



Pteropus rufus



Eidolon dupreanum

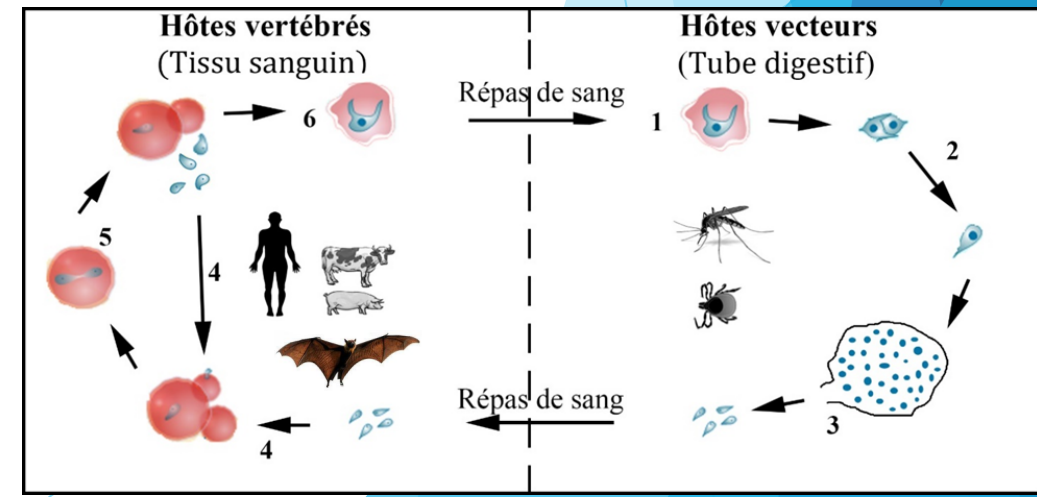


Rousettus madagascariensis



Madagascar fruit bats as host reservoir of blood parasites

- What factors affect the presence of blood parasites
- How blood parasites are maintained within bat population
- Thanks to Cara, Tanjona



What factors affect the presence of blood parasites

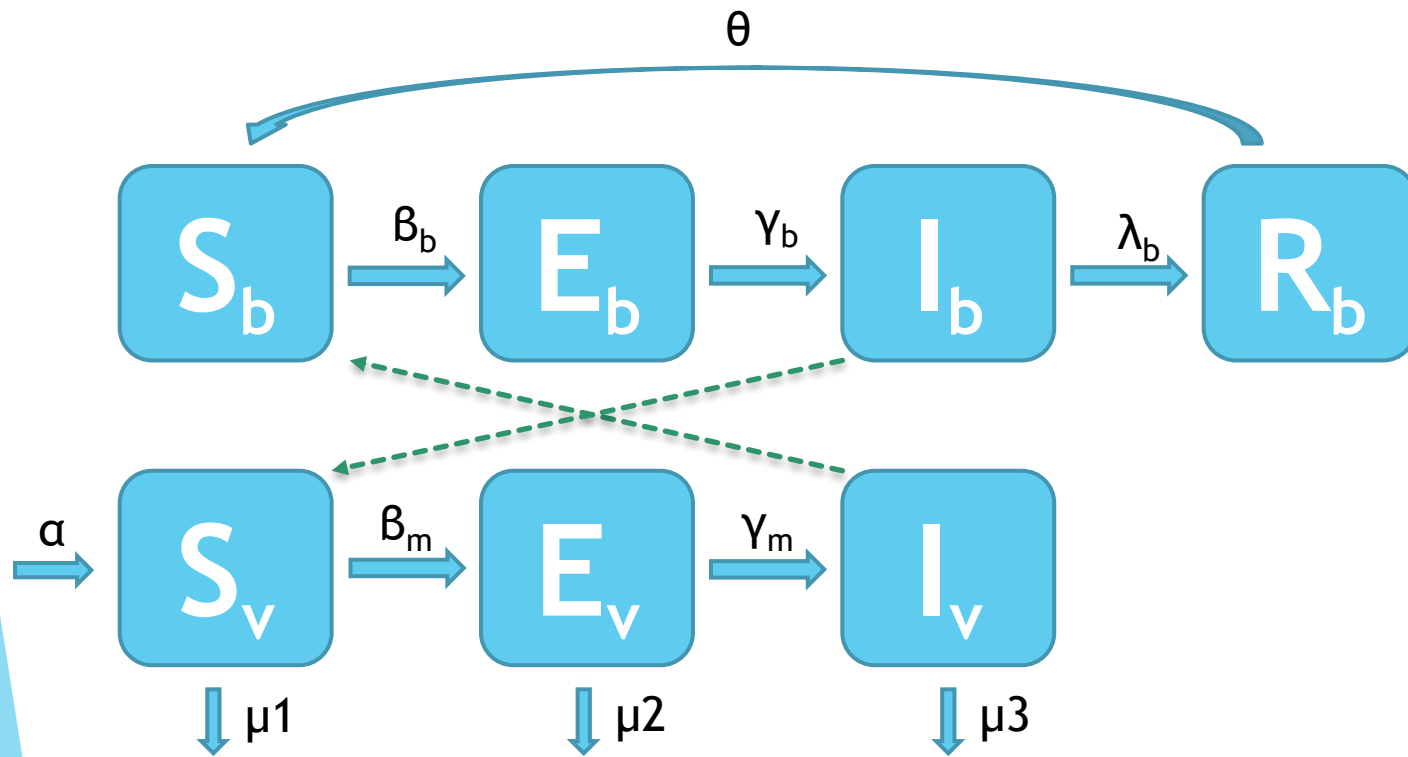
```
glmer(Presence_Absence ~ Size+Weight+Sex+  
      Number_Ectoparasite+  
      Season+(1 | Site),  
      data=mada_bats,  
      family="binomial")
```



Monthly data, collected in different Sites within Madagascar Island

- Bat bio-morphometrics
- Ectoparasite count
- Prevalence of blood parasite (Microscopy, molecular)

How blood parasites are maintained within bat population



S_b : Susceptible bats
 E_b : Exposed bats
 I_b : Infected bats
 R_b : Recovered bats

S_v : Susceptible vector
 E_v : Exposed vector
 I_v : Infected vector

β : Rate at which individuals become exposed to the parasite

γ : Rate at which exposed individuals become infectious

λ : Rate of recovery

θ : Rate of loss of immunity to the infection

α : Vector birth rate

μ : Vector death rate

Outlook

- ▶ Serological survey
- ▶ Identity by molecular analysis
- ▶ Experimental infection in laboratory



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