



**Palestine state .
 . An-najah university. department of
biology
and Biotechnology**

- **course title and number parasitology**

Date: Tuesday, 2015-03-31

Faculty: Faculty of Science

Department: Biology

Course: Parasitology

Lecture #: 19

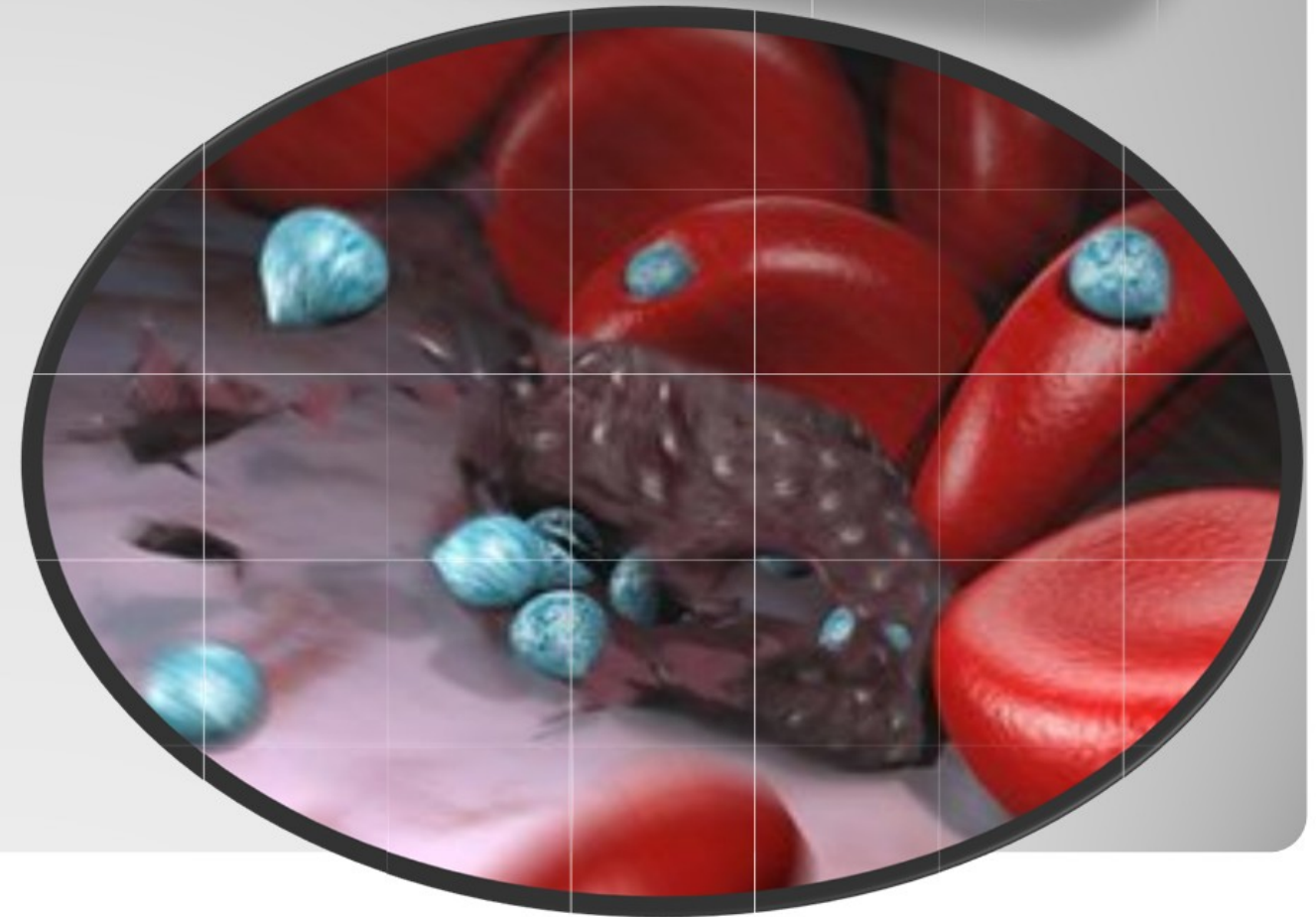
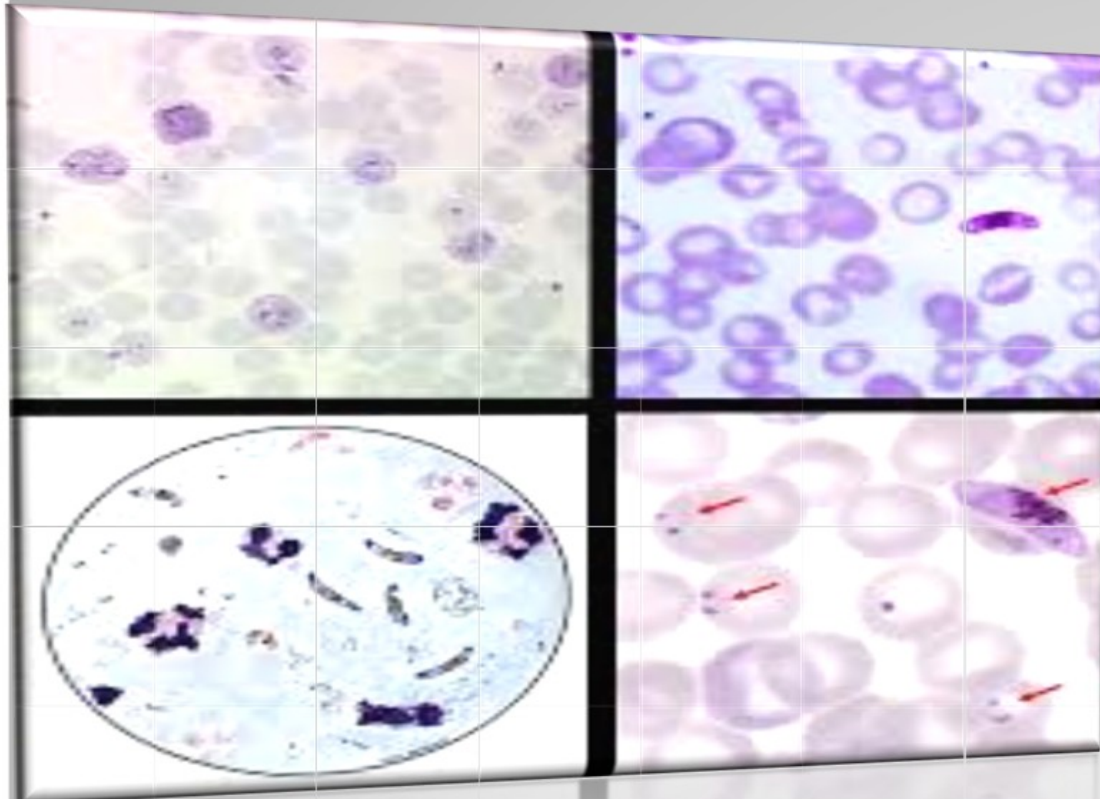
Lecture time: 9-10

