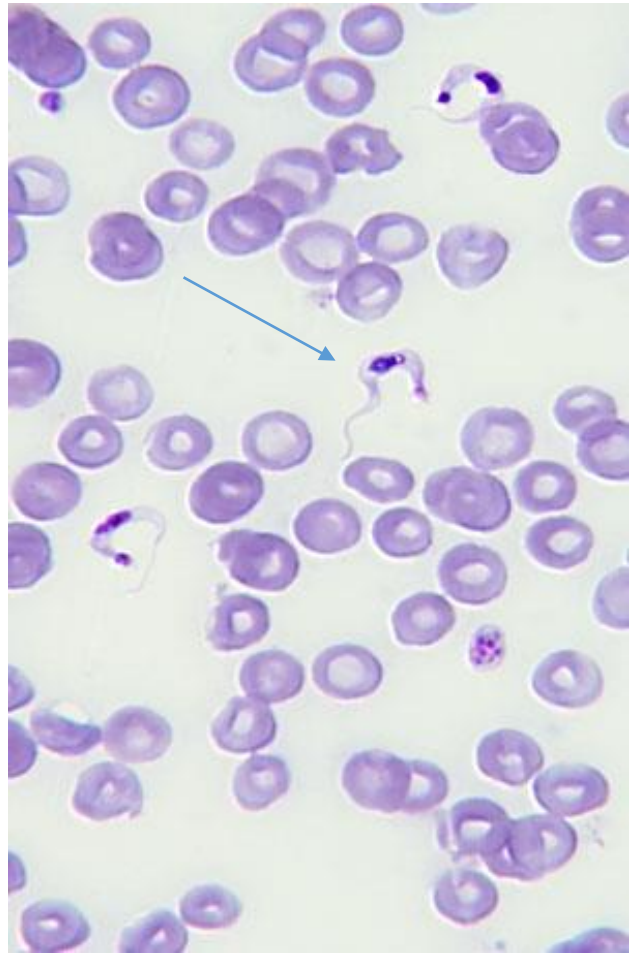
# *Trypanosoma cruzi & T. brucei gambiense/rhodesiense*

Similarities and Differences

Please review slides and take competency quiz.

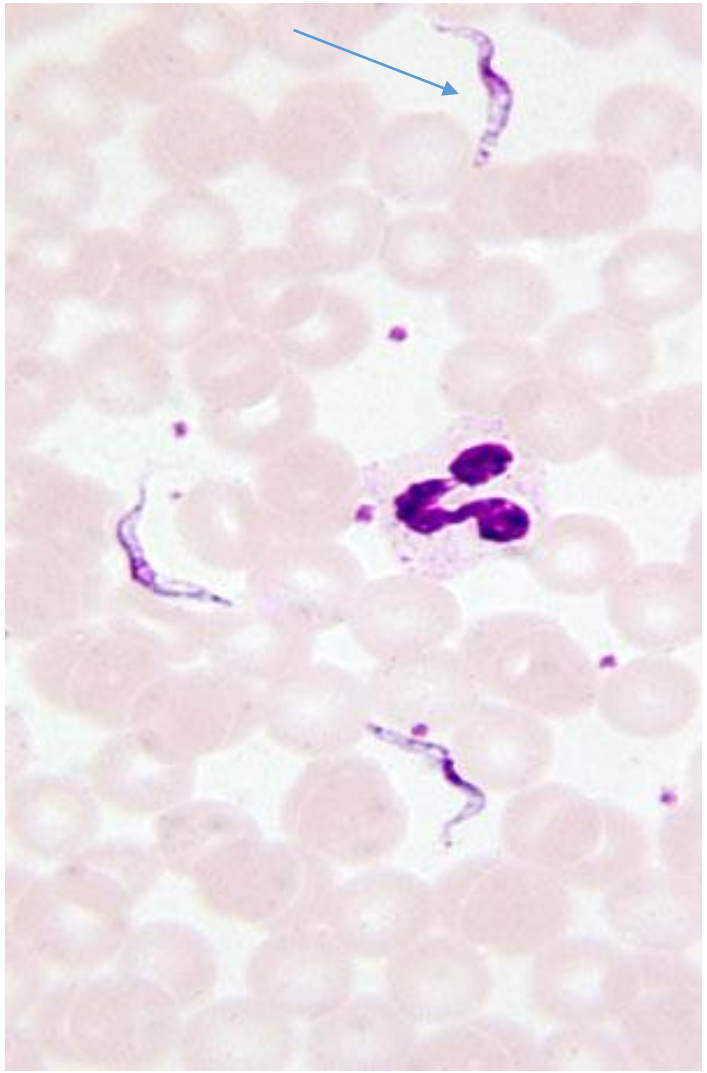
# *T. cruzi*

- Cause of Chagas Disease
- Vector = Reduviid bug
- Transmitted by vector's feces in a wound
- Found as trypomastigote in blood or amastigotes in tissues



