

Ciliates

Balantidium

Balantidiasis is a protozoan infection Protozoan infection caused by infection with *Balantidium coli*.

### Ciliophora

They are group of protozoa characterized by head like structure called cilium which is important in **A – movement**  
**B - nutrition** .

This parasite have two species :-

***Balantidium suis*** → infect the pigs .

***Balantidium coli*** → infect the human .

This disease is regarded as a zoonotic disease .

**Disease** : Balantidiosis

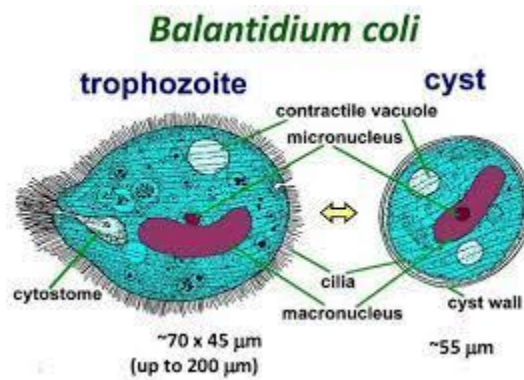
***B.coli*** :- is the largest intestinal protozoa that effect human and can be seen macroscopically .

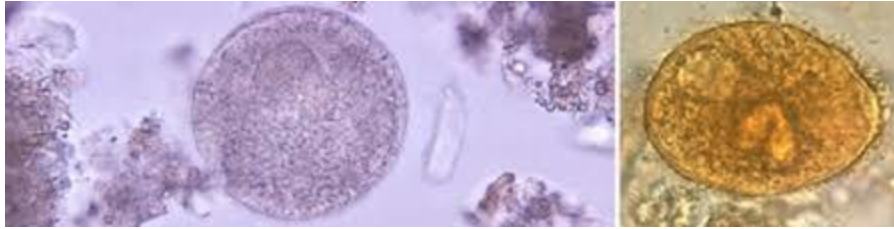
### Morpholog

*Balantidium coli* exists in either of two developmental stages: trophozoites and cysts . In the trophozoite form, they can be oblong and the cyst is spherical .*Balantidium coli* characterized as the largest protozoan parasite of humans. Trophozoites possess both a **macronucleus** and a **micronucleus**, and both are usually

visible. The macronucleus is large and **sausage-shaped** while the micronucleus is less prominent. At this stage, the organism is not infective but it can replicate by **transverse binary fission**.

In cyst stage, the parasite takes on a smaller, more **spherical shape**, with a diameter of around 40 to 60  $\mu\text{m}$ . Unlike the trophozoite, whose surface is covered only with cilia, the cyst form has a tough wall made of one or more layers. The cyst form also differs from the trophozoite form because it is non-motile and does not undergo reproduction.





Life cycle

Symptoms and signs

The most common ones are intermittent diarrhea and constipation or inflammation of the colon combined with abdominal cramps and bloody stools.

### **Transmission**

Balantidium is the only ciliated protozoan known to infect humans. Balantidiasis is a zoonotic disease and is acquired by humans via the **feco-oral route** from the normal host, the pig, where it is asymptomatic. **“Contaminated water is the most common mechanism of transmission.** Equally dangerous, however, is the ingestion of contaminated food.

### **Diagnosis**

The diagnosis of balantidiasis can be an intricate process, partly because the related symptoms may or may not be present. However, the diagnosis of balantidiasis can be considered when a patient has diarrhea combined with a probable history of current exposure to pigs (since pigs are the primary reservoir) .In addition, the diagnosis of balantidiasis can be made by microscopic examination of stools in search of trophozoites or colonoscopy or sigmoidoscopy to obtain a biopsy from the large intestines which may provide evidence for the presence of trophozoites.