Teacher: Sami Bdair

Apicomplexa (plasmodium malariae)

- Objectives:
- study the morphology
- Study the life cycle
- Study the pathogenesis
- Study the diagnosis
- The treatment

Plasmodium malaria



Plasmodium malaria

Malaria is a very common disease. If it is not treated early, it can be fatal. Up to 1 million people die every year from malaria.

Medications are available to treat malaria. They should be started as soon as symptoms appear.

About 1,500 are diagnosed in the United States each year.

The vast majority of cases in the United States are in travelers and immigrants returning cases of malaria from countries where malaria transmission occurs, many from sub-Saharan Africa and South Asia.

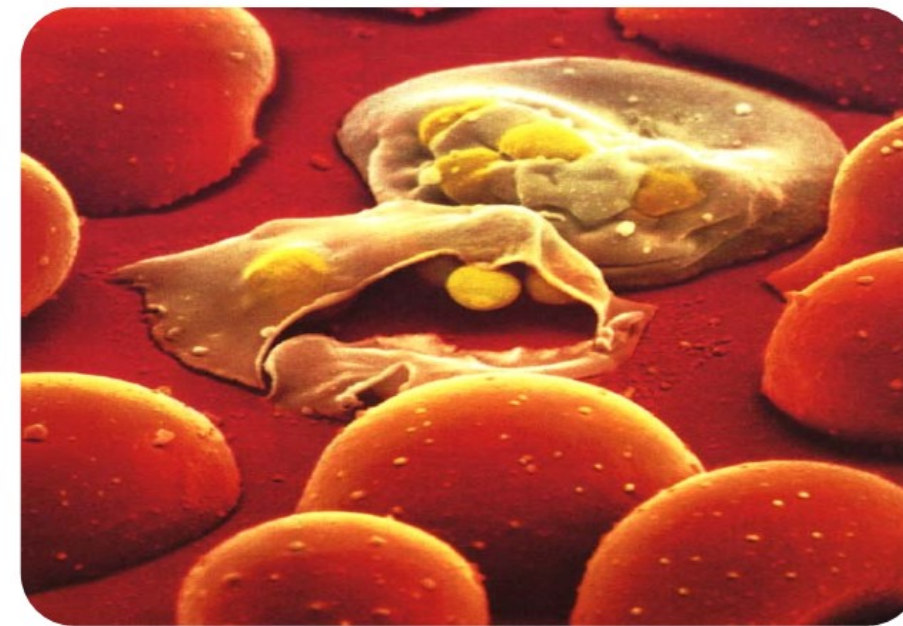
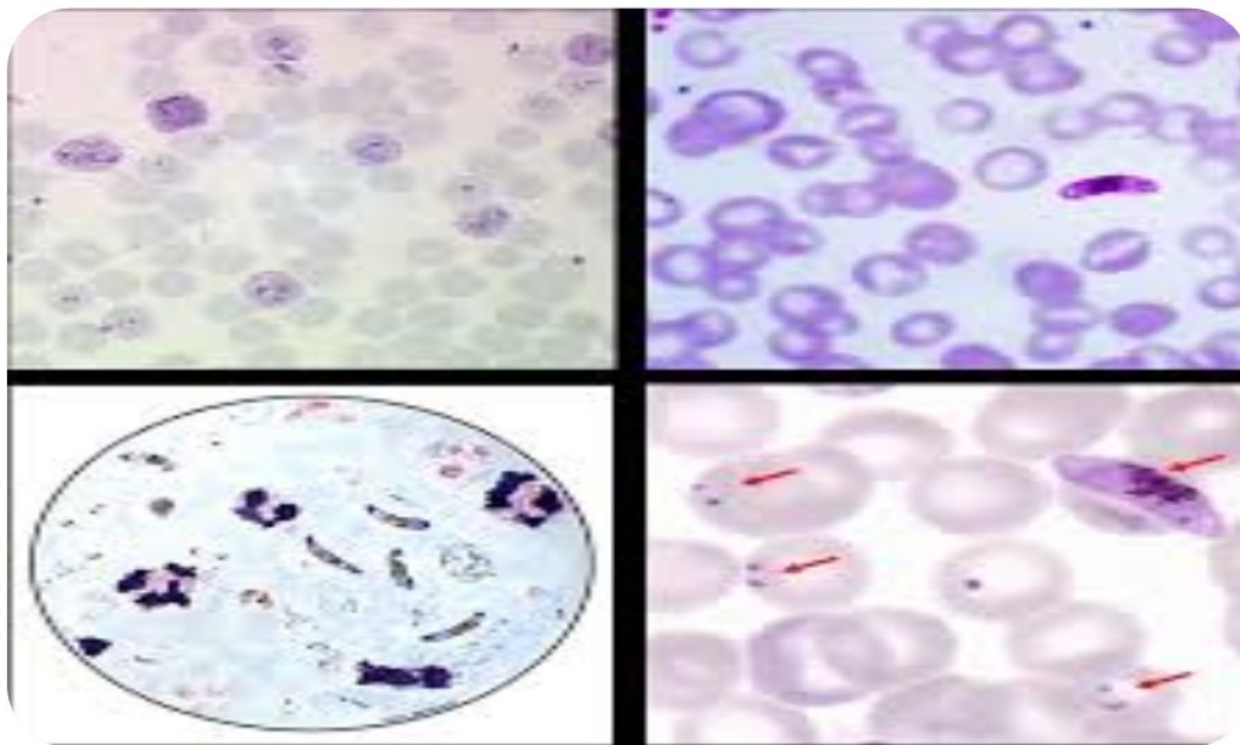
What are the causes of Malaria?

