

**MJF COLLEGE OF VETERINARY & ANIMAL SCIENCES,  
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**GENUS- PARAFILARIA**

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- ❖ Species : *Parafilaria bovicola*
- ❖ Host : Cattle and buffalo
- ❖ Location : Inter muscular and S/c
- ❖ I/H : Musca species, (Musca lusoria)

❖ It causes haemorrhagic nodules, on the skin of cattle and buffaloes. The condition is known as "Summer bleeding".

- ❖ Species : *Parafilaria multipapillosa*
- ❖ Host : Horse & donkey
- ❖ Location : Intermuscular and S/c
- ❖ I/H : Haematobia spp.

## Morphology

- Slender shaped white worms.
- Males are 2-3 cm long and females are 4-5 cm long.
- The anterior end of worm bears 13 rows of cuticular elevation or thickening.
- Male worms has loosely coiled and bluntly rounded tail.
- Female worm has bluntly rounded posterior tail.

## Transmission

- Transmission occurs when infected **Musca** or **Haematobia flies** (feed on lachrymal secretions or skin wounds in final hosts).
- Eggs or microfilariae (L1 ) present in exudates from bleeding points in the skin surface is ingested by flies and in which they develop to L3.



# Life-cycle

- Indirect life-cycle
- Intermediate host
  - ✓ *Parafilaria bovicola* : Muscid flies
  - ✓ *Parafilaria multipapillosa* : *Haematobia* spp.



**Musca sp.**



**Haematobia sp.**

**Females are ovoviviparous and lay larvated eggs on the skin surface where they also hatch to release microfilariae.**



**Microfilariae are ingested by muscid flies.**



**Infective L3 are developed within few weeks.**



**L3 are deposited by flies at the time of feeding on lacrimal secretions or skin wounds.**



**Then migrate to S/c tissue and become adult stage within 5-7 months.**

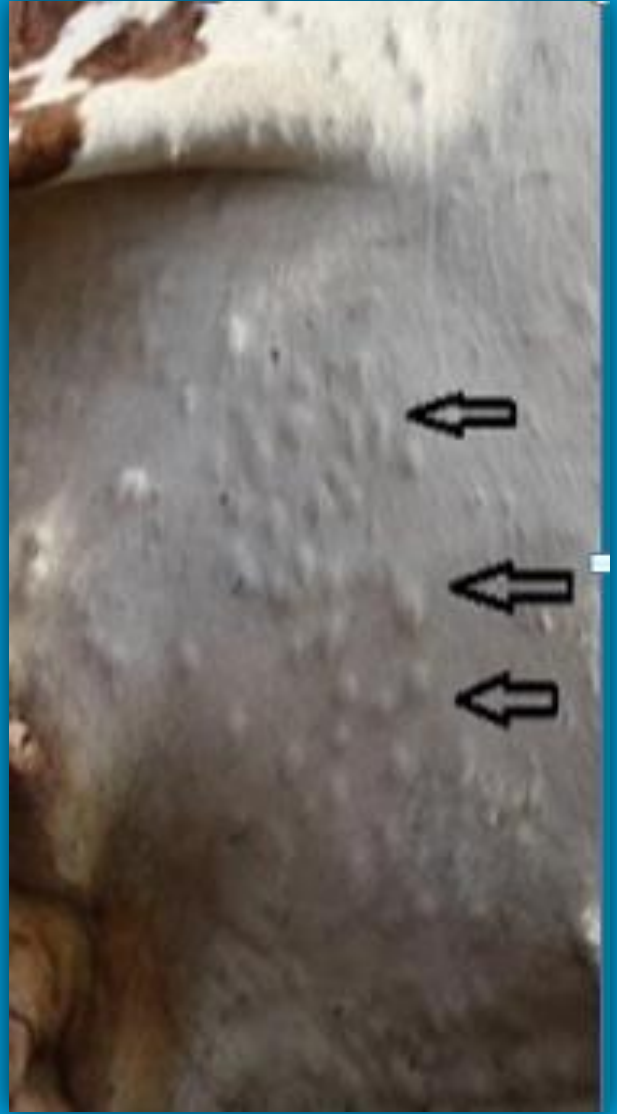


**Adult may produce nodule which may burst at the time of egg laying and along with exudate and blood, the eggs come out on the skin.**



## Pathogenesis

- *Parafilaria bovicola* worms produce nodules under the skin which may appear during summer in cattle & buffalo particularly in draught animals like bullocks on their neck, shoulder etc.
- Nodules may burst on sunny day and blood with sero-sanguineous exudates comes out. Due to this disease is called **haemorrhagic dermatitis** or **summer bleeding**.
- Secondary bacteria infections may lead to abscess formation in bleeding points.
- *Parafilaria multipapillosa* form haemorrhagic nodules more nodular than *Parafilaria bovicola*.



## Diagnosis

- On the basis of clinical signs ( haemorrhagic nodules).
- Microscopic examination of haemorrhagic exudates reveal embryonated eggs and stretched out microfilariae of worm.
- Female worms may be extracted from the hole of the freshly burst nodule for specific diagnosis.
- ELISA

## Treatment

- Nitroxylin @ 20 mg/kg repeat after 3 days.
- Ivermectin @ 0.2 mg/kg s/c
- Levamisole- 7.5 mg/ kg daily for 4-5 days
- Fenbendazole @ 1-5-2 mg/kg for 5 days

## Control

- Difficult due to abundances of intermediate hosts ( Musca flies etc.)
- Regular use of insecticide, cleaning and destroying breeding ground etc.
- Regular use of therapeutic drugs as prophylaxis to control of *Parafilaria* spp.