Bot Flies, Oestridae

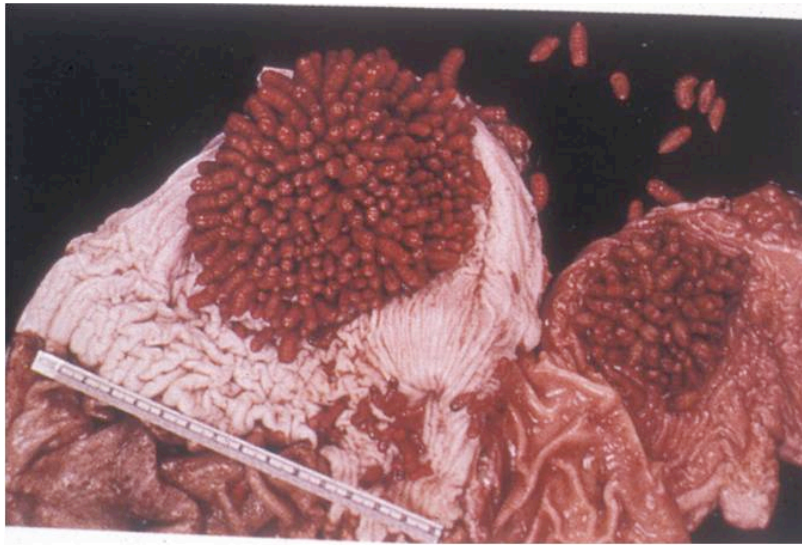
- Several species infect cattle, deer, horses, etc.
- *Cuterebra*, skin of rodents, lagomorphs, marsupials
- *Dermatobia hominis*, Mexico, South America.
- Head maggots: *Oestrus* (sheep), *Cephenemyia* (deer), *Rhinestrus* (horses)
- *Hypoderma*, Cattle, deer, humans
- Stomach bots, *Gasterophilus*

