

Family : Tabanidae

Genus : Tabanus

**Morphology, bionomics, life cycle,
pathogenesis & control.**

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Tabanus : Introduction

- **Common name** : Horse fly.
- **Host** : Large domesticated & wild animals and birds.
- **Species** : *Tabanus rubidus*,
Tabanus striatus.

Tabanus : Morphology

- They are dark coloured robust flies.
- The eyes are large and holoptic in male
dicoptic in female
- The proboscis is shorter than head .
- The mouth parts is adopted for blood
sucking and lapping
- The antennae is 3 segmented.



Tabanus fly



Tabanus fly

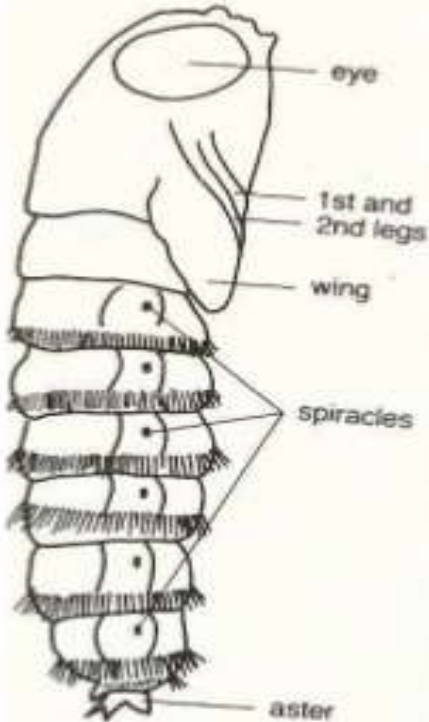


Tabanus : Dorsal & ventral view

Tabanus : Life cycle

- The female flies require blood meal for development of eggs.
- The cigar shaped eggs hatched, larva expelled out.
- The larva of Tabanus spp. identified by presence of 'Graber's organ' in the terminal end.
- The larva greyish white in colour and acts as predator.
- The larva come very close to the ground surface and enter about 1-2 inch then prepare a pupal cell.
- The pupa is obtectate type .
- The adult fly come out from pupa.

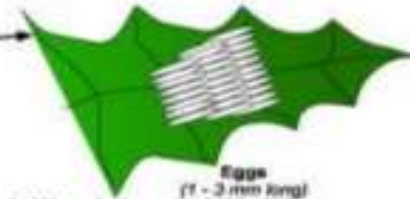
Life cycle



Obtectate pupa

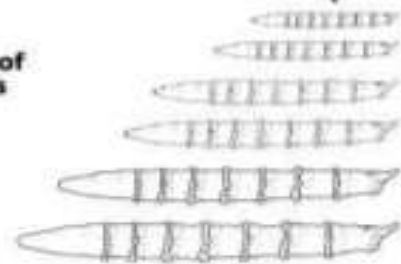


Adult
(6 - 10 mm long)
Male and females emerge in late spring-summer, depending on the species. Males and females feed on nectar and male. Females feed on blood and develop eggs.



Eggs
(1 - 3 mm long)
Laid in a single mass of 100 - 800 eggs. Eggs of many species laid on the underside of leaves. Eggs hatch in 2 - 3 days; first larval stage drops off leaf.

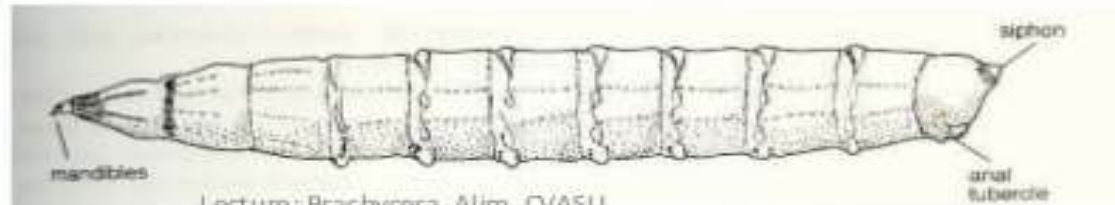
Life Cycle of Deer Flies



Larvae
(6 - 10 mm long)
Larvae of most species develop in wet habitats. Number of larval stages range from 6 - 13 (only 6 are shown). Last stage larva 6 - 10 mm long, depending on species. Last stage larva over-winters; molts to pupa the following spring.



Pupa
(6 - 10 mm long)
Pupal stage is completed in 1 - 3 weeks. Pupa is 6 - 10 mm long, depending on species.



Lecture: Brachycera, Alim, CVASU

Tabanus : life cycle

Tabanus : Pathogenesis

- The affected animals become restless at the time of bite.
- The bites painful and irritating, the bite area become swollen.
- They are actively involved in transmission of various viral, bacterial and protozoan diseases such as Equine infectious anaemia, Bovine leukaemia, Hog cholera, Anthrax, Nagana disease, Ma-de- cadres, Trypanosomiasis etc.
- Some filarial nematodes like *Loa loa* also transmitted by these fly.



Equine infectious anaemia



Equine infectious anaemia



Bovine leukemia



Bovine leukemia



Anthrax



Nagana disease



Trypanosomiasis

Tabanus : control

- Control is very difficult because they are long flier.
- Pouring of kerosene oil into water can killed the larval.
- The breeding places may be destroyed by making proper drainage.
- Biological control by ‘Lady bird beetle’, the nematode parasite of *Mermithidae* family.