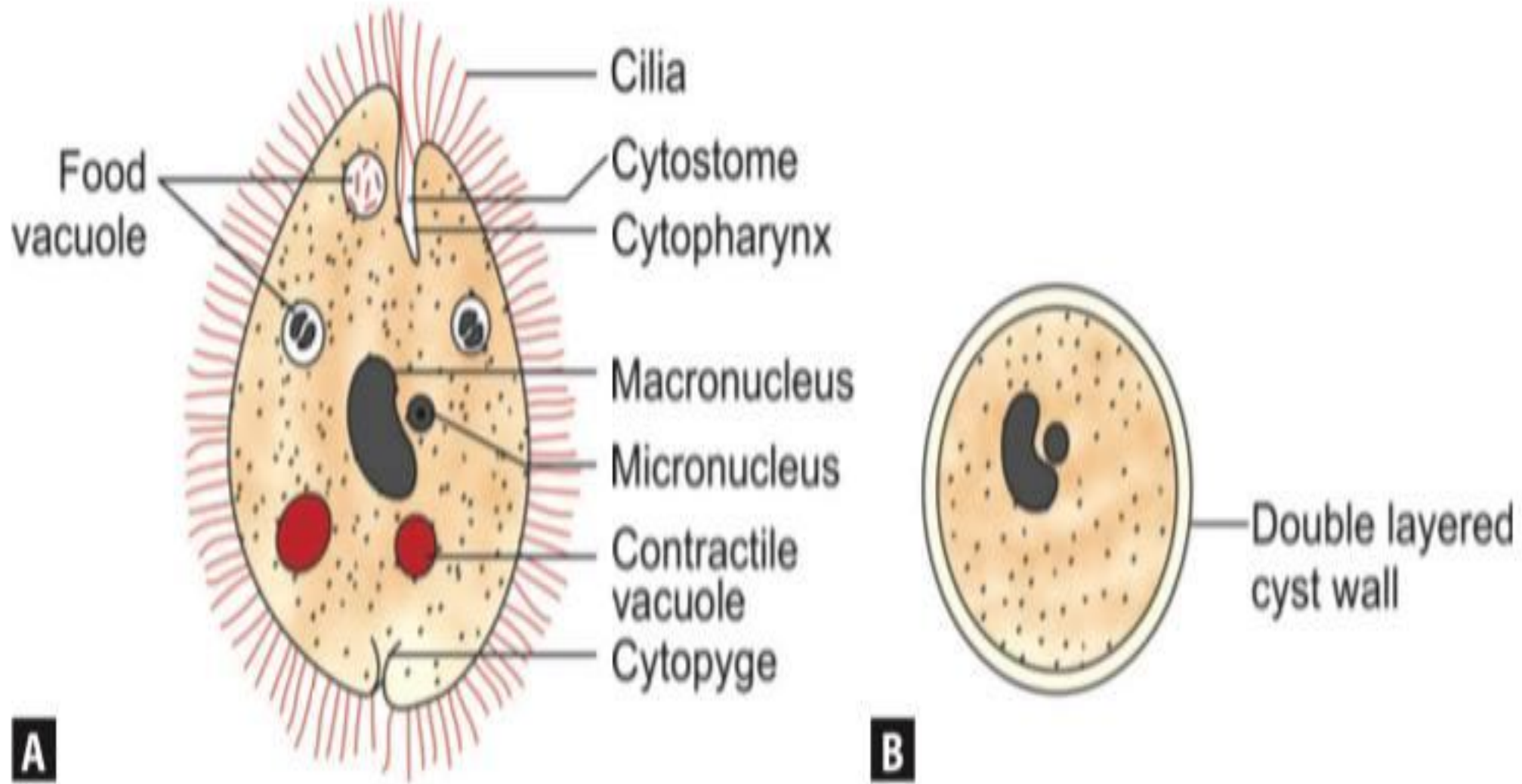
Trophozoite form of *Balantidium coli*  
<https://www.facebook.com/share/v/1QsMNZeKbs/?mibextid=wwXlfr>

- The cyst form is rounded and surrounded by a cyst wall and has two nuclei.