Malaria is an infectious disease caused by *Plasmodium* parasites, which are one-cell parasites. A human infection begins with the bite of an infected female *Anopheles* mosquito.

After biting a person, the mosquito injects *Plasmodium* parasites into the body. The parasites attack red blood cells and multiply.

Five species of *Plasmodium* infect humans:

falciparum, vivax, malariae, P. knowlesi, and ovale.



The human malaria parasite is transmitted from human to human through infected *Anopheles* mosquito.

Route of infection

MALARIA IS SOMETIMES TRANSMITTED THROUGH:

1-Blood transfusion from infected people.

2-Needle sharing for intravenous drugs.

3-An infected pregnant mother can infect her unborn child.

***Plasmodium* has two stages in its life cycle:**

1-Schizogony (asexual reproduction).

2-Sporogony (sexual reproduction).

Life cycle:

D.H: Human.

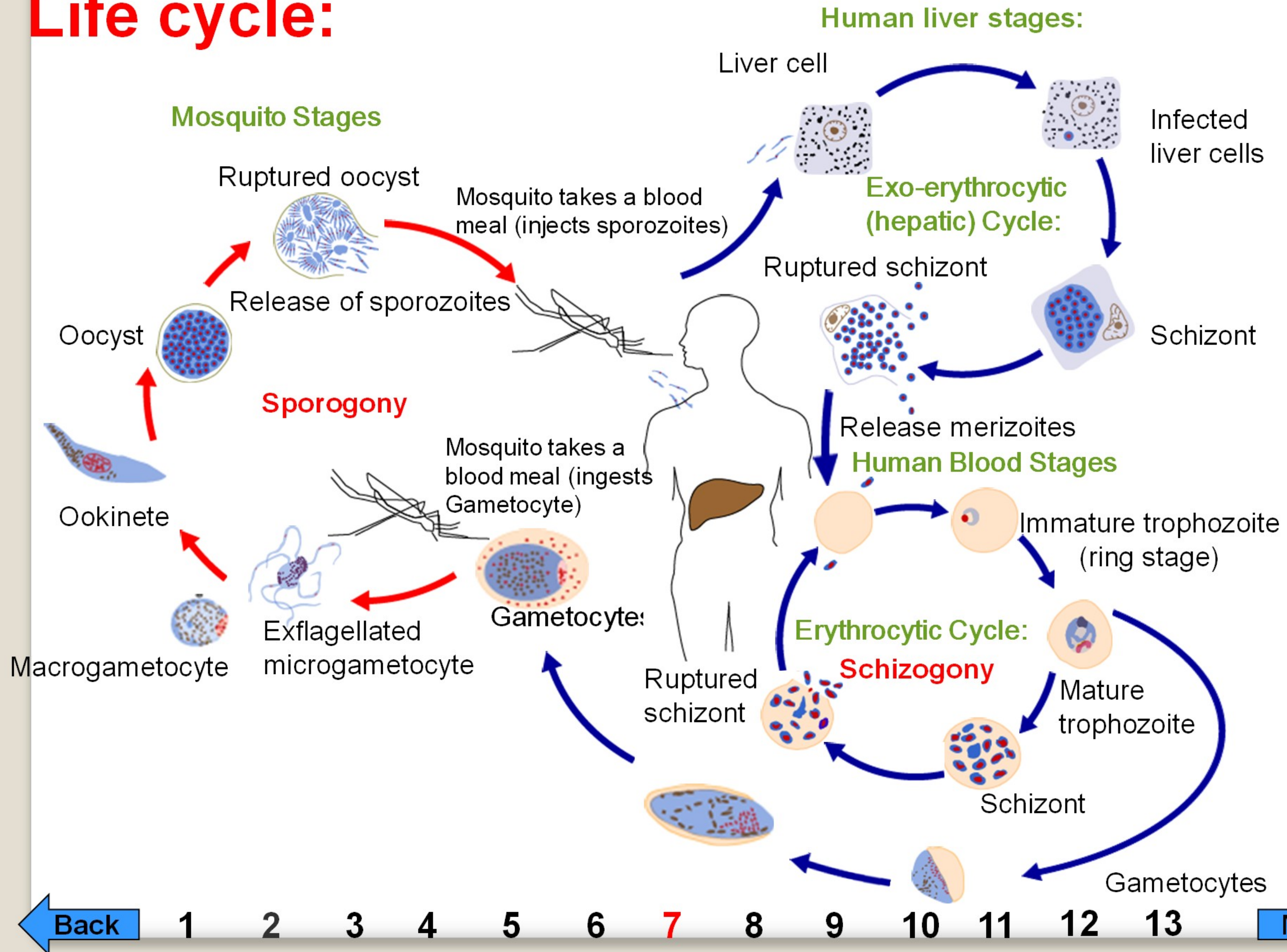
I.H (Vector): Mosquito (*Anopheles*). **(culex)**

I.S: Sporozoite.

