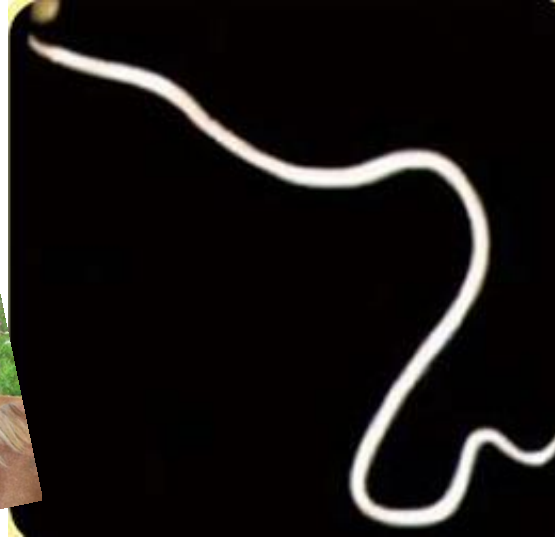




Setaria

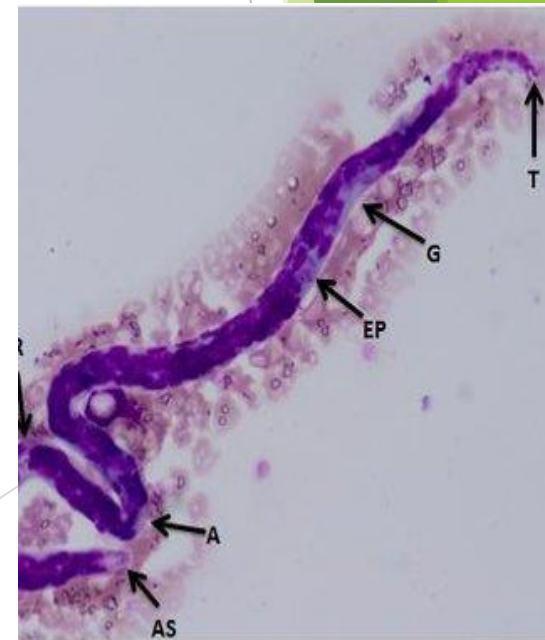
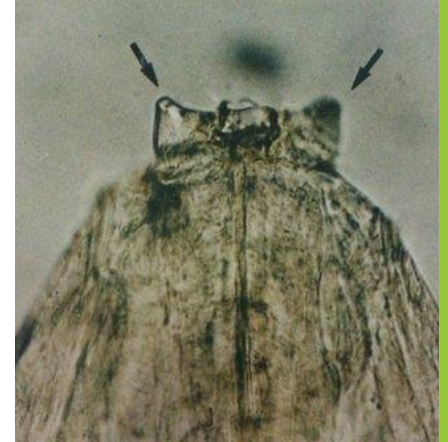


डा. अजीत कुमार
परजीवी विज्ञान विभाग
बिहार पशुचिकित्सा महाविद्यालय
बिहार पशु विज्ञान विश्वविद्यालय,
पटना-800014 (बिहार)

Setaria

Morphological Characters:

- Mouth is surrounded by a cuticular ring which bears dorsal, ventral and lateral prominences.
- Long, slender and milky white worm.
- Hind is spirally coiled .
- Common Name: Abdominal worm

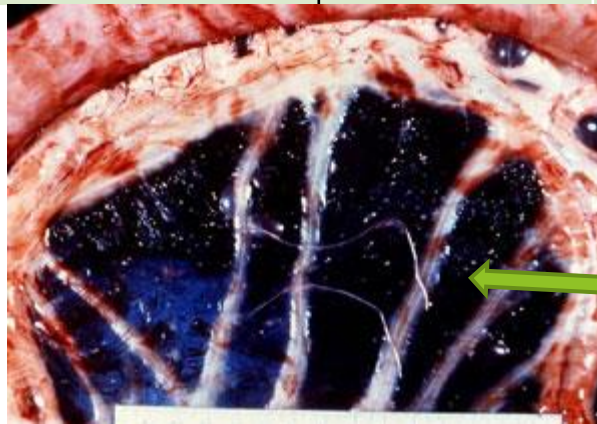


Setaria

Family : Setariidae

Species:

Species	Final host	Intermediate host	Location
<i>Setaria digitata</i>	Cattle & buffalo	Mosquitoes	Peritoneal cavity
<i>Setaria labiata-papillosa</i>	Cattle & buffalo		
<i>Setaria equina</i>	Horse, donkey, zebra & occasionally in cattle & man		Primarily in the peritoneal cavity but sometimes in the eye, pleural cavity, lungs etc.



