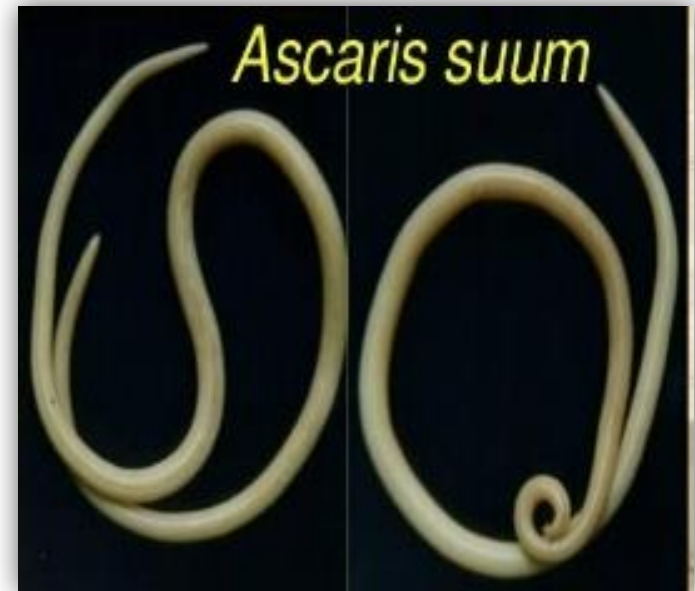


Lecture
On
Ascaris suum



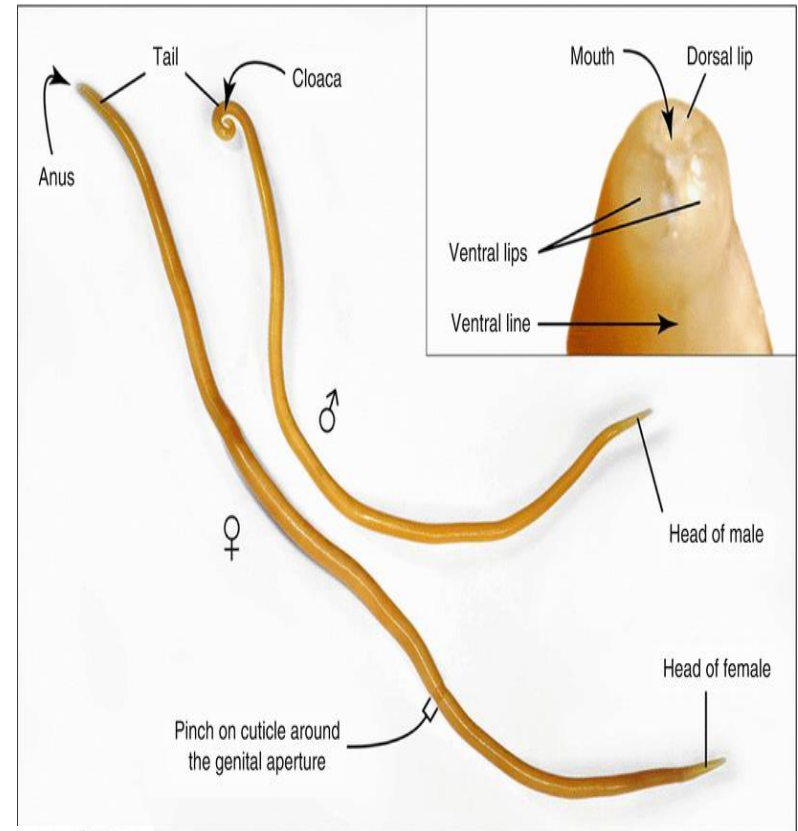
Delivered by
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Assistant Professor
Veterinary Parasitology

Family: Ascarididae

General Characters:

- Three well developed lips
- Buccal capsule or pharynx absent
- Oesophagus is usually club- shaped
- Male has paired spicules
- Direct life-cycle
- Worms are commonly called ascarids.

