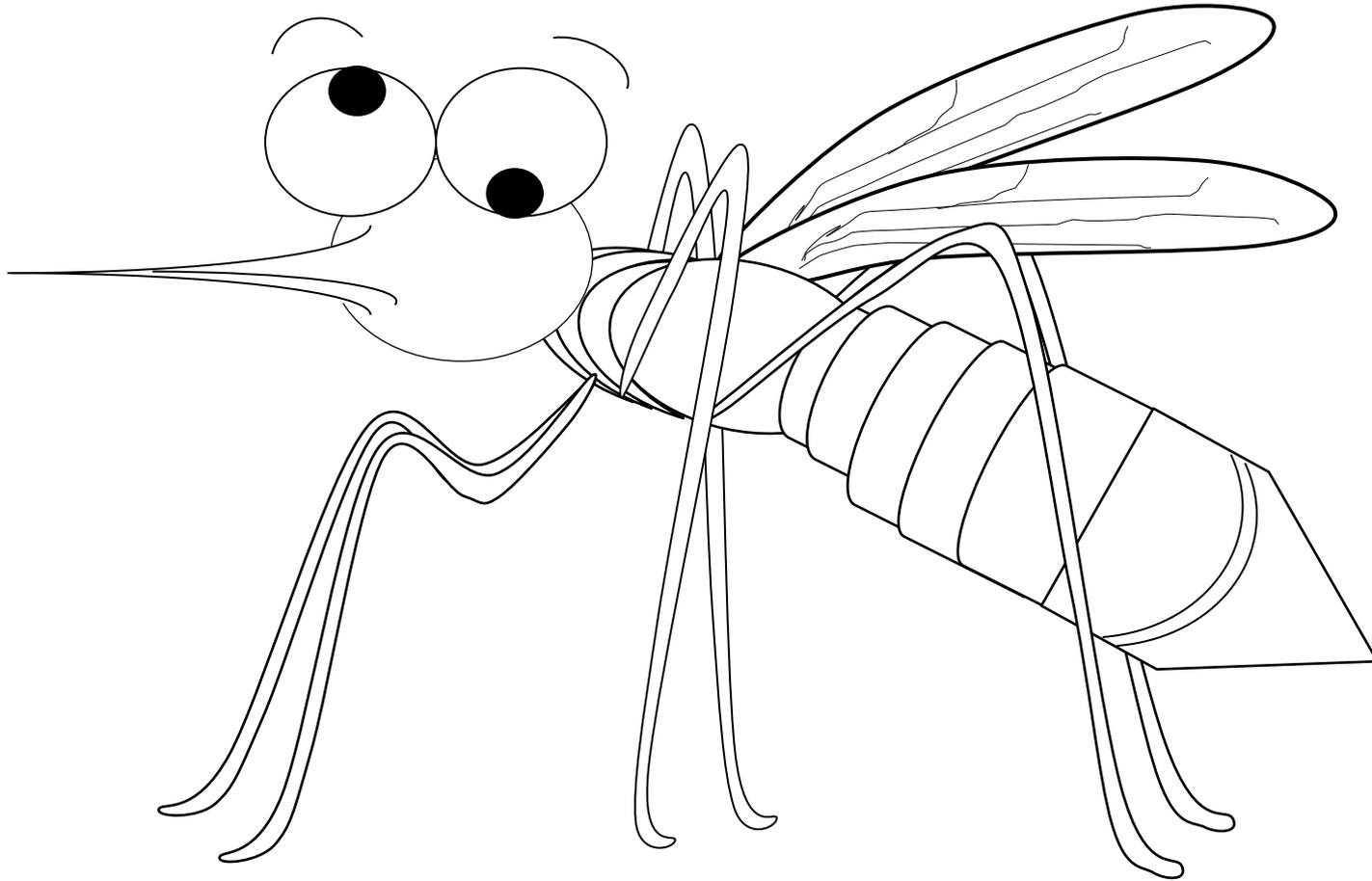