# *T. brucei gambiense/Rhodesiense*

- The cause of African Sleeping Sickness
- T. brucei gambiense infects humans while T. brucei rhodesience infects animals
- Morphologically, they are identical
- Vector = Tsetse fly
- Transmitted through fly bite
- Found as trypomastigote in lymph node aspirates, blood and cerebral spinal fluid



# How *T. cruzi* and *T. brucei* are the same

- Characteristic ‘C-shape’
- Flagella attached to the body by an undulating membrane
- Extracellular parasites found in the blood

# How they are different

*T. cruzi*

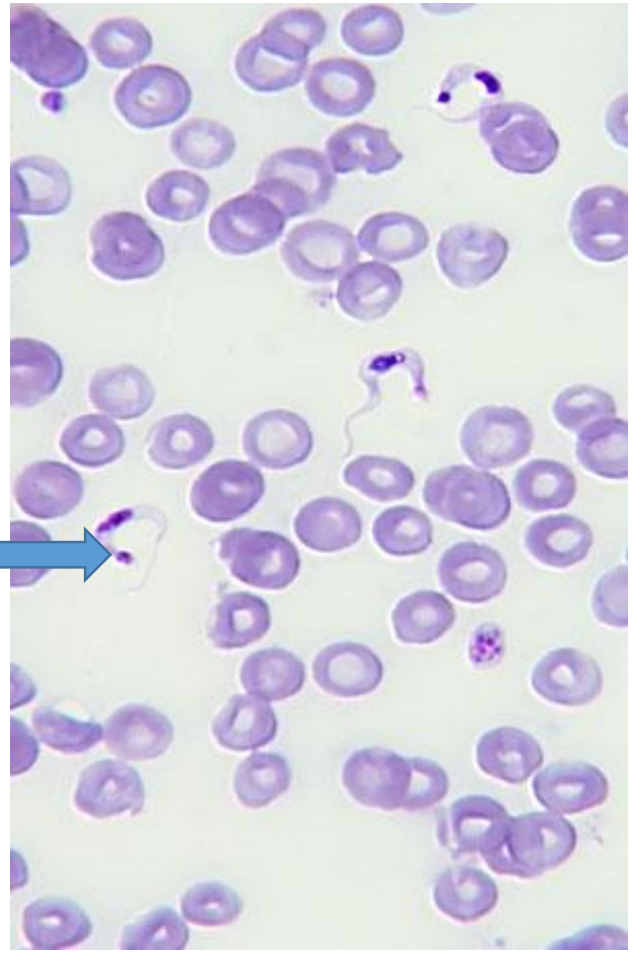
- Will sometimes show a more slender shape, which will not form into the characteristic ‘C’
- Kinetoplast is very large and anterior to nucleus
- ~20 micrometers
- Pointed posterior

*T. brucei*

- Non-slender
- Can divide in the blood
- Spherical bodies can be present (these are called morular cells of Mott)
- Kinetoplast is posterior to nucleus and small
- ~14 – 33 micrometers

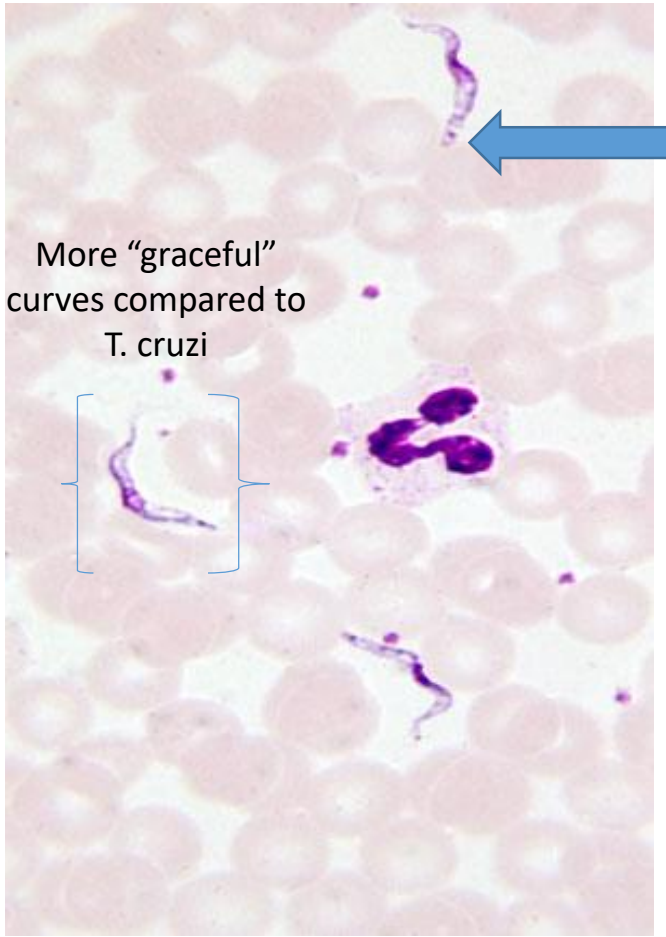
# Visual comparison

**T. cruzi**



Large kinetoplast

**T. brucei**



Small kinetoplast

More “graceful” curves compared to T. cruzi