**Nematoda Lab - Analysis**

**1. Describe the life cycle of Ascaris from egg to adult and back to egg**  
    Adult lives in small intestine. Eggs leave the human body in feces. These feces land on the ground, leaving residue on fruits and vegetables. The ***eggs grow into juvenile worms encased inside the egg***, which then re-enter the body when someone ***eats the fruit*** without cleaning it. The ***larvae hatches in the small intestine and digs*** into the bloodstream and ***travels to the lungs***. Some development occurs in the lungs (lots of oxygen). The ***larvae is then coughed up, swallowed and returns to the intestine*** where it continues to ***develop into an adult***. Once fully grown, the worms begin to release eggs and sperm, and the fertilized eggs once again leave the worm in our feces.  
  
**2. In what ways are hookworms similar to Ascaris**  
    Both of the worms are *parasitic*, with *little to no sensory organs*, mostly only possessing *digestive* and *reproductive* organs. They *both live in the small intestine* of humans, absorbing nutrients to sustain themselves that would be normally used for ourselves.  
  
**3. How does Necator enter the body? How does it get inside the host's intestine?**  
    When walking barefoot, the worm *attaches to your feet* and secretes fluid that causes your feet to itch. When scratched, tiny cuts open up in your feet, where the worms enter *into your bloodstream*. They then travel through the heart *to the lungs* and enter the respiratory system. They *irritate your throat, causing you to cough them up*. They then enter the *digestive system when you swallow*, and then travel to the small intestine where they *latch onto the intestinal lining* and begin to grow.   
  
**4. For the Trichina worm, how does it compare to Necator (Hookworm) and Ascaris (intestinal roundworm)?**  
    *Parasitic.* It has the same lack of sensory organs that appear in Necator ("itch worm" goes in through skin) and Ascaris (eating unwashed vegetables) (live in intestines). However, Trichina *forms cysts in the muscle tissue*, and is causes infection by eating undercooked pork. **Painful cysts in muscles**.  
  
**5. How can Trichinosis be prevented? (causes painful muscle cysts – eating undercooked meat)**  
 By fully cooking all pork that is eaten.  
  
**6. What germ layer is the roundworms' pseudocoelom located between?**  
      It is located between the mesoderm (muscles) and the endoderm (intestines).  
  
**7. What organs and organ systems are located in the nematode's body cavity (pseudoceolom)**

      The *digestive organs* (intestines) and the *reproductive organs* are found in the pseudocoelom.

**8. In what ways are the parasitic members of Nematoda different from their free-living relatives?**  
     The parasitic members of Nematoda are different from their free-living relatives because the free-living ones *live in soil or water and act as decomposer*s, whereas the parasitic ones *rely on a living host*. Free-living worms will have more developed muscle, digestive and nervous systems.

**9. What are the advantages and disadvantages of being a parasite?**  
      Advantages - They *don`t have to find your own food*. They simply absorb nutrients that would normally go into their hosts` body. Once they are in place, they *stay there for the rest of their lives* and don`t have to look for food.   
       Disadvantages – Relying on host for food. *If the host is malnourished or dies, the worm won`t get proper nutrients and will die*. Without sensory organs, if the worm doesn`t make it into the body of a host, it will die of starvation. Once detected, the worms can be easily killed with medication or surgeries.  
  
**10.** ­

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Entering body** | **Where it lives** | **Host/Effects** | **Prevention** |
| **Taenia**  **(tapeworm)** | Uncooked infected meat | Attaches to wall of *small intestine* | Humans. Causes malnourishment  Secondary host = pigs | Cook meat well |
| **Clonorchis**  **(liver fluke)**  Flatworms | Egg consumed by snail, enters skin of fish as larva  Uncooked fish/meat/vegetables | *liver of primary host* | Snail=intermediate animal (you)=primary  Humans, malnourishment | *get rid of snails around animals*  cook fish/meat  wash vegetables |
| **Ascaris**  **(intestinal roundworm)** | On unwashed fruit/veggies | *Small intestine* | Malnourishment / abdominal pain | Wash fruit before eating |
| **Necator**  **(hookworm)** | Enters through feet  Through cuts in toes when host scratches | *Small intestine* | Malnourishment  Mental and physical disabilities in children | Don`t go barefoot  Wearing shoes when walking in feces |
| **Trichina**  **(trichinosis causing)**  **roundworms** | Enters through mouth when consuming undercooked pork | Lives all over body in specific *muscle tissues* | Humans and animals. It forms very painful cysts in muscles | Make sure all pork is fully cooked before consumption |