

TABANUS

Common name : Horse fly .

Host : Large domesticated & wild animals and birds also.

Species : *Tabanus rubidus* , *Tabanus striatus* .

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.
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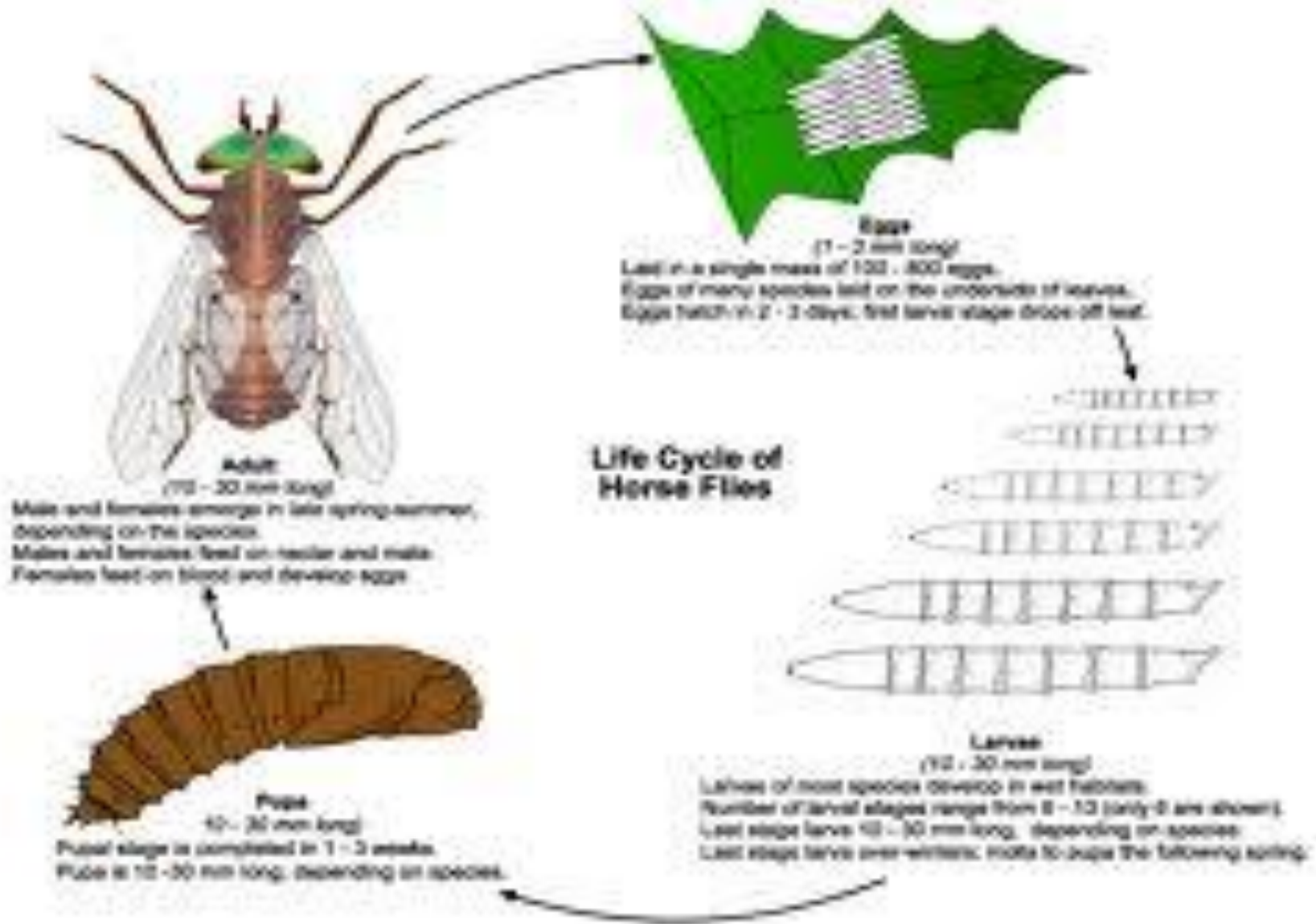
Dorsal & Ventral view of 'TBANUS FLY'



TABANUS FLY

LIFE CYCLE OF TABANUS FLY

- The female flies require blood meal for development of eggs
 - The cigar shaped eggs hatch larva expelled out.
 - The larva of Tabanus identified by presence of 'Graber's organ' in the terminal end .
 - The larva acts as predator and greyish white in colour .
 - 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.
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LIFE CYCLE OF TABANUS FLY

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 causative agent of various viral, bacterial and protozoan diseases like Equine infectious anaemia , Bovine leukemia, Hog cholera, Anthrax ,Nagana disease, Ma-de- cadras, Trypanosomiasis
 - ❑ Some filarial nematodes like Loa loa also transmitted by these fly.
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PREVENTION & 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 Mermithidae.
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MUSCA

Common name : House fly .