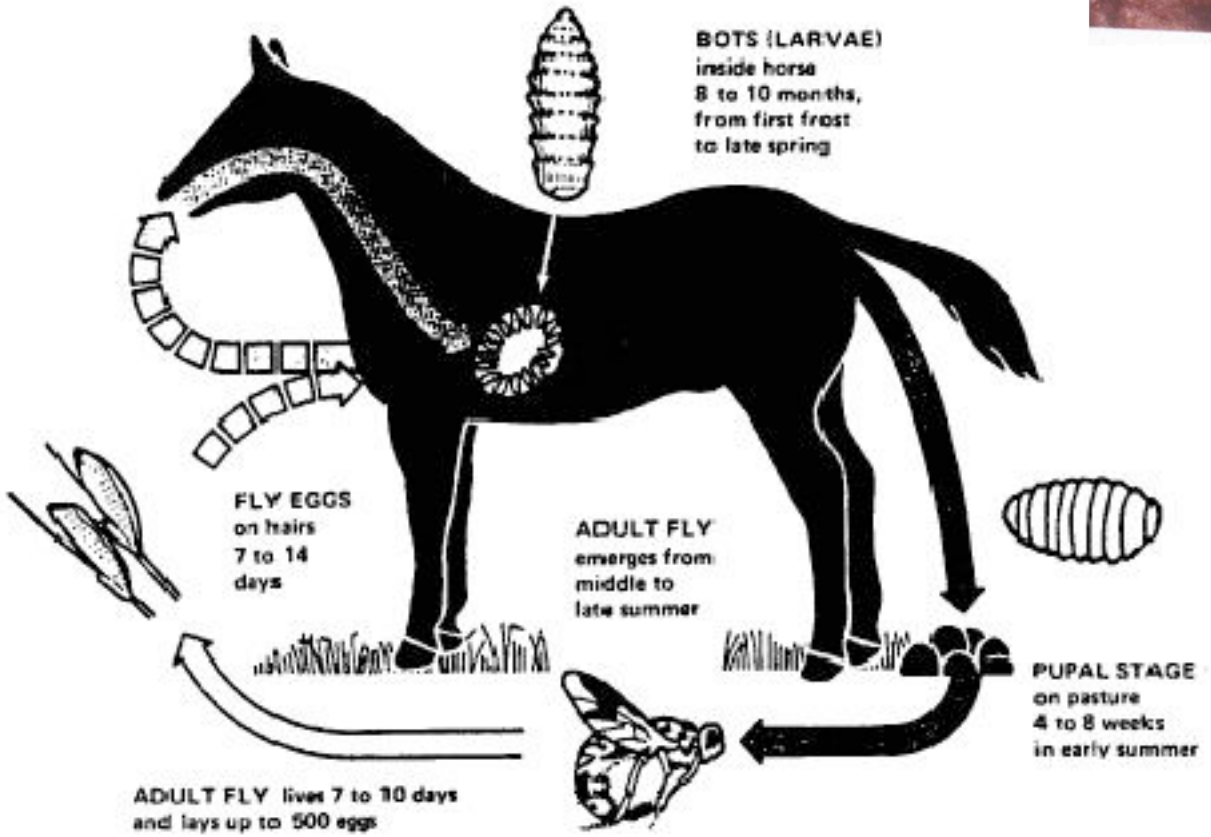
Cuterebra sp. In skin of squirrel

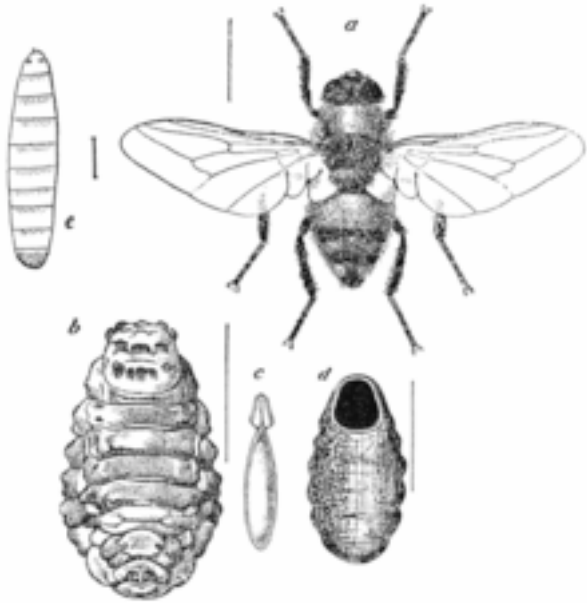
Cuterebra sp.

- Cuterebra fontinella seems to mediate competion between chipmunk species in Rockies.
- High altitude chipmunk aggressive, dominates lower altitude chipmunk species but excluded from lower altitude habitats by flies.

Gasterophilus spp.







Nose bots, e.g., Oestrus ovis

Cephenemyia spp., deer throat bots

- Dermatobia hominis (Mexico, S. America)

Figure 1. Dorsolateral view of a *Sarcopromusca pruna* specimen with *Dermatobia hominis'* eggs on the right abdomen.

Hippoboscidae, Melophagus ovinus

Hippobiscid flies are parasitic on Ruminants throughout the world. Sheep Ked, M. ovinus occurs on sheep.

Other species occur on birds. Very agile

- Rothschild, M.L. & T. Clay. 1957. *Fleas, Flukes & Cuckoos; A Study of Bird Parasites*. Macmillan, New York.

Final Exam 2016 (due Dec 13)

Evolutionary change depends upon differential mortality associated with genetic variants. Because parasite mortality is highly concentrated around transmission events (many more parasites die than can be transmitted to their hosts), parasite evolution has involved strong selection for variants that confer more efficient transmission be they morphological adaptations or life cycle developments that take advantage elements such as host feeding habits, behaviour, or social structure. Discuss this statement using examples drawn from Protist, Platyhelminth, Nematode and Arthropod parasites.