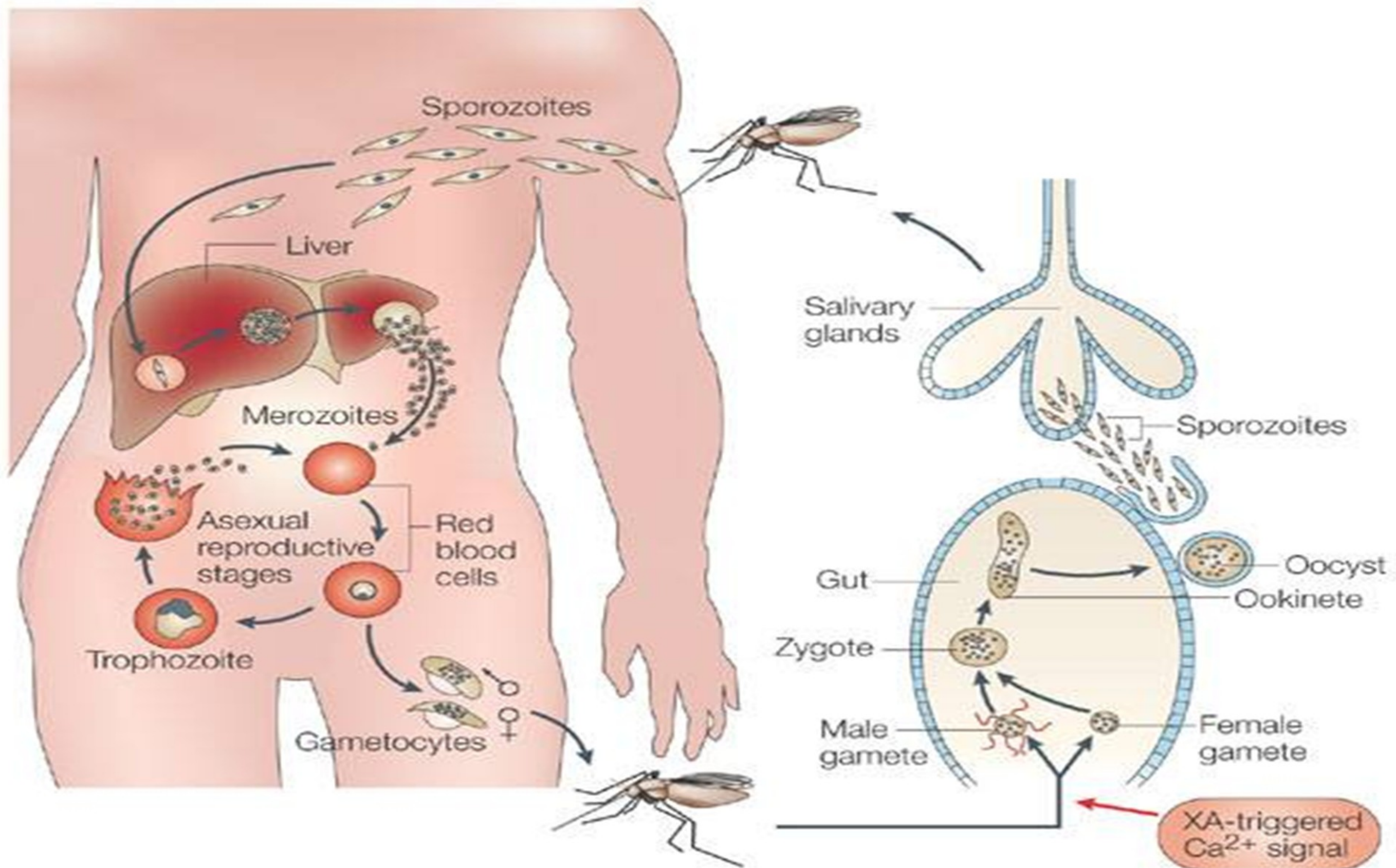
Habitat: Blood and other organs mainly liver.

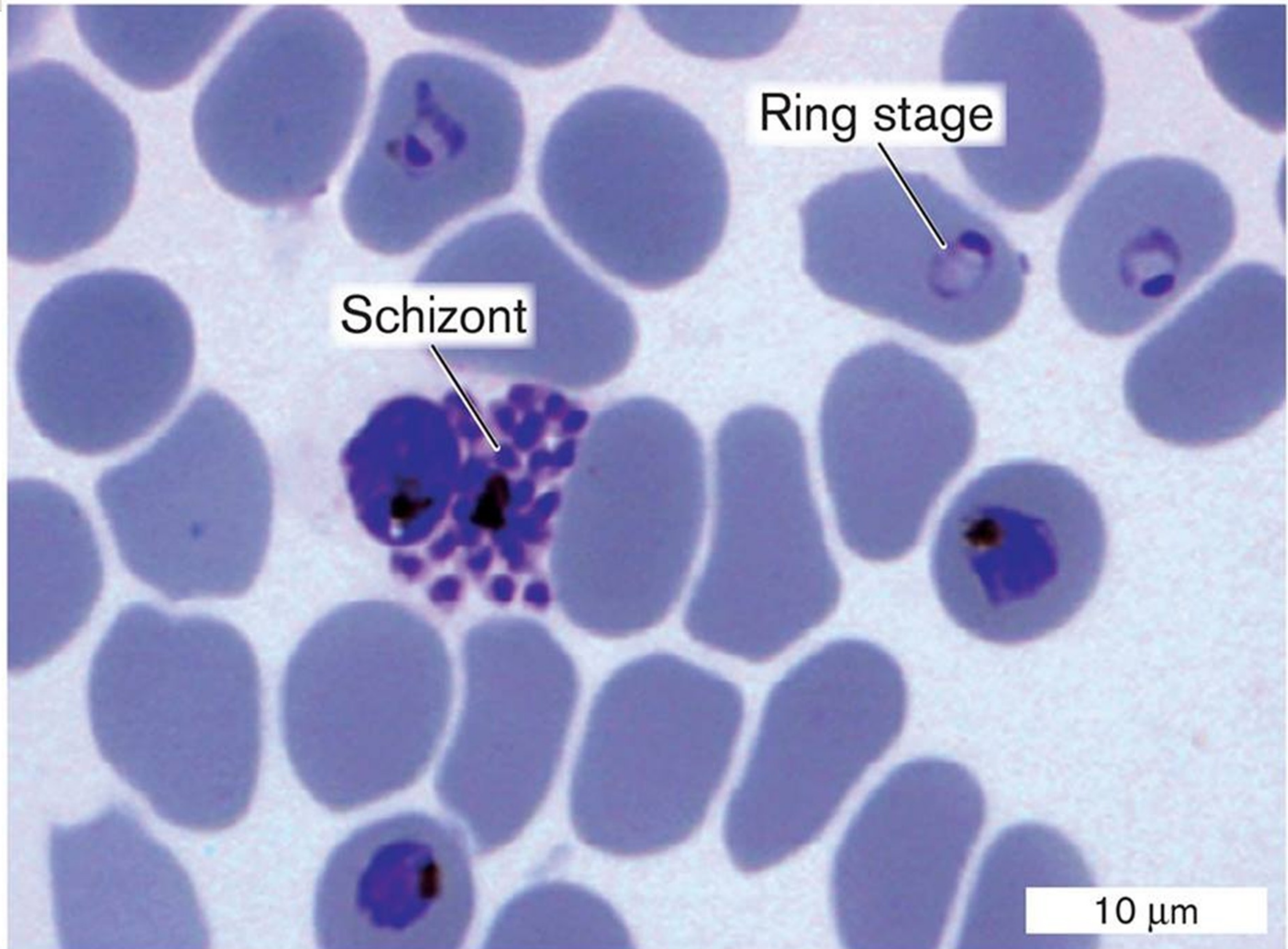
Disease: Malaria, Black fever, Roman fever.