Host : Large domesticated & wild animals and birds also.

Species : *Musca domestica* , *Musca autumnalis*.

Morphology :

- They are greyish to light dark flies.
 - They have four distinct dark longitudinal stripes.
 - Sticky hairs on pad like structure is main characteristic .
 - The mouth parts is sponging type
 - The wing venation is different from other flies.
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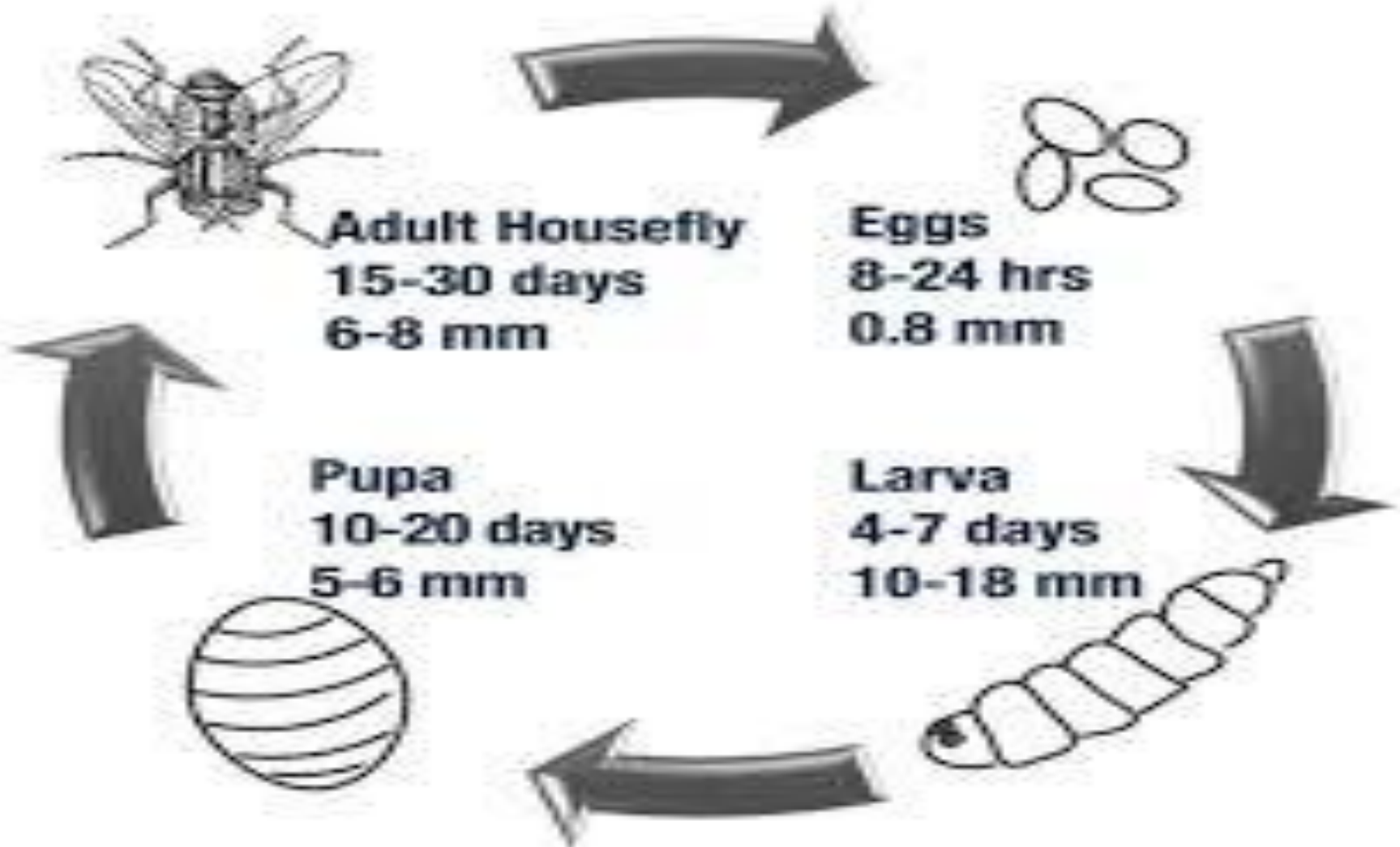


