

### ***Trypanosoma evansi***

An acute form of the disease, which is generally fatal unless treated, occurs in horses, donkeys, mules, cattle, buffalo, deer, camels, llamas, dogs, and cats. and is transmitted by horse-flies, and also by the vampire bat, *Desmodus rotundus*, in South-America.

#### **Location in the host**

These parasites are parasites of the blood stream and tissue fluids.

#### **Life cycle and Transmission**

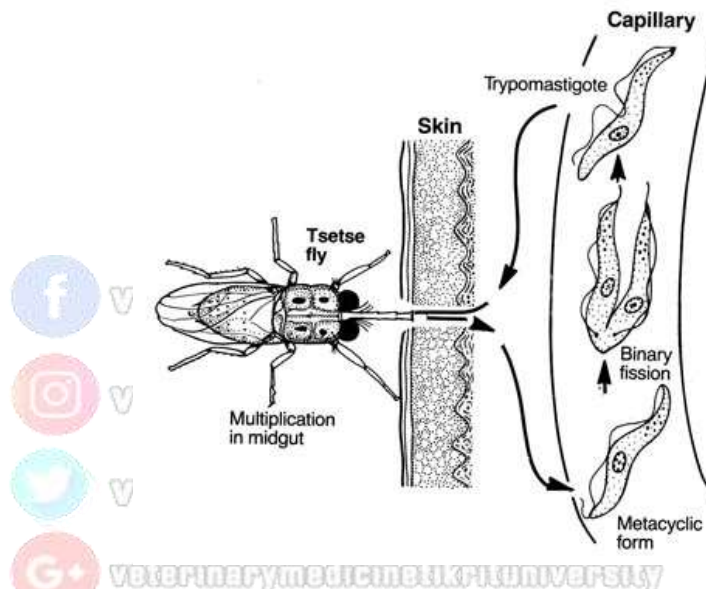
*Trypanosoma evansi* is spread mechanically by an arthropod vector. The vector varies geographically. All blood sucking flies can transmit the disease, although the 'horse' fly, *Tabanus*, and 'stable' fly, *Stomoxys* are the most common vectors in South-East Asia. The *Tse-Tse* fly is the most seen in different countries in Africa .

*Trypanosoma* species have a limited survival time in the mouth parts of a vector, so therefore time between feedings have to be short.

*Trypanosoma evansi* isn't only spread by mechanical transmission, but also during nursing, copulation or ingestion of infected tissues by carnivores.

Unlike other trypanosomes species, whose life cycle needs an intermediate host before reaching the adult state, *Trypanosoma evansi* doesn't undergo development in an intermediate host. *Trypanosoma*

*evansi* multiplies in a mammalian host by the process of longitudinal binary fission in the trypomastigote stage



## Pathogenesis

*Trypanosoma evansi* which causes the disease known as trypanosomosis (Surra). The degree of pathogenicity depends on what species the host is, the virulence of the *Trypanosoma evansi* strain, and the dose received by the host. Many species such as dogs, horses and rats, have been shown to have immunological reactions to the infection, such as anemia due to decrease in erythrocytes and hemoglobin. Although not fully understood at this point in time, some theories believe that the erythrocytes could acquire trypanosomal antigen, resulting in a negative immunological reaction.

## Clinical signs

Animals that have been infected show loss of appetite, weight loss, anaemia, edema, fever, salivations, lacrimation, and abortion. The

proteases that are released during infection of *T. evansi* might degrade the host tissue proteins and are a huge force in the pathogenesis. That is why scientists are looking at immune targeting of these proteases to protect the infected host.

## Diagnosis

Some conventional parasitological techniques (CPT) such as wet blood film, and stained blood smears are used because so far, the best identifier is looking at the blood of the potentially infected host. Other tissues can be looked at, but the gold standard is identifying trypanosomes in the blood.