Genus: *Ascaris*, *Parascaris*, *Toxocara* and *Toxascaris* spp.



Club shaped
Oesophagus

SPECIES OF ASCARID WORMS

No.	Species	Common name
1	<i>Ascaris suum</i>	Ascarid worm of pig
2	<i>Toxocara vitulorum</i>	Ascarid worm of cattle, buffalo, sheep and goat
3	<i>Toxocara cati</i>	Ascarid worm of cat
4	<i>Toxocara canis</i>	Ascarid worm of dog
5	<i>Toxascaris leonina</i>	Ascarid worm of dog and cat
6	<i>Parascaris equorum</i>	Ascarid worm of horse
7	<i>Ascaris lumbricoides</i>	Ascarid worm of man

Ascaris suum



Final Host	Pig
Location	Small Intestine
Common name	Largest nematode of pig

Morphology

- Males are 15-25 cm whereas Females are up to 40 cm long.
- Three well developed lips.
- Eggs are oval shaped, brownish yellow colour with thickened shell, the outer layer of which is irregularly mammillated.

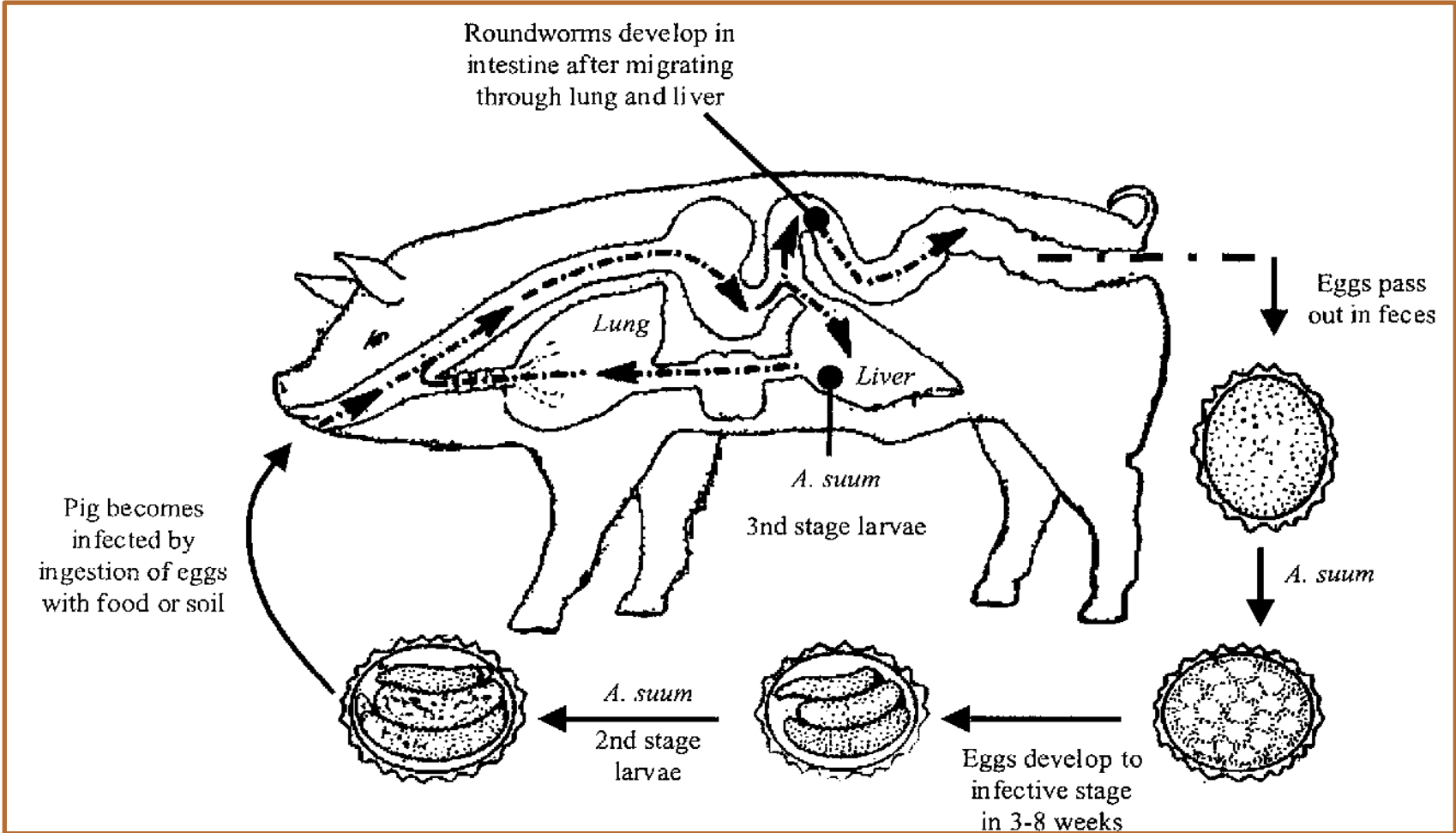


***Ascais suum* adult male with typical curled posterior end together with a significantly larger female worm**



Eggs

Life-cycle



- Direct life-cycle
- **Infective stage: egg containing 2nd stage larvae.**
- Transmission: by the ingestion of egg containing 2nd stage larvae with food and water.
- Ingested infective eggs containing 2nd stage larvae hatch in the small intestine and L₂ reach to the liver where develop into L₃.

- L₃ finally reach into the small intestine via trachea and oesophagus (**Tracheal route migration**).
- L₃ via blood-stream enter into the lungs and final two parasitic moults occur in the small intestine

Pathogenesis



