

PARASITOLOGY PRACTICAL 4 - FLIES - ANSWERS TO QUESTIONS

Blowfly (*Calliphora*) -v- Stable fly (*Stomoxys*)

Blowflies are all large, robust, round-bodied flies. They are harmless as adults and have mouthparts for sponging only. It is the larvae of blowflies which can be harmful, causing myiasis. This is most important with *Lucilia* (greenbottle flies). The *Calliphora* blowfly (bluebottles) also have larvae sometimes important in myiasis. *Stomoxys* flies (stable flies) look just like houseflies except they have distinct biting mouthparts like a tube or proboscis which they use for feeding on blood of cattle.

***Stomoxys*:**

Metamorphosis type? - The life cycle stages seen represent complete metamorphosis with a complete change in body form from the larvae to the adult via the transforming pupa stage.

Breeding site? - This is mixture of cattle dung, straw and debris found at cattle pens. Clearing it and using it for fertilizer manure will reduce *Stomoxys* populations.

***Musca*:**

Transmission mechanism? - *Musca* transmit *Moraxella bovis* and other bacteria between cattle by superficial contamination of their sponging mouthparts. This is mechanical transmission because it involves no biological development of the pathogen (bacteria) within the vector (fly). If there is development in the vector then transmission is called biological.

***Culicoides*:**

Feeding? - Any blood feeding insect only has to penetrate through the epidermis to reach dermal capillaries. The epidermis is always only a few cells thick.

Allergic reaction? - This is sweet itch and is an example of type 1 and type 4 hypersensitivity.

Breeding site? - This is in damp soil, bogs, etc. These are diffuse and widespread and almost impossible to apply control measures to.

***Melophagus*:**

Difference from a tick? - Any tick of this size will be an adult. All adult ticks have four pairs of legs and a body divided into mouthparts and rest of body. The sheep ked or louse fly is an insect with only three pairs of legs and head, thorax and abdomen.

Host to host? - *Melophagus* the sheep ked gets from host to host directly by crawling during close contact of hosts. These flies have no wings. Other louse flies such as *Hippobosca* the New Forest fly have wings when they first emerge from the pupa and use these to fly from host to host.

***Oestrus* -v- *Gasterophilus*:**

Identification? - If you know what a myiasis larva looks like and you know the host and location within the host the identification (to genus level) has only one option.

Hypoderma

Size of larvae? - The adults cannot feed, thus need much food reserves from larval stage to fly actively to find mate and host.

Facultative parasite? - This is *Lucilia*, it can survive non-parasitically, on carrion.

Obligate parasites? - *Oestrus*, *Hypoderma*, *Gasterophilus*, they can only survive as parasites.