Life cycle:



Life cycle:





Microbiology: An Evolving Science, Third Edition Figure 20.38
Copyright © 2014 W. W. Norton & Company, Inc.

Pathogenesis:

Ten to sixteen days after an infectious mosquito bite, infected red blood cells burst. Malaria symptoms show when this happens.

More commonly, the patient presents with a combination of the following symptoms:

- 1-Fever.
- 2-Chills.
- 3-Sweats.
- 4-Headaches.
- 5-Nausea and vomiting.
- 6-Body aches.

Diagnosis:

Microscopic diagnosis:

Can be identified by examining under the microscope a drop of the patient's blood, spread out as a "blood smear" on a microscope slide to find a ring stage.

Molecular Diagnosis:

Parasite nucleic acids are detected using polymerase chain reaction (PCR).

Treatment:

Most drugs used in treatment are active against the parasite forms in the blood (the form that causes disease) and include:

1-Chloroquine.

2-Doxycycline.

I hope the previous
object have been
achieved .

Thank
you

MALARIA

by arcc

THE AIM OF THE LECTURE

- 1. Recognize malaria**
- 2. life cycle**
- 3. symptoms**
- 4. diagnosed**
- 5. tretment**

PLASMODIUM MALARIA

Plasmodium malaria has two stages:

1- Schizogony 2-sporogony

Life cycle

D. H: Human

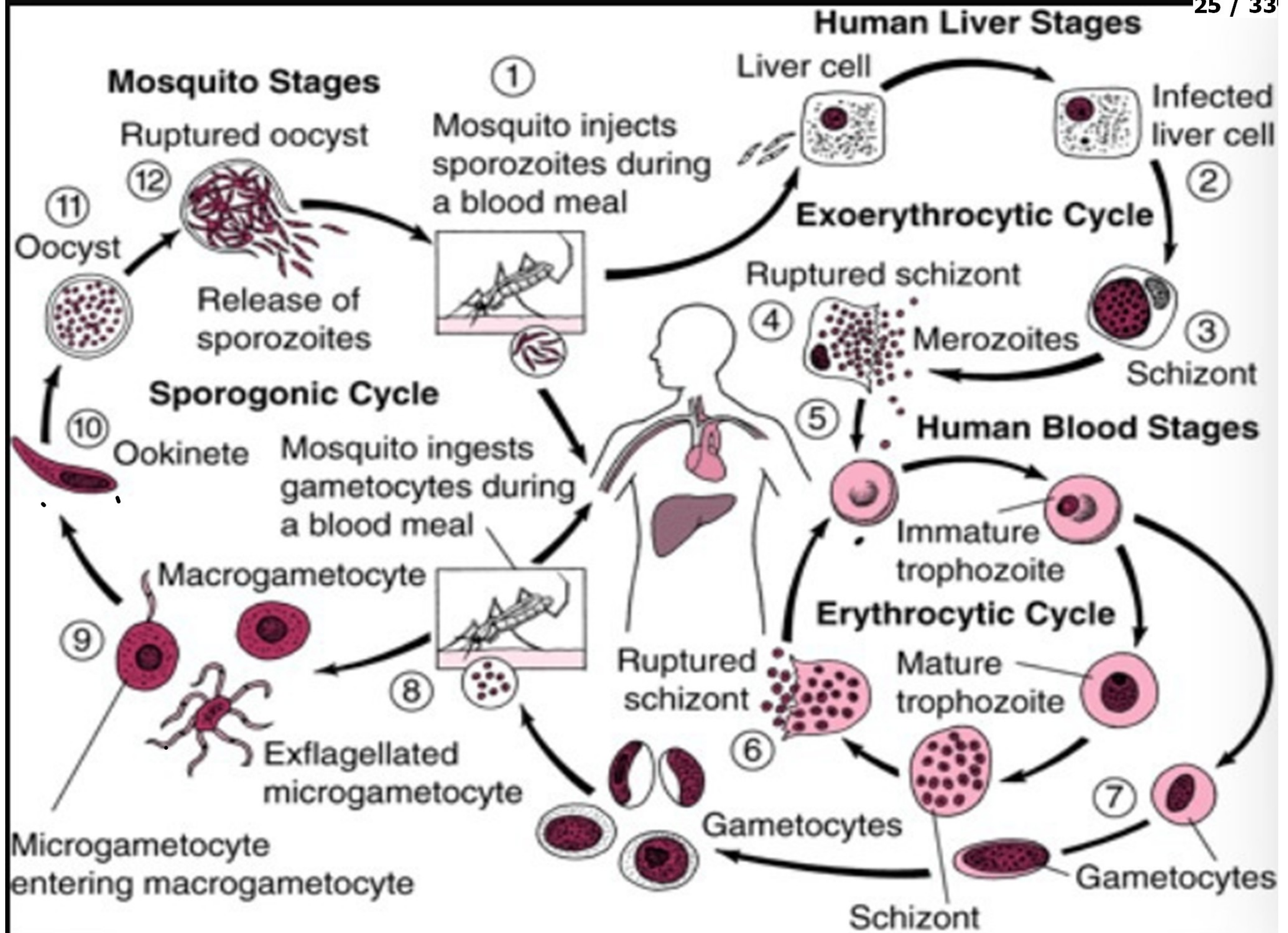
I.H: vector(Mosquito)