- Both larvae and adults are harmful to the host.
- Larvae- They are responsible for formation of milk spots due to fibrosis of liver. These spots are whitish colour with 1 cm in diameter.
- In lungs, they cause severe damage of alveoli and haemorrhages in the alveoli and bronchioles. As a result, there will be pneumonia.



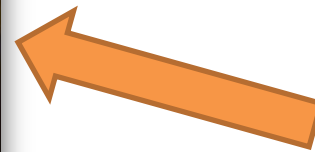
Milk spots



Ascarid larval migration scars in liver

Adult Ascaris suum:

- less pathogenic.
- Intestinal Obstruction may be found in heavy infection.



Intestinal Obstruction



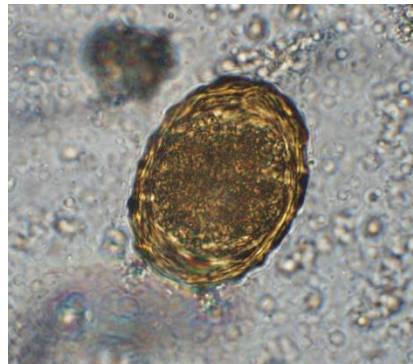
Clinical signs

- ❑ Young pigs (below 6 months of age) are chiefly affected and show signs of
 - ✓ Pneumonia (*Ascaris pneumonitis*)
 - ✓ Coughing
 - ✓ Decreased growth rate
 - ✓ Diarrhoea

Diagnosis

- On the basis of Clinical signs.
- Microscopic faecal examination

Egg is brownish yellow ovoid with thick shells, the outer layer of which is irregularly mamillated.





Treatment

- ✓ Levamisole hydrochloride - 8 mg/kg body wt. orally
- ✓ Fenbendazole – 5 mg/kg body wt. orally
- ✓ Pyrantel tartrate – 22 mg/kg body wt. orally
- ✓ Piperazine salts
- ✓ Ivermectin – 0.3 mg/kg body wt. (I/M –highly effective for adult and larval stages of parasite)
- ✓ Oxibendazole – 15 mg/kg body wt. orally
- ✓ Flubendazole – 5 mg/kg body wt. orally



Control

- ✓ Treatment of Infected pigs.
- ✓ Regular deworming: every 3-6 months interval with suitable anthelmintic.
- ✓ House of pigs should be cleaned and faeces disposed regularly.