Musca domestica

LIFE CYCLE OF MUSCA FLY

- ❑ The female flies laid creamy white banana shaped eggs in faeces .
 - ❑ White segmented cylindrical larva come out after hatching.
 - ❑ After two moulting larva pupate in a dark brown barrel shaped pupal case.
 - ❑ In presence of favourable environmental temperature the adult flies emerges after few days.
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Life Cycle of a Housefly



LIFE CYCLE OF MUSCA FLY

PATHOGENESIS

- ❑ The Many pathogens are mechanically transmitted by these fly .
 - ❑ ‘**Summer sore**’ caused by *Hebronema* spp. Is transmitted by these fly.
 - ❑ Musca flies also transmits *Thelazia* and *Parafilaria bovicola* .
 - ❑ The causative agent of Pink eye disease also transmitted by this fly,
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SUMMER SORE IN HORSE



Pinkeye - severe inflammation of the eye

SUMMER SORE IN HORSE

PREVENTION & CONTROL

- ❑ Insecticidal spray on the manure heaps to minimize larval population .
 - ❑ Proper and improved sanitation .
 - ❑ Destruction of breeding place.
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HYDROTODAEA FLY

CALLIPHORIDS

Common name : Blow flies .

Host : Mainly Sheep, rarely other animals .

Species : *Lucillia sericata*, *Phormia terrae-novae* .

Calliphora erythrocephala

Calliphora vomitoria

Morphology :

- They are metallic blue or green in colour.
- **Myiasis**-Myiasis is infestation of living animals with larva of dipteran flies , These are-
- Obligatory myiasis.
- Facultative myiasis.
- Cutaneous myiasis.

- Somatic myiasis.