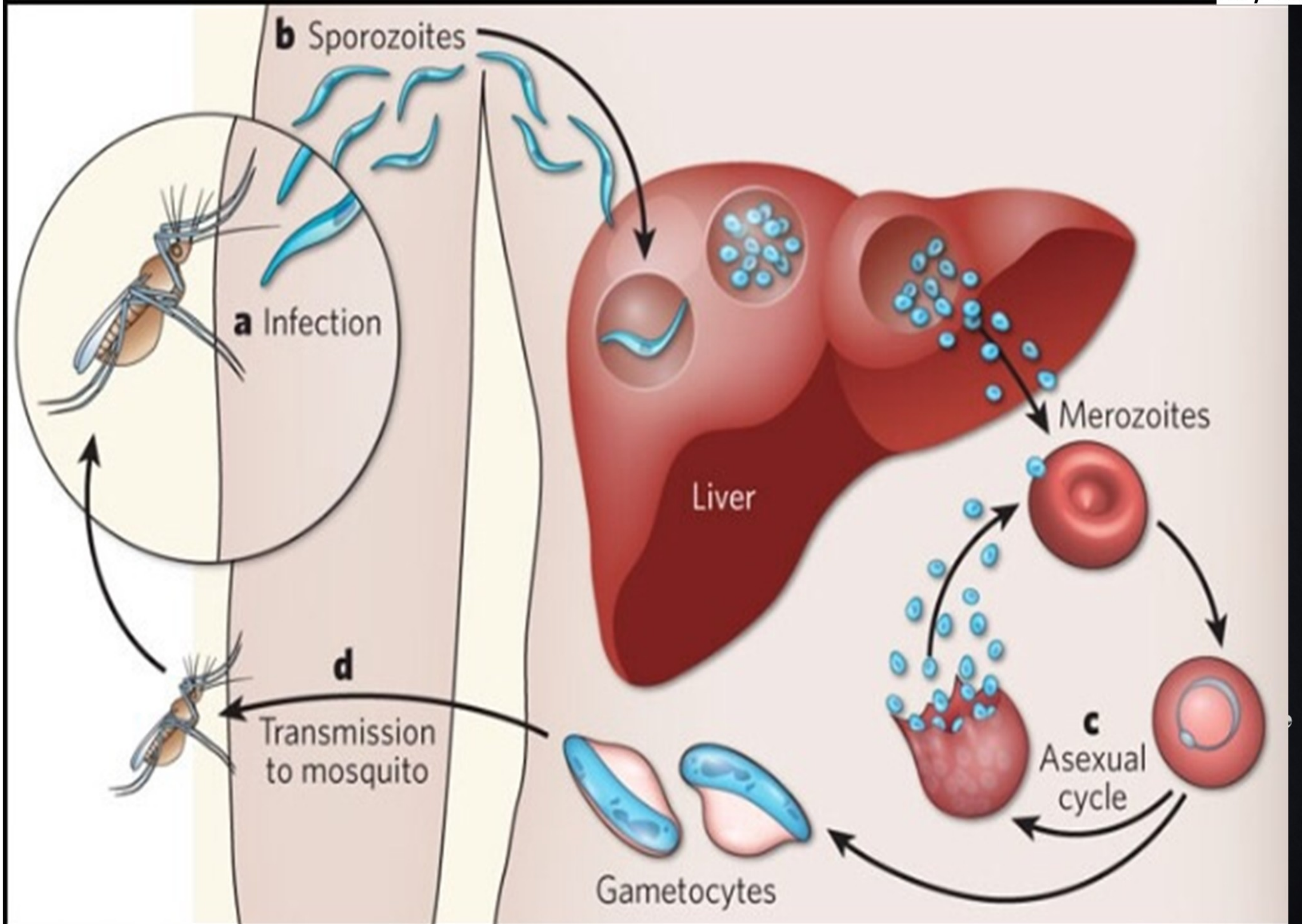
I.S:sporozoite

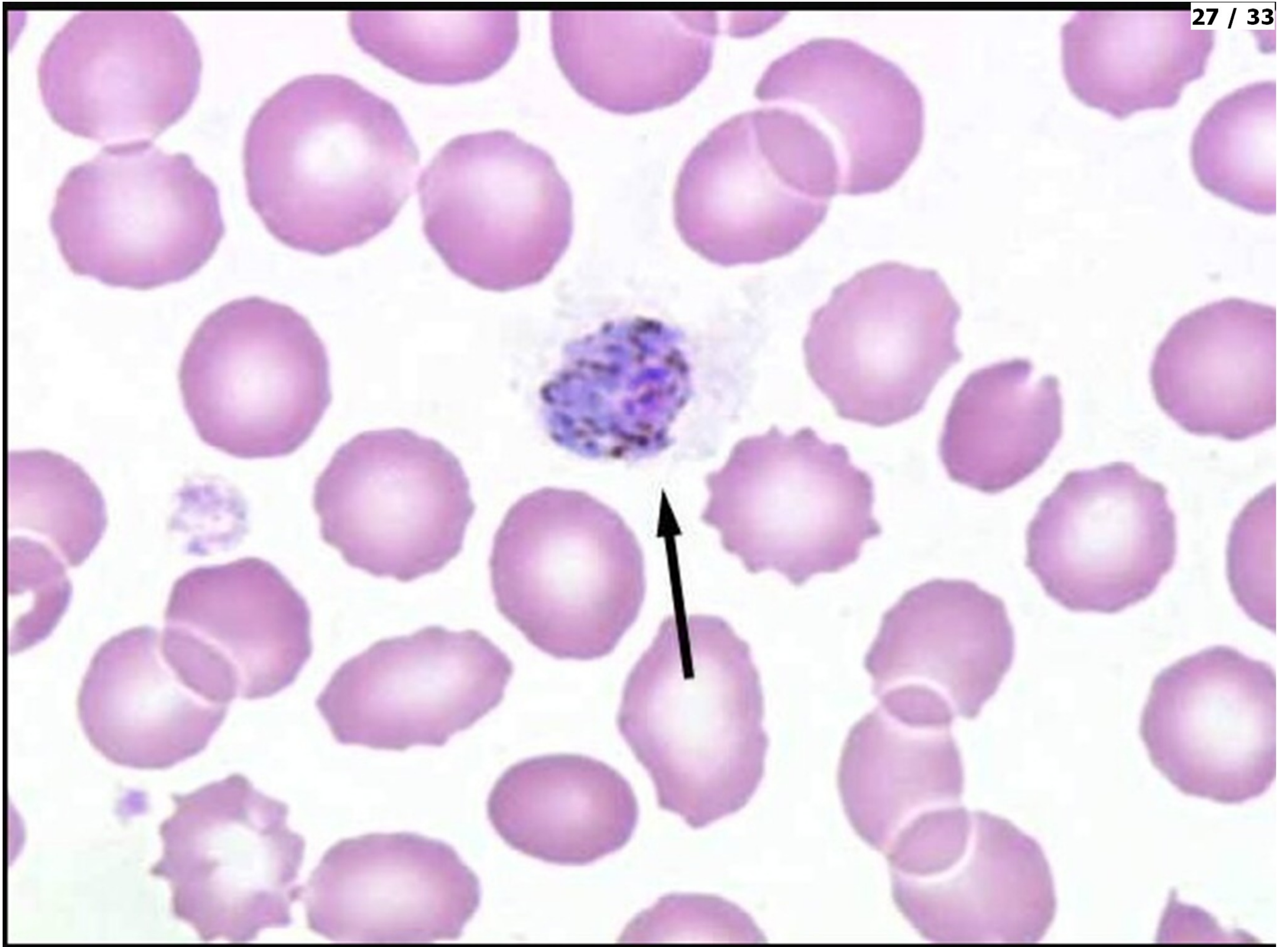
Habitat:Blood and liver

Disease: Malaria,Black fever,
Roman fever.