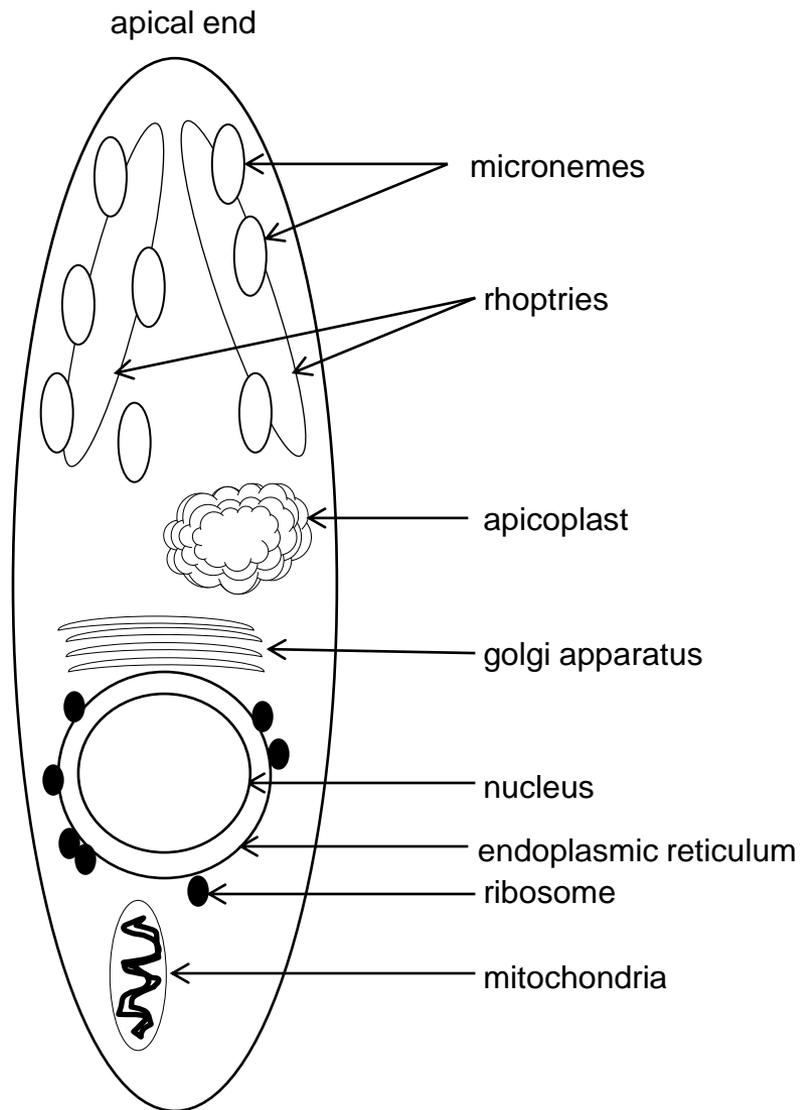