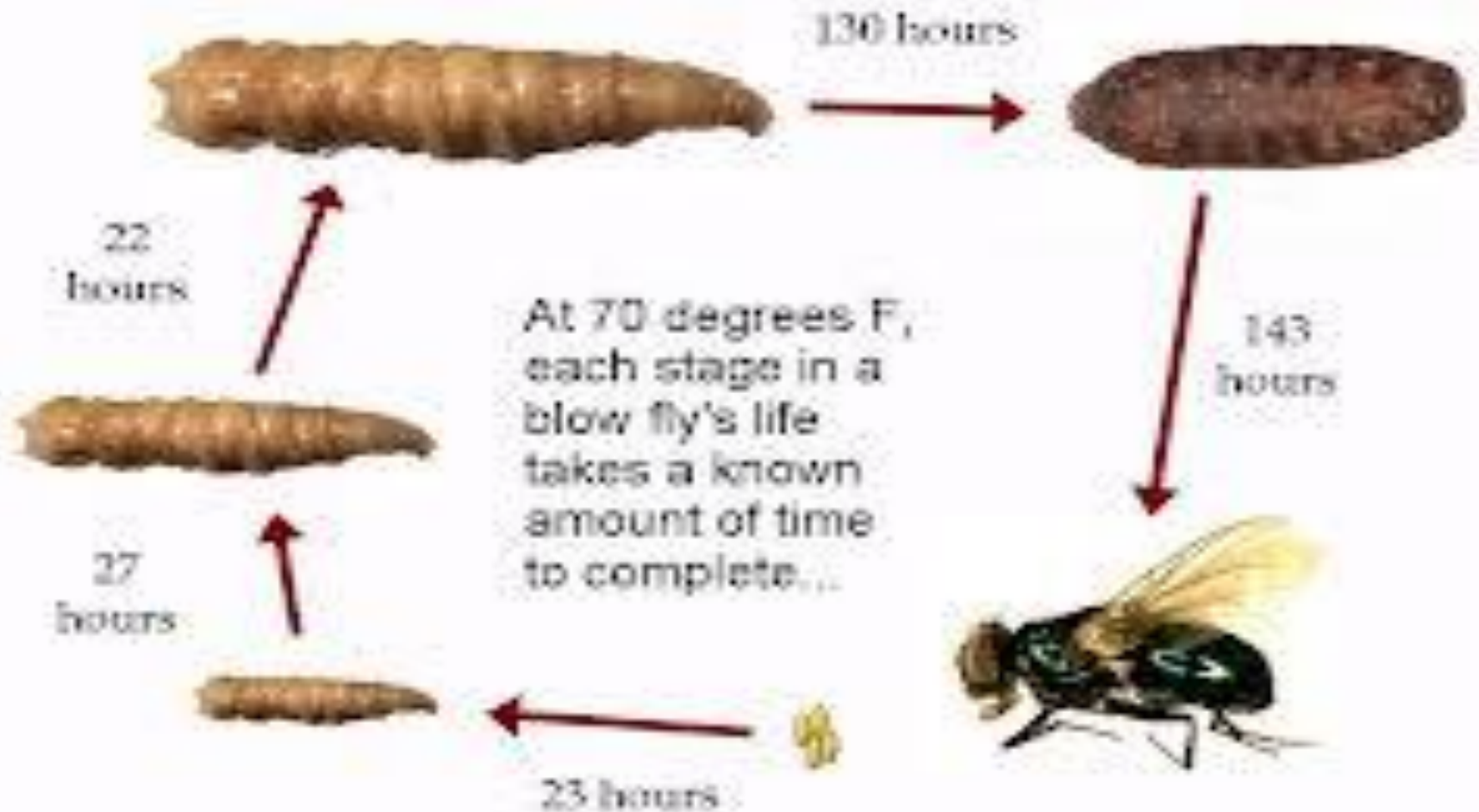


BLOW FLY

LIFE CYCLE OF BLOW FLY

- The mature female lays their eggs on wound or dead animals.
 - Hatching occurs in favourable environmental condition ,larva come out.
 - After two moulting larva transformed to maggots.
 - Then they fall on the ground ,where pupation occurs.
 - Development occurs then after 3-7 days adult fly emerges.
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The blow fly life cycle has six parts: the egg, three larval stages, the pupa, and adult.



LIFE CYCLE OF BLOW FLY

PATHOGENESIS

- ❑ After hatching larva come out ,then the larva crawl on the hairs or wool and secrete proteolytic enzyme which digest and liquefy the tissue .
 - ❑ Decomposed tissue attract the secondary flies .
 - ❑ Due to irritation and distress there rapid loss of body weight .
 - ❑ Sometime in severe case death occurs due to septicaemia .
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FIGURE 1: Top view of lesion (lip)

MYIASIS



MYIASIS : IN EYE & EAR



MYIASIS IN DOG

PREVENTION & CONTROL

- ❑ separation of affected sheep from the flock.
 - ❑ Removal of larva from the wound.
 - ❑ Application of dieldrin or other chlorinated hydrocarbon insecticides
 - ❑ Dressing of the lesion .
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HIPPOBOSCA

Common name : Forest flies .

