

Lecture 12

Parasitic Helminthes, Arthropod Agents and Vectors of Diseases



1. Name the three main groups of parasitic helminths and their characteristic morphological features.
2. Describe the life cycle of *Ascaris lumbricoides* as an example of parasitic helminths.
3. Discuss the role of arthropods as agents and as vectors of diseases in humans.
4. Give examples of the main arthropod vectors of diseases.

Done by: Latifah Al-fahad & Abdullah Alanazi

Helminthes

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Revision of parasites classification:

protozoa	Helminthes
Unicellular Single cell for all function	Multicellular Specialized cells
<ul style="list-style-type: none"> • Amoebae: move by pseudopodia. • Flagellates: move by flagella. • Ciliates: move by cilia • Apicomplexa "Sporozoa": Tissueparasites 	<ul style="list-style-type: none"> • Round worms "Nematodes": cylindrical Unsegmented • 1. Flat worms: Trematodes: leaf-like, un-segmented. • 2. Cestodes: tape-like, segmented found either in: <ul style="list-style-type: none"> • Intestine • tissues

1. Nematodes (round worms):

Common example: *Ascaris lumbricoides*

found in

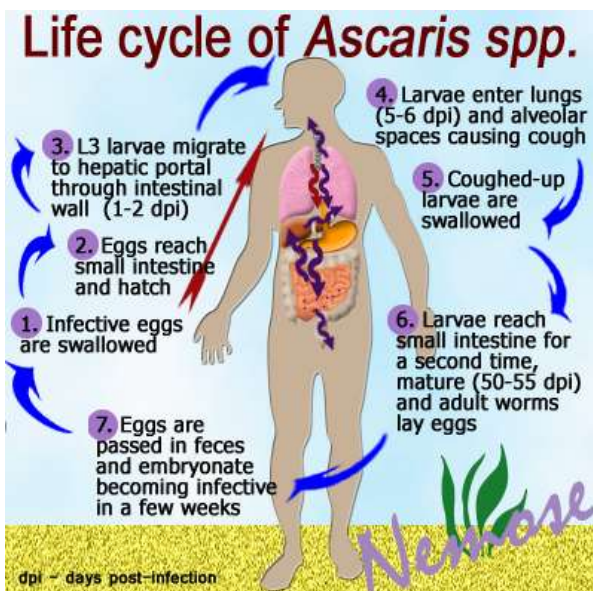
• small intestine (jejunum & ileum)

feed on

• semi digested food

gender

• female is around 20 cm long.
• male is around 10 cm long.



Modified picture for the life cycle of *Ascaris* as (no more than what we need to know)

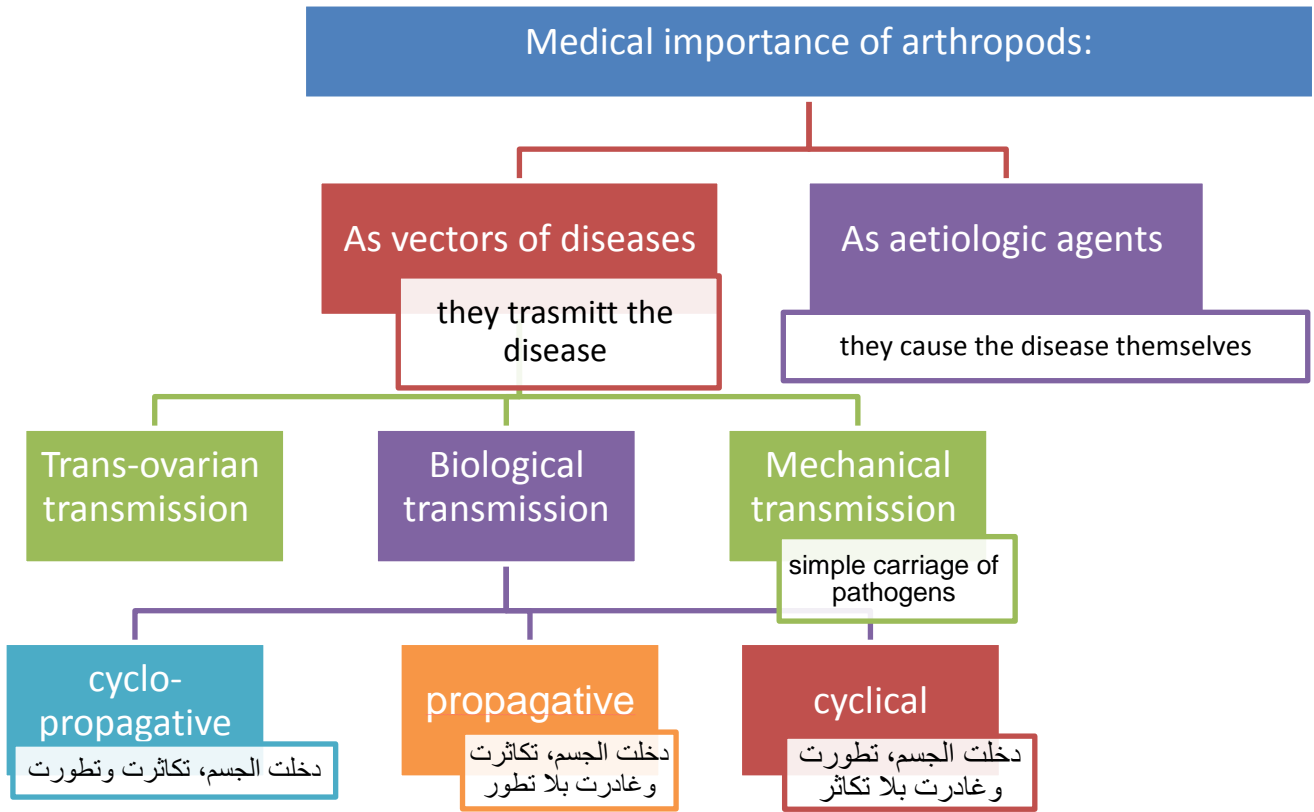
2. Trematodes (leaf-like worms)

3. Cestodes (tape-like worms):

Common examples: *Taeniasaginata*

المفصليات

ARTHROPODS



Classification of Arthropods

Class Insecta

Class *Arachnida*

Class Crustacea

الحشرات

العناكب

القشريات

The most important ones

House fly (<i>Muscadomestica</i>)	Mechanical transmission of many pathogens.
Mosquitoes	Cause: malaria, filariasis
Fleas	Rat flea is vector for plague due to <i>Yersinia pestis</i>
Tsetse fly (<i>Glossina</i>)	Vector for African Trypanosomiasis (African sleeping sickness)
Sand fly (<i>Phlebotomus</i>)	Vectors for leishmania.