Lecture No.37 PARASITOLOGY DR. Raad H.H.

**Order: Diptera; suborder: Brachycera**

**Characters :**

1. flies that tend to be robust
2. antennae reduced to 3 segments; terminal segment pointed
3. wing venation is reduced
4. some species nicely colored, with browns, blacks, greens, oranges, etc.
5. larva active and normally predaceous
6. larval cephalic region usually reduced, vestigial, or retractable
7. some representative species in various families listed below

**Infraorder: Tabanomorpha**

**FAMILY: Tabanidae (horse flies and deer flies)**

1. about 4,000 species in many genera
2. generally large
3. predominately feed during the day; females feed on blood and males feed on plant juices
4. mouthparts with serrated mandibles to cut tissue; maxillae also serrated and pierce further into tissues; blood wells up and ingested (telmophagy)
5. life-cycle
   1. female takes blood meal; males feed on plant juices and nectar
   2. females lay hundreds or thousands of eggs at waters edge; on moist vegetation; in moist soil
   3. larvae with retractable head hatch; 4-9 instars (about 1 week each)
   4. pupate, usually in less moist soil (2-3 weeks typically)
6. common genera in North America include *Tabanus*, *Hybomitra*, *Haematopota* (all "horse flies") and *Chrysops* ("deer flies"). About 42 spp. are known from Kansas
   1. *Chrysops* spp. tend to be medium in size, and the wings normally have one or more spots or splotches. The antennae are long with the second segment elongate without any projections. The elongate antennae and splotch on the wings tends to be fairly diagnostic in most cases.
   2. *Haematopota* spp. are uncommon in North America, but are medium in size, grey, and possess wings that fold roof-like up over the abdomen. Wings tend to be grey and with specks. The antennae are short, with the second and third segments having small projections; the third segment is straight
   3. *Tabanus* spp. are medium to large is size, normally with clear wings (although some species have dark markings). The antennae are oddly short with the second and third segments having small projections. The third segment is usually curved upwards, which is a dead giveaway.
7. may **transmit** some **diseases**
   1. *Elaeophora schneideri* by *Tabanus* spp. and *Hybomitra* spp.
   2. *Loa loa* by *Chrysops* spp.
   3. *Trypanosoma evansi* by *Tabanus* spp.;
   4. *Trypanosoma theileri* by *Tabanus* spp. and *Haematopota* spp.
   5. may mechanically transmit amoebae and flagellate cysts; bacterial spores such as anthrax and anaplasmosis