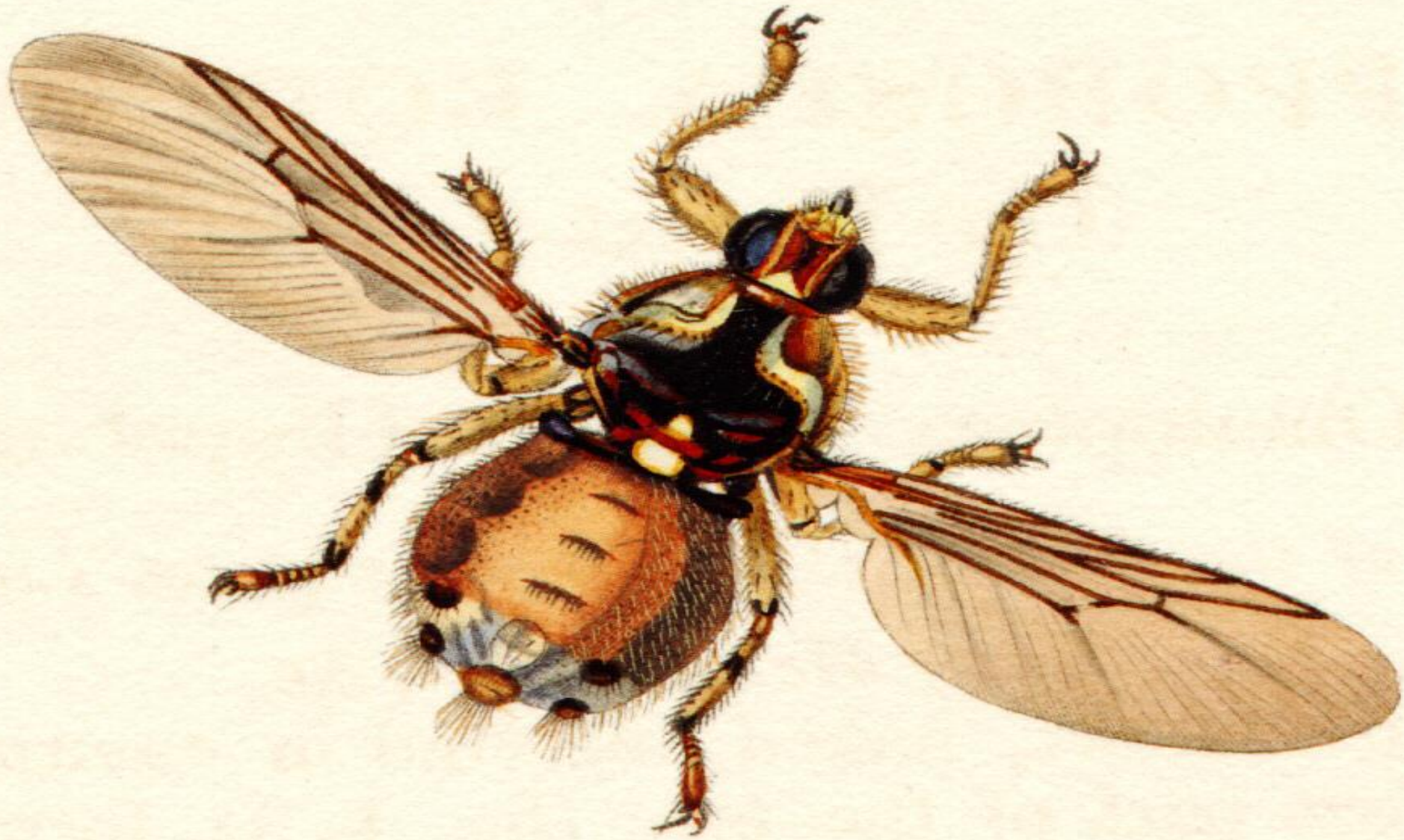
Host : All types of domesticated animals like ruminants, dog

Species : *Hippobosca equina* , *Hippobosca maculata*.

Morphology :

- Pale reddish brown with yellow spots on body.
- They are larviparous.
- They are frequently active in summer specially during sunny weather.
- These flies are great source of irritation.
- They are responsible for transmission of non-pathogenesis

Trypanosoma theileria to cattle also transmits
Haemoproteus spp.



HIPPOBOSCA FLY

LIFE CYCLE OF HIPPOBOSCA

- The adult flies attack horses and cattle to suck blood.
 - The larva deposited on the sheltered spot .
 - Pupation occurs immediately
 - They cluster in the perineal region .
 - In favourable environmental condition they attain sexual maturity.
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PATHOGENESIS

- ❑ These flies are source of great irritation to animals .
 - ❑ These are responsible for transmission of non-pathogenic *Trypanosoma theileria* to cattle and also transmits *Haemoproteus* spp
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MELOPHAGUS

Common name : Sheep ked

Host : Sheep

Species : *Melophagus ovinus*

Morphology :

