

Lab14

Hymenolepis nana

- This is the smallest tapeworm found in human .
- Proglottids twice as wide as they are long (1× 2 cm) .
- Ova are embryonated .

The eggs are hyaline and ovoidal 30 – 47 µm in diameter, they have 2 membranous shells, the inner shell has 2 poles . From each pole 4 – 8 filaments arise and lie in the space between the 2 shells . In side the egg is the oncosphere which carries 6 hooks .

Common name : Dwarf tapeworm .

Disease : Hymenolepiasis .

Habitat : Small intestine .

Intermediate host : Beetles , *Tribolium confusum* ,

Tribolium castaneum .

Final host : Human .

Mode of infection : Egg ingestion, or ingestion of infected insects, containing cysticercoids .

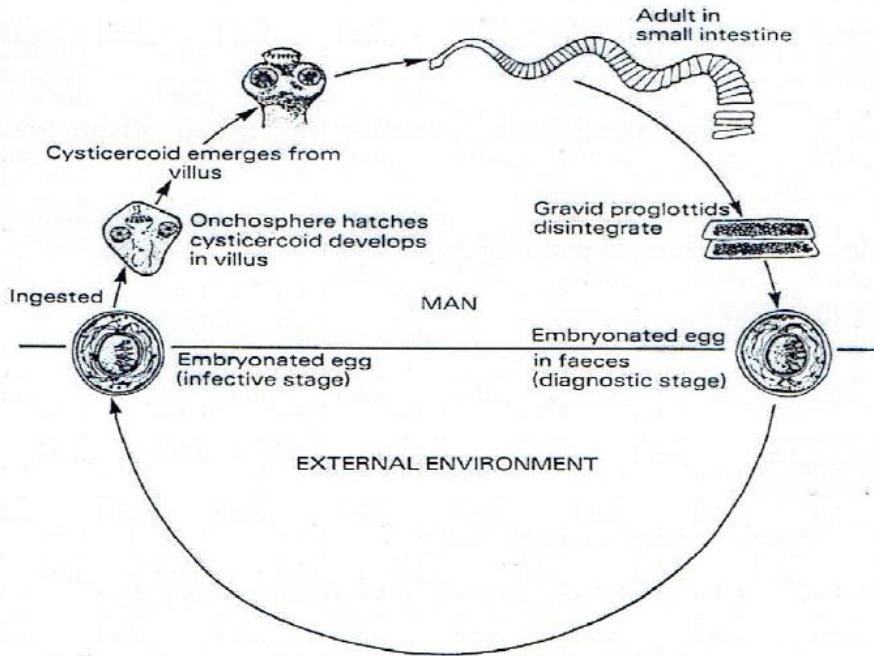
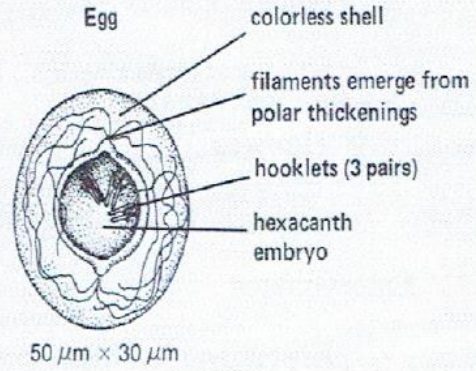
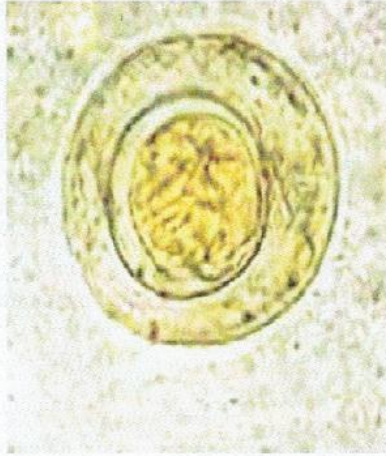
Diagnosis : G.S.E., eggs in faeces .

Clinical aspects :

1. The light infection is asymptomatic .
2. In heavy infection :
 - Intestinal disturbance .
 - Abdominal pain .
 - Diarrhoea .
 - Vomiting .
 - Anorexia .

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Diagnostic Stage



Life cycle of *Hymenolepis nana*

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Hymenolepis diminuta

Habitat : Small intestine .

Common name : Rodent tapeworm .

Disease : Hymenolepiasis .

Intermediate host : Grain beetles , rat flea .

Final host : Humans .

Mode of infection : Ingestion of infected insects containing cysticercoides .

Ova : Embryonated .

The ova is spherical and hyaline .

It has two membranous shells .

The inner shell has polar thickening, but no filaments .