Anopheles



Parasites are organisms that live off of other organisms and harm them. In certain tropical regions of the world, female mosquitoes of the genus *Anopheles* carry and transmit parasites of the genus *Plasmodium* to humans through a bite, also known as a blood meal. This can cause the disease malaria.

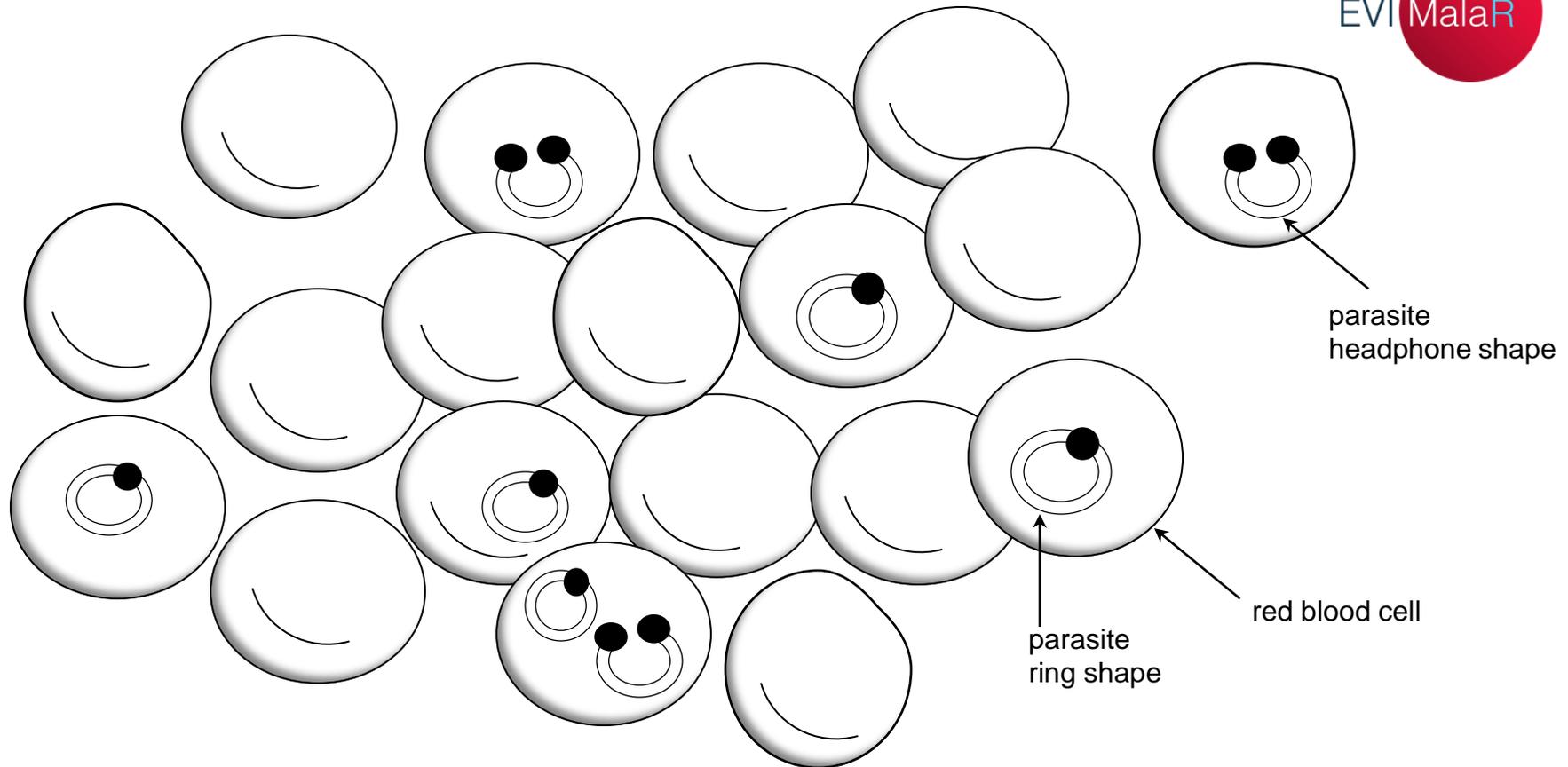


***Plasmodium* sporozoite**

Five species of *Plasmodium* are known to cause malaria in people: *Plasmodium falciparum*, *Plasmodium vivax*, *Plasmodium ovale*, *Plasmodium malariae* and *Plasmodium knowlesi*.