Adult *Setaria equina* in peritoneal cavity

Setaria

Life-cycle:

Indirect life-cycle

Species	Intermediate host
<i>Setaria digitata</i>	Mosquitoes (<i>Aedes</i> , <i>Culex</i> and <i>Anopheles</i> spp.)
<i>Setaria labiotapapillosa</i>	Mosquitoes (<i>Armigeres abturabans</i> , <i>Aedes</i> , <i>Culex</i> and <i>Anopheles</i> spp.)
<i>Setaria equina</i>	Mosquitoes (<i>Aedes aegypti</i> and <i>Culex</i> spp.)



Anopheles sp.



Aedes sp.

Setaria

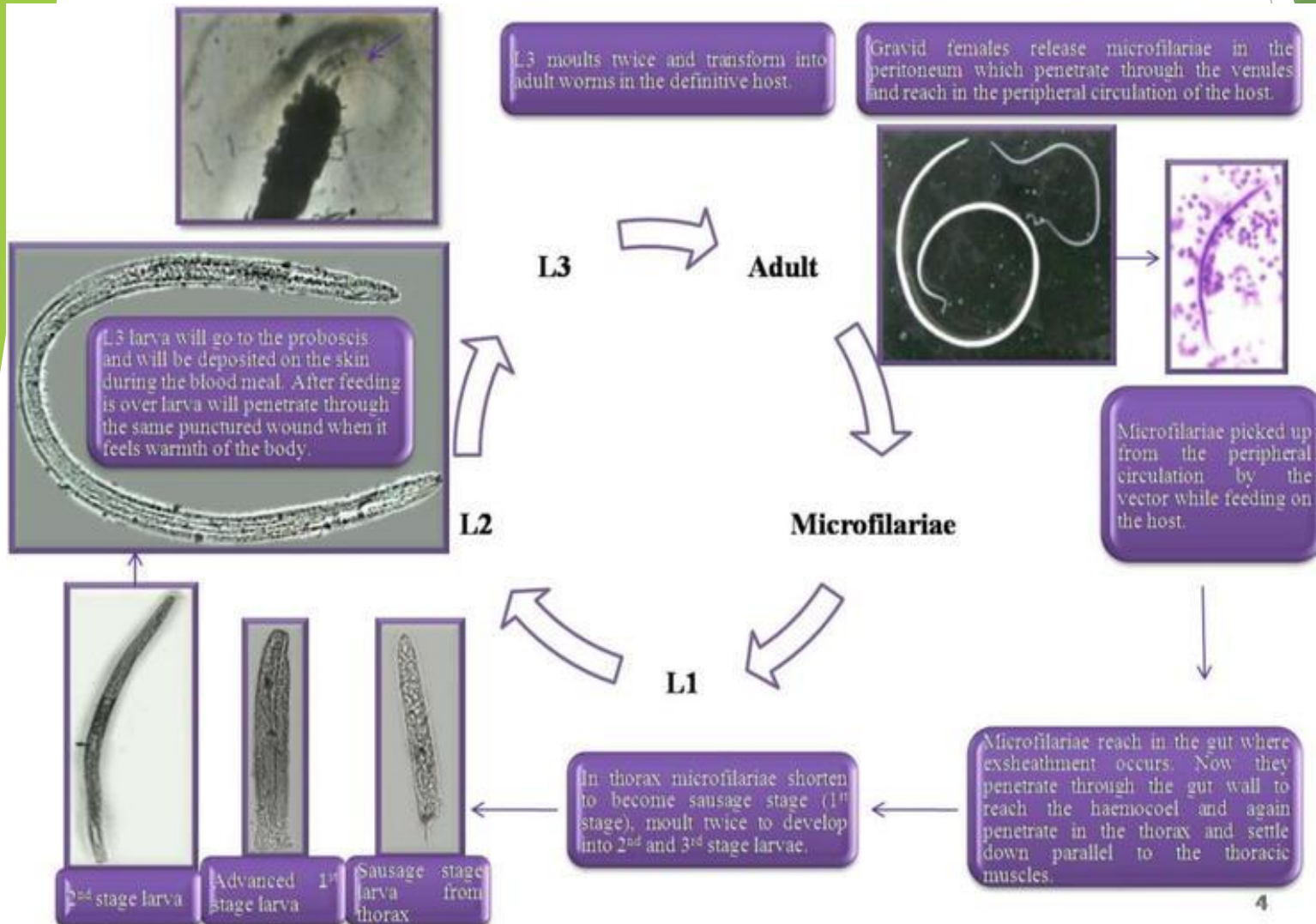
Transmission:

