

Insects and Ticks born Disease

By

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Rickettsia

Typhus Group

Organism	Disease	Geographical Distribution
<i>Rickettsia prowazekii</i>	Epidemic typhus Louse-borne typhus Brill-zinsser disease	World wide

Vector	Mammalian Reservoir	Clinical Feature	Diagnosis
Louse	Humans	Fever, Headache, Rash, severe illness	Serological

Rickettsia

Typhus Group

Organism	Disease	Geographical Distribution
Rickettsia typhi	Murine typhus Flea-born typhus	World wide

Vector	Mammalian Reservoir	Clinical Feature	Diagnosis
Flea	Rodent	Fever, headache, rash, myalgia	Serological

Rickettsia

Spot Fever Group

Organism	Disease	Geographical Distribution
<i>Rickettsia rickettsii</i>	Rock Mountain Spott fever	US south america

Vector	Mammalian Reservoir	Clinical Feature	Diagnosis
Ticks	Rodent, Dogs	Fever, Headache, Rash	Serology

Rickettsia

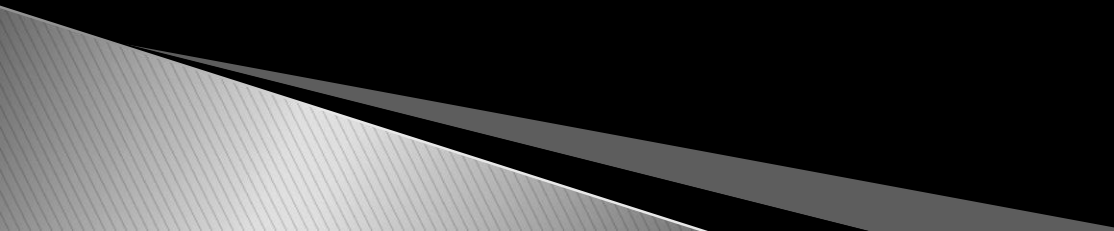
Spot Fever Group

Organism	Disease	Geographical Distribution
Coxiella burnetti	Q-fever	World wide

Vector	Mammalian Reservoir	Clinical Feature	Diagnosis
Ticks	Sheep, cattle, goat	Headache, fever, pneumonia	Positive CF – I & II antigen

Malaria

- ▶ Species
- ▶ *Plasmodium malariae*
- ▶ *Plasmodium faciparum*
- ▶ *Plasmodium vivax*
- ▶ *Plasmodium ovale*

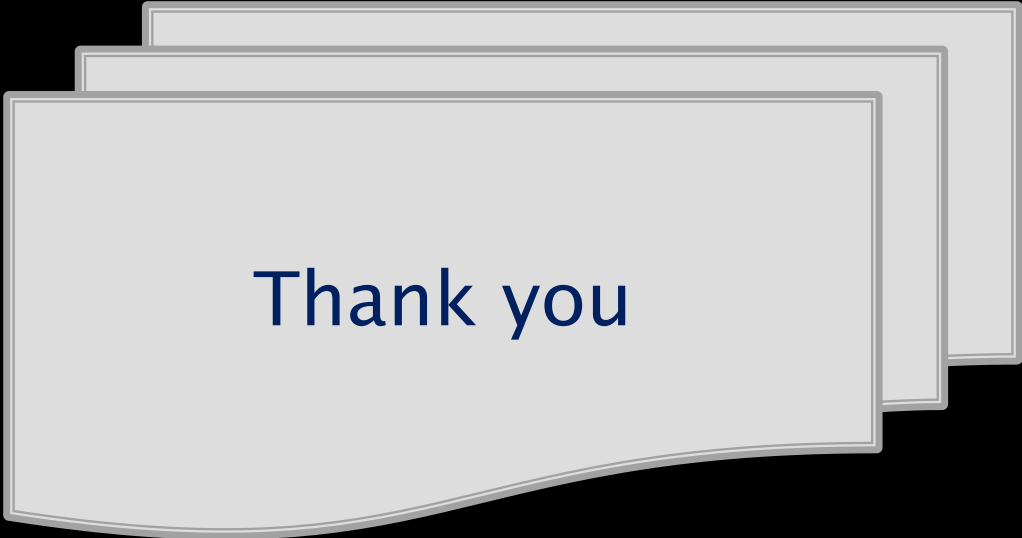
- ▶ Life cycle
 - ▶ Asexual stage – human, sporozoites enter
 - ▶ Exoerythrocytic phase – liver, sporozoites to merozoites
 - ▶ Erythrocytic phase – merozoites to blood, ring form, burst the RBCs
 - ▶ Gametocyte Phase – Gametocyte in RBCs
 - ▶ Sexual Phase – Sporozoite formation by fertilization
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Plasmodia in Relation to Cycle

Species	Sexual cycle Mosquito	Asexual Cycle Human
PM	15–20	72 hr
PF	9–10	36–48 hr
PV	8–9	48 hr
PO	14	48 hr

Diagnosis

- ▶ Microscopic observation –
- ▶ Smear – Giemsa's stain, Merozoits ring
- ▶ Treatment
- ▶ Chloroquine (Aralen) – for all type



Thank you