

**MJF COLLEGE OF VETERINARY & ANIMAL
SCIENCES, CHOMU, JAIPUR**



GENUS - SETARIA

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SETARIA

- ❖ Worms are long and milky white in colour.
- ❖ Mouth is surrounded by chitinous ring, called as "**peribuccal ring**".
- ❖ It has lateral, ventral and dorsal prominence.
- ❖ The tail of males bears 4 pairs each of pre and post-cloacal papillae.
- ❖ The spicules are unequal.
- ❖ The tail of female bears spines or conical projection.
- ❖ In both sexes, there is a pair of small appendages near the tip of the tail.
- ❖ The sheathed microfilariae occurs in the blood.

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

Life-cycle

- ❖ **Indirect life-cycle**
- ❖ **Mosquitoes (Aedes, Culex and Anopheles spp.) act as intermediate hosts.**

Adult *Setaria* species live in the peritoneal cavity.



Microfilariae are taken up by mosquitoes along with blood during feeding.



Infective L3 are developed within 2 weeks and will be inoculated into the final hosts at the time of blood sucking.



They reach to the peritoneal cavity via circulation and become adult 8-10 months after infection.

Pathogenesis

❖ *Setaria spp.* are non-pathogenic in their usual final host. But in the unusual hosts they cause major pathogenesis.

❖ Major pathogenic effects of *Setaria digita* and *S. labioato-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 (lumbar paralysis)** in sheep & goat and **Kumri** in horses during summer and autumn.

Enzootic cerebrospinal nematodosis affected animals show clinical signs consists of

- ✓ **Encephalomyelitis**
- ✓ **irreversible lublar paralysis**
- ✓ **paraplegia**
- ✓ **Reduced milk yield**
- ✓ **Circling movement, Locomotor disturbances**
- ✓ **Mucopurulent discharge from eyes, swelling in the legs**
- ❖ ***Setaria equina* caused eye lesions like ocular opacity, photophobia, lacrimation, corneal leukoderma, Irridocystis, etc.**

Diagnosis

- ❖ It is done by finding microfilariae in routine blood smears.
- ❖ In case of cerebrospinal nematodosis, cerebrospinal fluid is necessary for detection of larval forms.
- ❖ The adult worms are detected in the peritoneal cavity on post- mortem.

Treatment and control

- ❖ **No effective treatment**
- ❖ **Ivermectin has been reported to be effective against adults of *S. equina*.**
- ❖ **Control of the mosquito vectors is suggested**



THANK YOU!