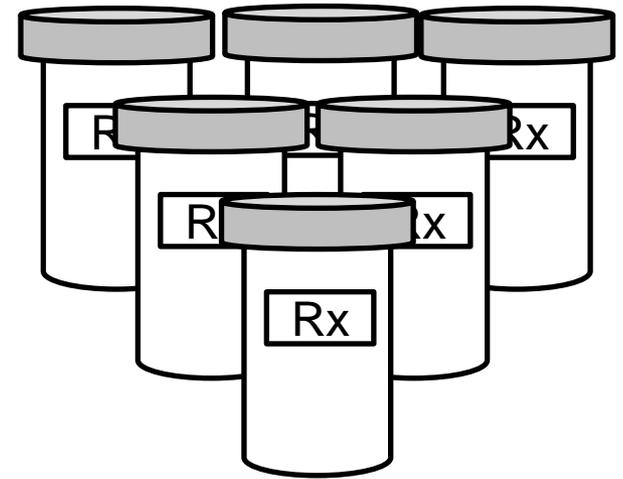
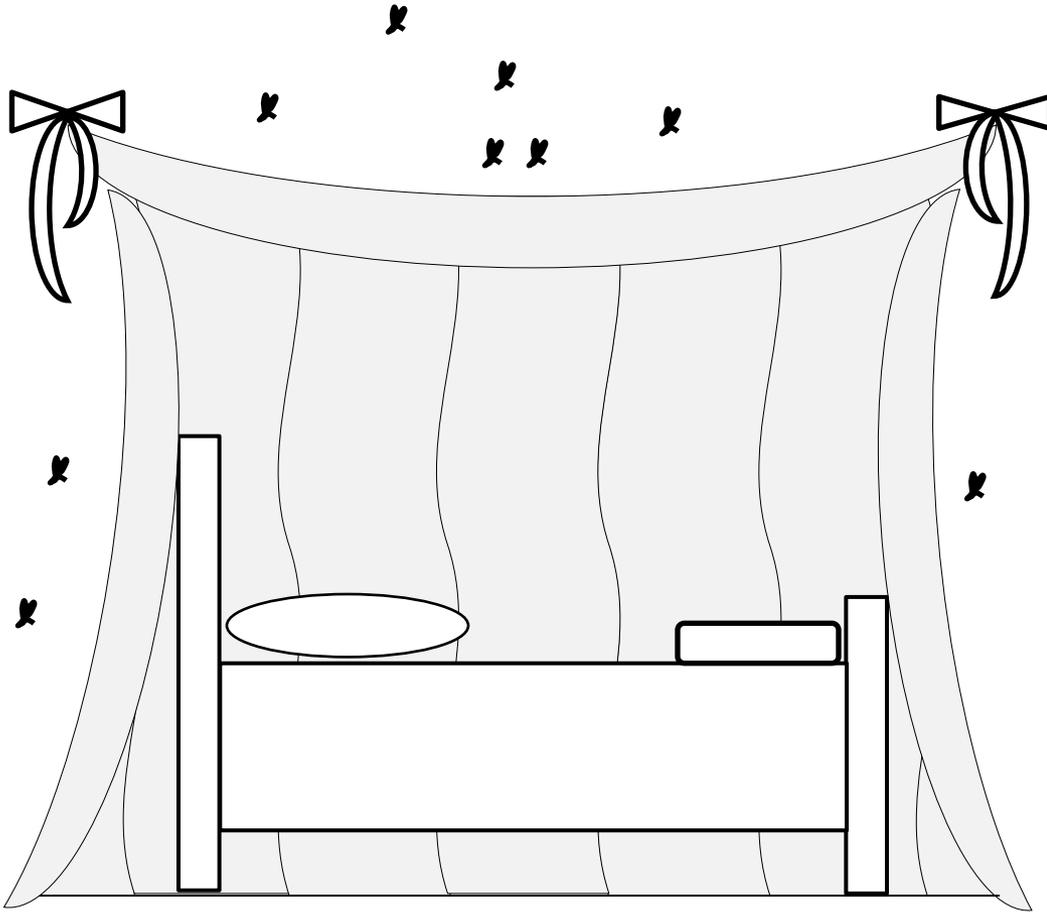
This is a picture of a *Plasmodium* sporozoite, a form of the parasite during its life cycle that can infect a human through a mosquito bite. The sporozoite contains many small structures called organelles that help the parasite to function and survive. Some of these organelles include micronemes, rhoptries, the apicoplast, the golgi apparatus, the nucleus, the endoplasmic reticulum, ribosomes and the mitochondria.

Diagnosis



Malaria is diagnosed when blood is taken from a sick person showing classic symptoms of malaria (such as fever, chills, vomiting, enlarged liver and spleen) and analyzed under a microscope. This is done by a procedure called a blood smear. The sick person has likely traveled to or has lived in a high-risk malaria region recently. If the person is infected, the *Plasmodium* parasites can be seen in his or her red blood cells under the microscope, often appearing as a ring shape or a “headphone” shape.

Prevention



When traveling to or living in an area where malaria frequently occurs, the use of bed nets and preventive medications are two common methods used to protect people from getting malaria. The bed nets help prevent mosquito bites while a person is sleeping by sheathing the entire bed area. The preventive medications protect people from becoming sick once bitten by an infected mosquito. Although effective in helping to prevent the spread of malaria, these methods do not work 100% of the time and scientists must continue to find new ways to prevent the spread of malaria and develop new medications that can treat this disease.