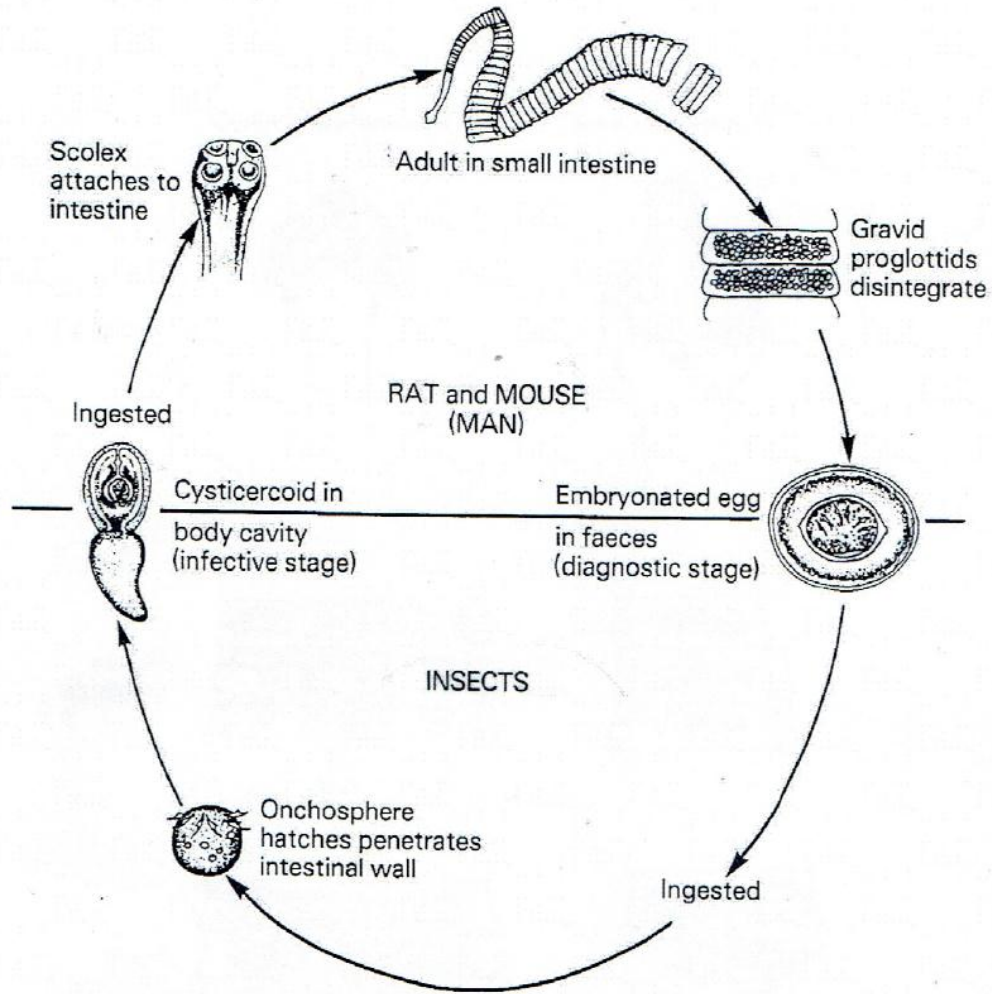
Diagnosis :

1. Proglottids are not found in stool, because they usually disintegrate in human gut .
2. Scolex is rarely seen in such samples .
3. Eggs in faeces .

Clinical aspects :

1. The infection is often asymptomatic .
2. The person with symptoms that are mild in nature such as :
 - Diarrhoea .
 - Nausea .
 - Abdominal pains .
 - Anorexia .

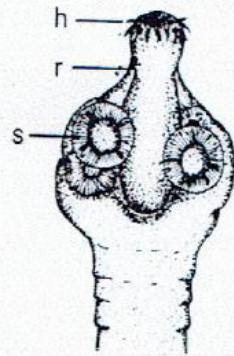
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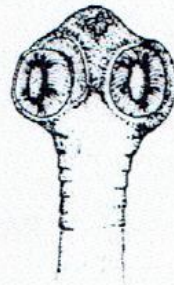
Life cycle of *Hymenolepis diminuta*

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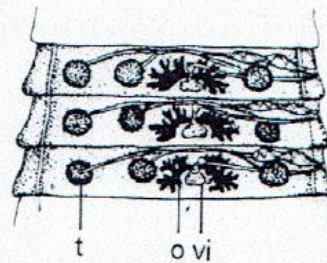
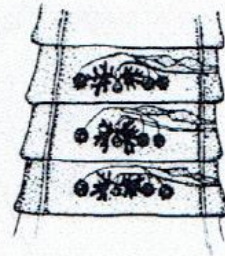
Hymenolepis nana



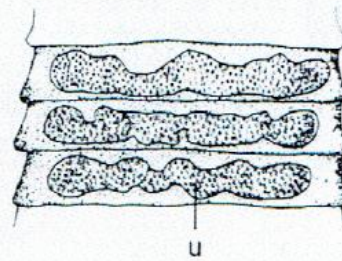
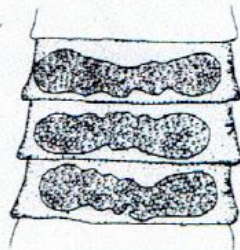
Hymenolepis diminuta



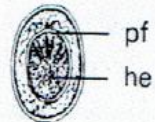
Scolex



Mature proglottid



Gravid proglottid



Egg

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Comparative morphology of *H. nana* and *H. diminuta*

	<i>H. nana</i>	<i>H. diminuta</i>
<i>Scolex</i>	4 suckers rostellum with hooks	4 suckers no hooks
Egg	Polar thickening with filaments	Polar thickening without filaments
<i>Mature Segment</i> Ovary	Bilobed	Bilobed
Testes	3 globular close	3 globular widely separated
<i>Gravid Segment</i> Uterus	Sac like irregular	Sac like irregular

- h = hooks
- r = rostellum
- s = suckers
- t = testes
- o = ovary
- vi = vitelline gland
- u = uterus
- pf = polar filaments
- he = hexacanth embryo