Cyst form of *Balantidium coli*

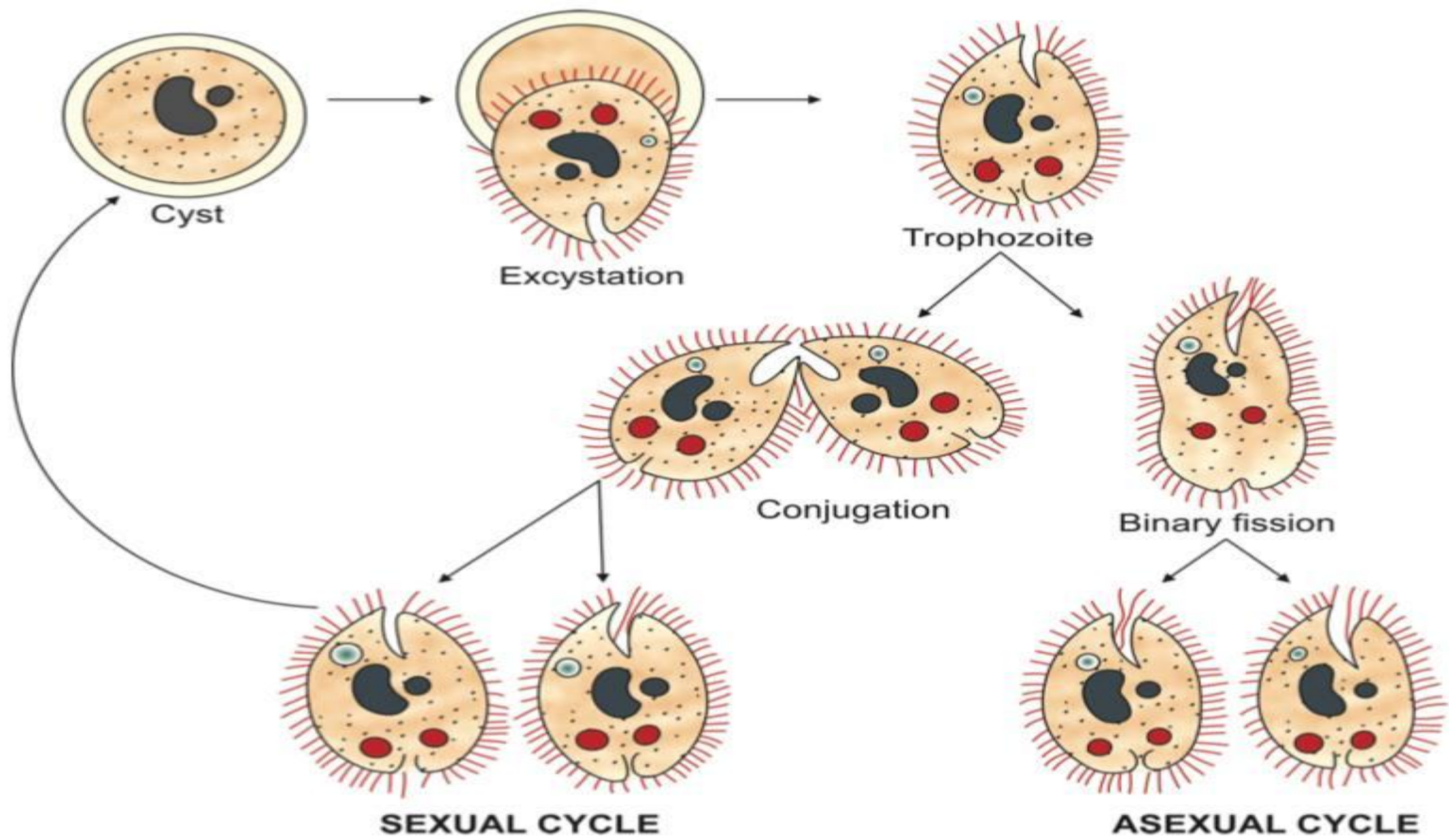
<https://youtube.com/shorts/5ZLo7m5Xan8?si=IWB7IBxPyxif8umv>





**Fig 1 A and B:** Morphology of *Balantidium coli* (schematic diagram) (A) trophozoite; (B) cyst

	Trophozoite	Cyst
1	The invasive form.	The infective form.
2	Oval shape: Anterior end is narrow and the posterior end is broad.	Spherical or slightly ovoid.
3	Covered with a row of tiny delicate cilia.	Cilia only seen in younger cysts. The mature cyst doesn't have cilia but surrounded with a thick transparent wall.



**Fig 2 :** Life cycle of *Balantidium coli*

# Laboratory diagnosis

- Stool examination can detect the presence of trophozoite and cyst forms