- They are permanent parasite.
 - The body is wingless and leathery.
 - The thorax is brown and abdomen is grayish in colour .
 - The legs are strong and armed with stout.
 - They are active during autumn and winter .
 - Spread occur from sheep to sheep by contact.
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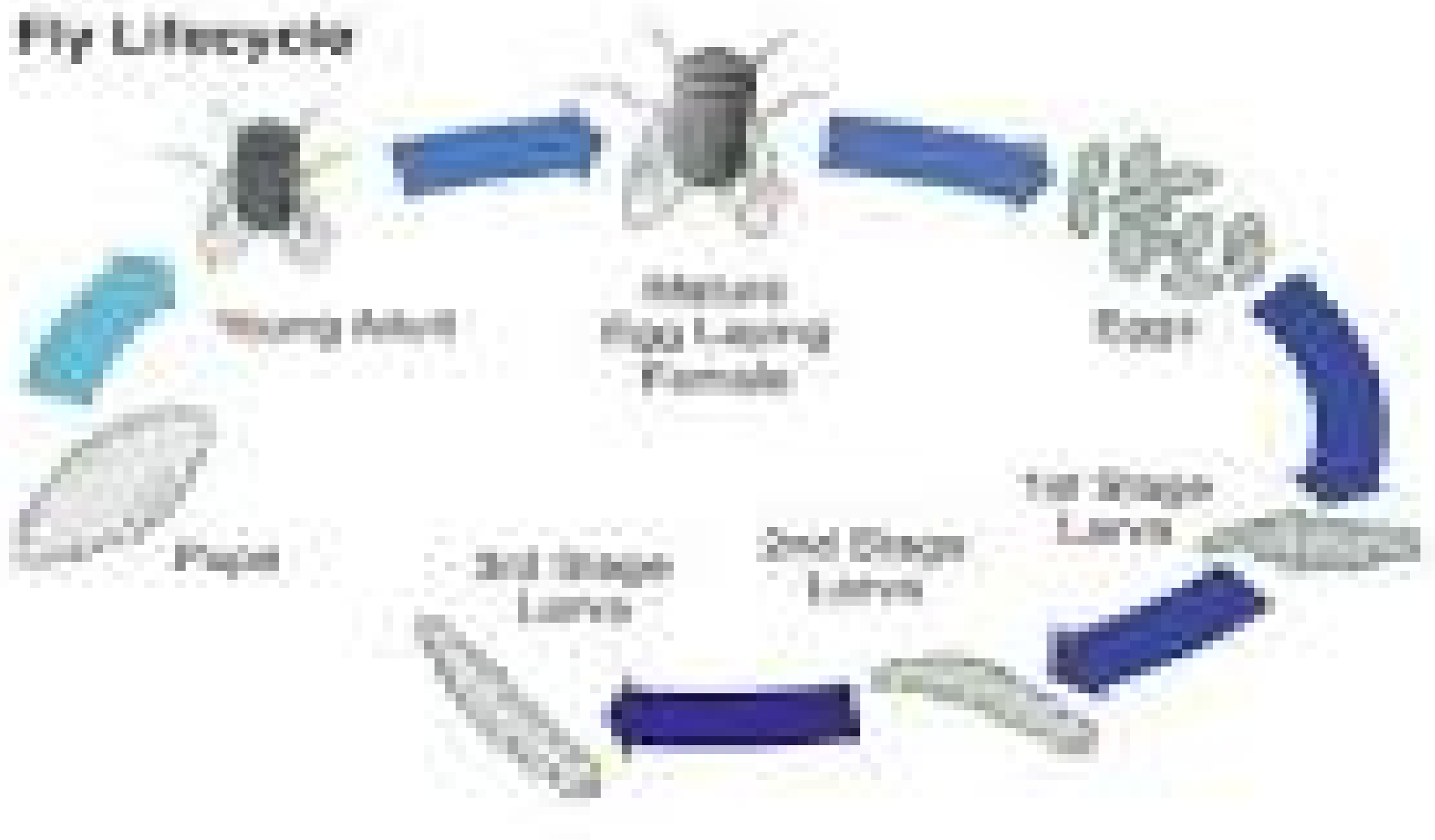