- ⌚ Microfilariae are taken by the mosquitoes during blood sucking of *Setaria* sp. Infected host.
- ⌚ Infective larvae develop inside the mosquitoes within 2 weeks.
- ⌚ Transmission occurs when 3rd stage larvae (L₃) infected mosquitoes suck blood of final hosts.



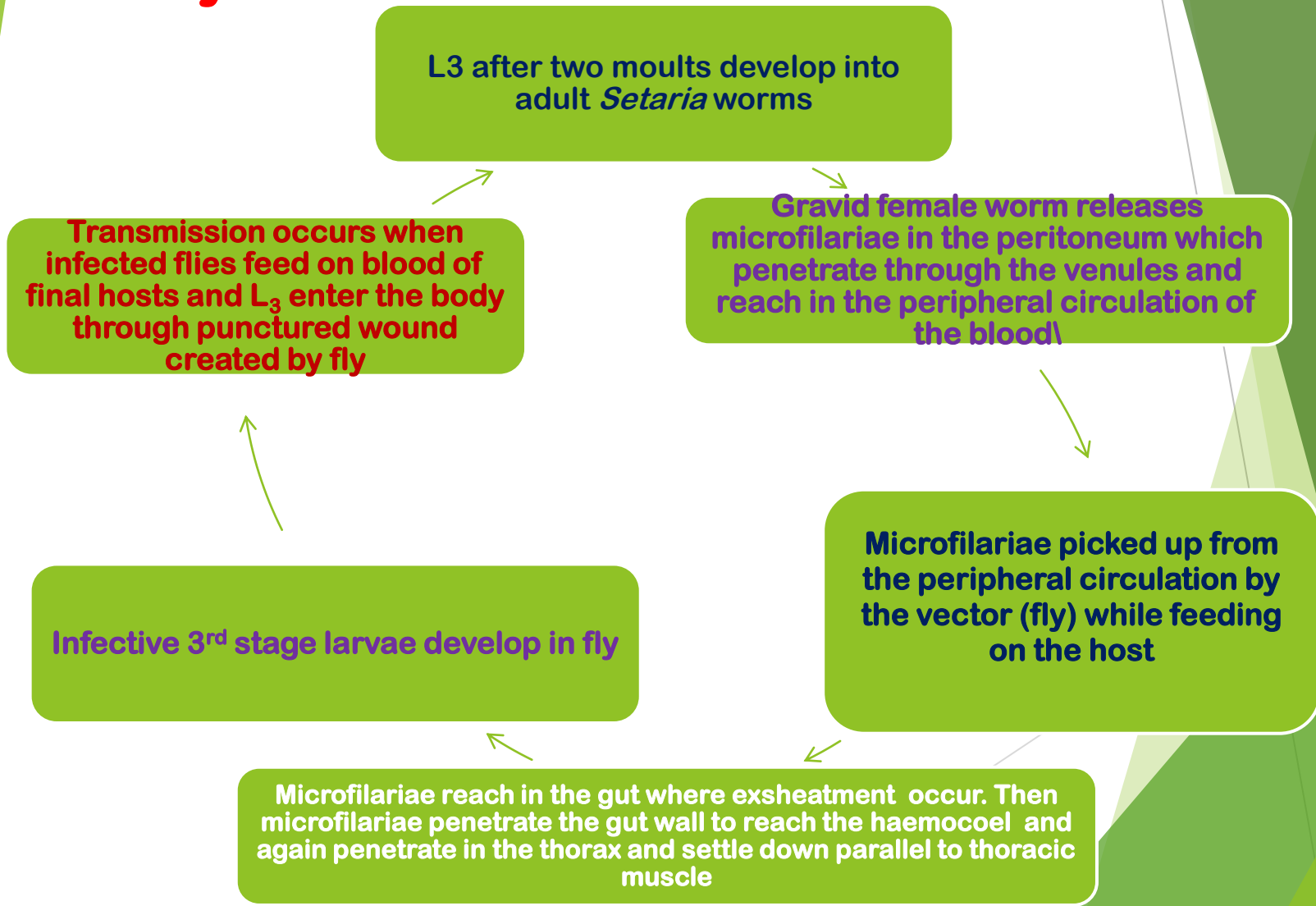
Setaria

Life-cycle:



Setaria

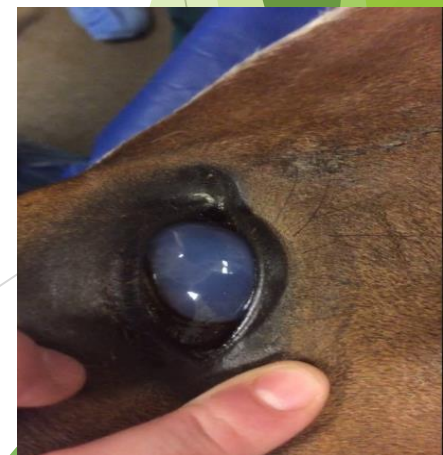
Life-cycle:



Setaria

Pathogenesis :

- ✓ Adult worms are non-pathogenic although they may cause a mild fibrinous peritonitis.
- ✓ Major pathogenic effects of *Setaria digitata* and *S. labiato-papillosa* are due to erratic migration of their larvae in the CNS of abnormal hosts like sheep, goats and horse.
- ✓ Migratory larvae of *Setaria digitata* cause enzootic cerebrospinal nematodiosis (irreversible lumbar paralysis) in sheep & goat and Kumri in horses during summer and autumn
- ✓ *Setaria equina* caused eye lesions like ocular opacity, photophobia, lacrimation, corneal leukoderma, Irridocystis, uveitis etc.



Ocular opacity in horse

Setaria

Clinical signs:

Enzootic cerebrospinal nematodosis affected animals show clinical signs consists of

- ⌚ **Encephalomyelitis**
- ⌚ **Irreversible lublar paralysis**
- ⌚ **Paraplegia, reduced milk yield, circling movement, mucopurulent discharge from eyes, swelling in the legs and weeping wounds on the body etc.**



Uveitis caused by adult *S. equina*

Setaria

Diagnosis:

- On the basis of clinical signs.
- Microscopic examination of blood smear reveal microfilariae.
- In case of cerebrospinal nematodosis, the examination of cerebrospinal fluids is necessary for the detection of microfilariae.
- Adult *Setaria* worms are found in the peritoneal cavity during Post-mortem.



BLOOD or
CSF



Microfilaria

Setaria

Treatment :

- No effective treatment for setarial paralysis
- Ivermectin found to be effective against adult worms of *Setaria equina*.
- Surgical removal of larvae from the eye

IVERMECTIN
INJECTION



Setaria digitata, fine gray white parasite in anterior chamber (arrow), size of parasite magnified by cornea



Setaria equi adult worms between intestine in the peritoneal cavity

Setraia

Control:

- ❖ By controlling intermediate hosts i.e. mosquitoes.





**THANK
YOU**