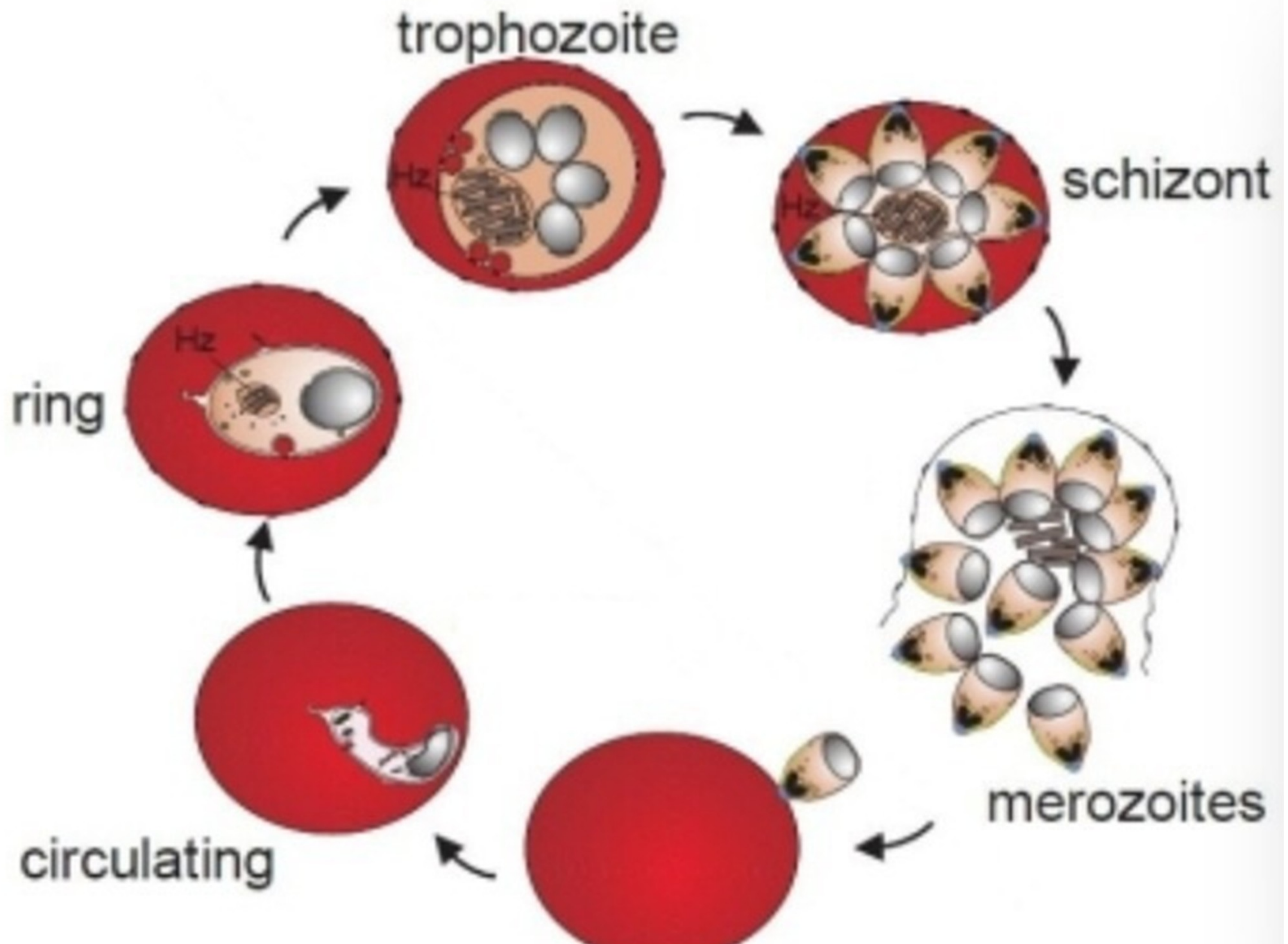












Symptoms of Malaria



CENTRAL

- Headache

SYSTEMIC

- Fever

MUSCULAR

- Fatigue
- Pain

BACK

- Pain

SKIN

- Chills
- Sweating

RESPIRATORY