MELOPHAGUS OVINUS

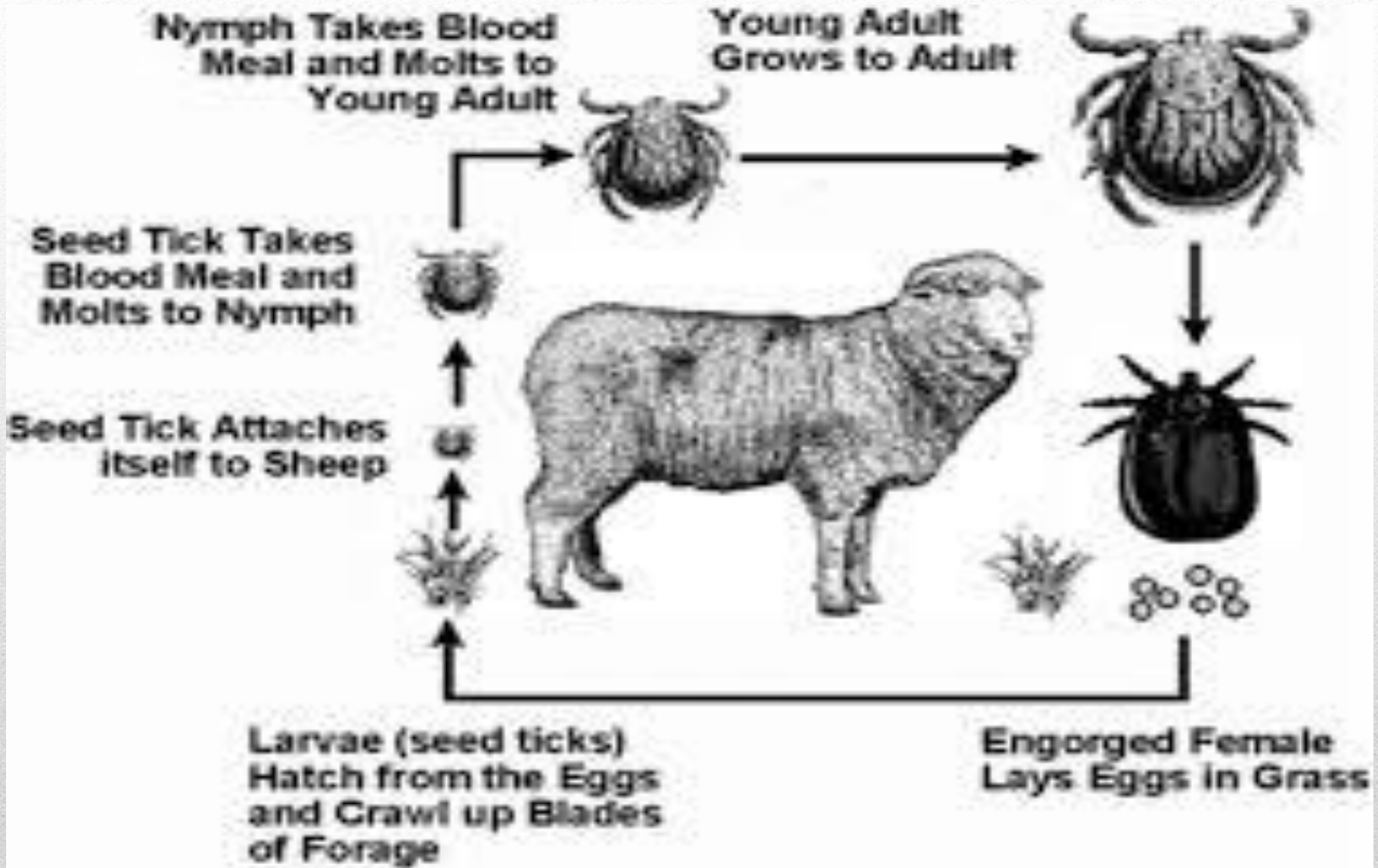
LIFE CYCLE OF MELOPHAGUS

- The female attaches its larva to the wool of the sheep.
 - The larva is immobile and ovoid which is soon turns into coloured pupa.
 - The pupal stage longer in winter .
 - The adult flies emerges after completion of pupal stage
 - Copulation occurs female produce 10-15 larvae.
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Fly Lifecycle



LIFE CYCLE OF MELOPHAGUS OVINUS



LIFE CYCLE OF MELOPHAGUS

PATHOGENESIS

- The parasite live in the wool of the sheep and suck blood.
 - The Continuous blood sucking leads to anaemia.
 - The Produce intense irritation .
 - The fleece of the ked produce stains in the wool.
 - The keds transmits the non-pathogenic *Trypanosoma melophagium*
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SHEARING A SHEEP

PREVENTION AND CONTROL

- ❑ The keds population reduced by shearing
 - ❑ ‘Tip shearing’ is an effective method for control
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