Stephanofilaria

Hump sore

Image source: Google image
Morphological Characters:

- Mouth opening is surrounded by spiny collar.
- Small worms, males are 3-4.5 mm and females are 7-11.5 mm long.
- Anus is vestigial.
### Family: Setariidae

### Species:

<table>
<thead>
<tr>
<th>Species</th>
<th>Fina host</th>
<th>Intermediate host</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Stephanofilaria assamensis</em></td>
<td>Cattle, buffalo and goat</td>
<td>Muscid flies (<em>Musca coducens</em>)</td>
<td>Hump</td>
</tr>
<tr>
<td><em>Stephanofilaria zaheeri</em></td>
<td>Buffaloes</td>
<td>Muscid flies</td>
<td>Inner surface of pinna</td>
</tr>
<tr>
<td><em>Stephanofilaria kaeli</em></td>
<td>Cattle</td>
<td>Muscid flies</td>
<td>Leg</td>
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### Life-cycle:

#### Indirect life-cycle

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Transmission:

- Microfilariae (L₁) are ingested by the muscid flies along with exudates during feeding on skin lesions present on the body infected host.
- Infective larvae (L₃) develop inside the flies within 3 weeks.
- Transmission occurs when 3rd stage larvae (L₃) infected flies feeding on wound of final hosts.
Life-cycle:

- $L_3$ migrate and develop to adult stage under the skin.

- Female worms live in the skin lesions and lay eggs which develop into microfilariae.

- Larvae present in the exudates come out from hemorrhagic lesions.

- Hemorrhagic exudates from the lesions attract flies which ingest the microfilariae ($L_1$).

- Transmission occurs when infected flies feed on skin wounds.

- Infective 3rd stage larvae develop in to fly.
**Stephanofilaria**

Pathogenesis:

*Stephanofilaria* produce lesions at their site of predilection sites

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Pathogenesis:

❖ Lesions appear usually within 2 weeks of infection.

❖ Initially formation of papules occurs.

❖ Then, sloughing of skin, haemorrhagic dermatitis and ulceration takes place at the affected body parts.

❖ Lesions are aggravated when animal rubs the affected parts which result bleeding from the lesions.

❖ These condition attract the flies to lay egg in the haemorrhagic areas.

❖ Formation of pus may also occurs due to secondary bacterial infection.
Clinical signs:

- Initially small papules are forms which coalesce to form large lesions covered by crusts and skin become thickened.

- Loss of hairs, hyperkeratosis, ulceration and haemorrhages.

- Lesions become quiescent during the dry, cold weather but re-occur again during rainy season.

- Loss of body condition, retarded growth, decreased draught power quality of infected bullocks and damage of hides.
Stephanofilaria

Clinical signs:

**Stephanofilaria zaheeri**

- Worms lies in and around hair follicles, sebaceous gland and in the earn pinna of buffaloes.

- It causes “ear sore” in buffaloes in India.

- Clinical signs include thickening of skin, granulation, skin becomes hard all over the inner surface of the ear etc.

- Atypical lesions have scattered black spots.
Diagnosis:

- On the basis of clinical signs.
- Microscopic examination of deep scrapings of the skin crusts revealed microfilariae of worm.
Treatment:

- Organophosphate compounds are highly effective in the treatment of “hump sore”:
  i. Trichlorophon (6-10 %)- apply daily topically
  ii. Sumithion and Coumaphos - used in the form of ointment
  iii. Levamisole
  iv. Ivermectin
  v. 5 % formalin, supona 20, 4% sumithion and 6 % malathion are found effective against ear sore in buffaloes.
Control:

- By controlling intermediate hosts i.e. *Musca* flies by using insecticides, fly repellant etc.
THANK YOU