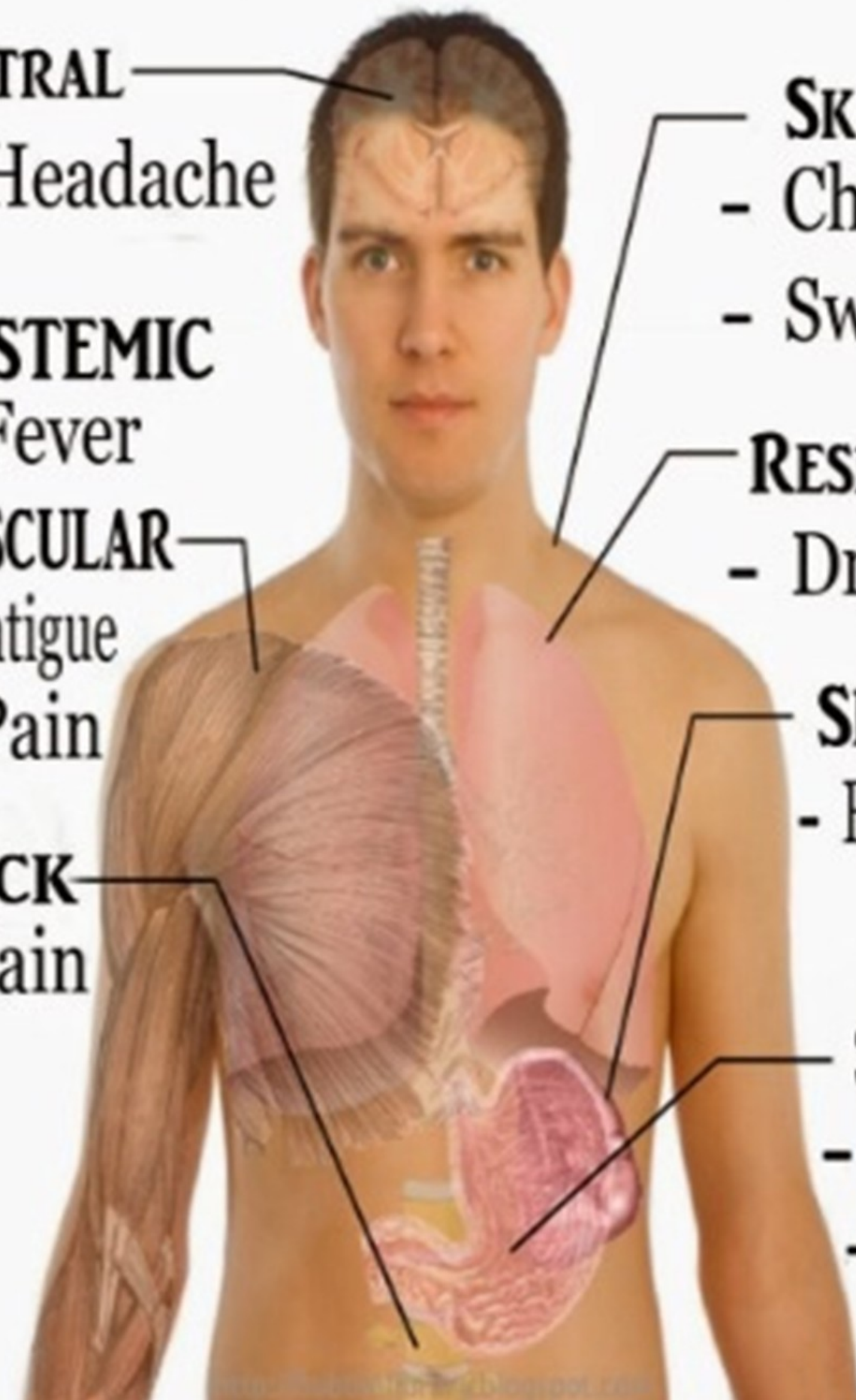
- Dry cough

SPLEEN

- Enlargement

STOMACH

- Nausea
- Vomiting




DIAGNOSIS

1-microscopic examination

2- PCR

TRETMENT

Chloroquine



Made by
Arwa khalid
Maram shashtari
Danah Saymeh