

## *Plasmodium malariae*

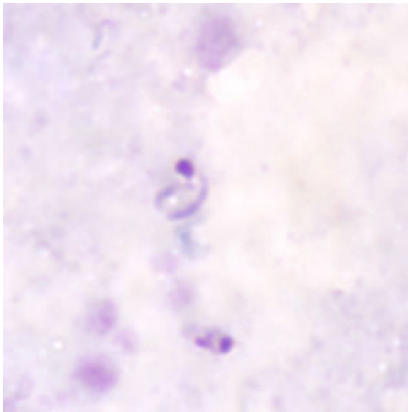
### Basic guidelines

- A. Capillary blood should be obtained by fingerstick, or venous blood should be obtained by venipuncture.
- B. Blood smears, at least two thick and two thin, should be prepared as soon as possible after collection. ***Delay in preparation of the smears can result in changes in parasite morphology and staining characteristics.***
- C. Schüffner's dots can be demonstrated in Giemsa stain, which is preferred to Wright or Wright-Giemsa stains.

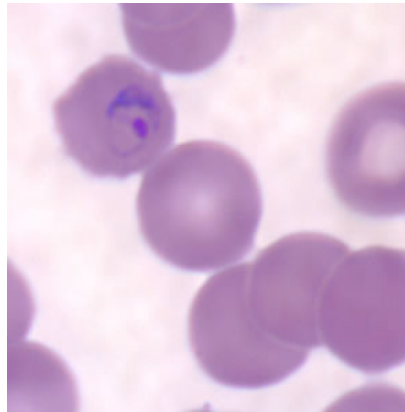
**In *P. malariae* infections, red blood cells (rbcs) are normal or smaller than normal (3/4×) in size.**

### 1. Rings

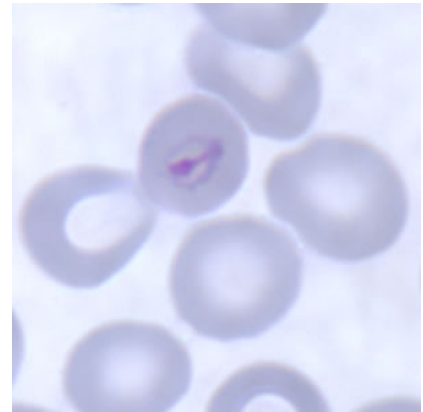
*P. malariae* rings have sturdy cytoplasm and a large chromatin dot.



Ring in a thick blood smear.

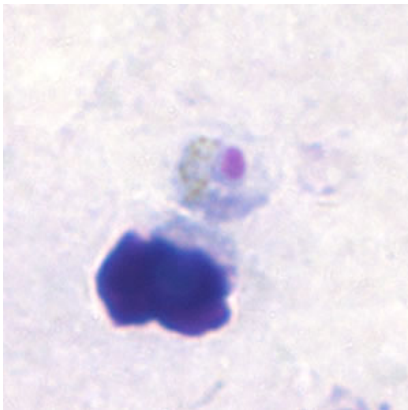


Rings in thin blood smears.

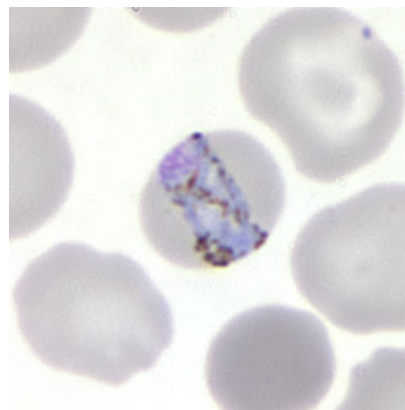


### 2. Trophozoites

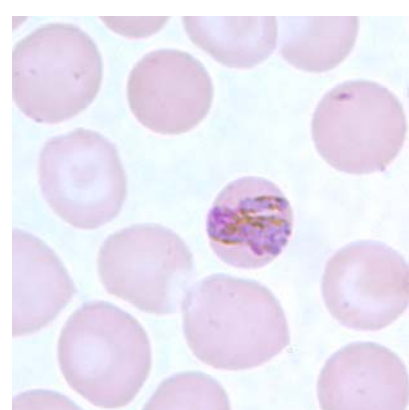
*P. malariae* trophozoites have compact cytoplasm and a large chromatin dot. Occasional band forms and/or "basket" forms with coarse, dark-brown pigment can be seen.



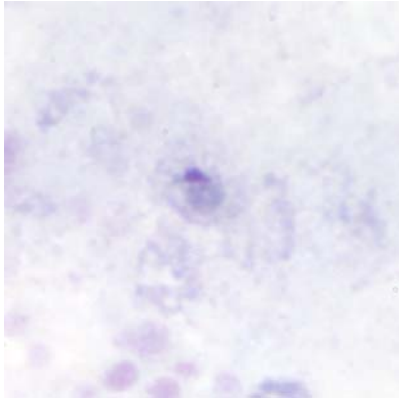
Trophozoite in a thick blood smear.



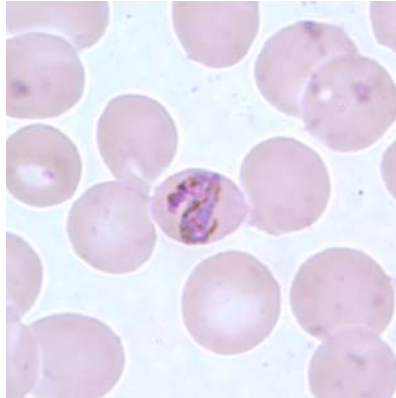
Band-form trophozoites in thin blood smears.



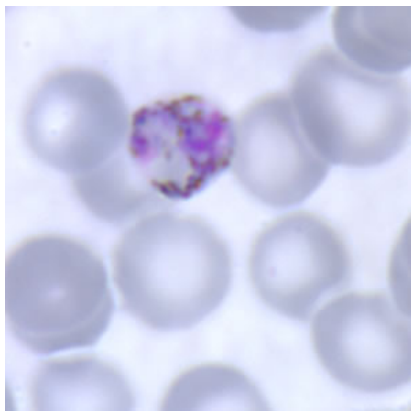
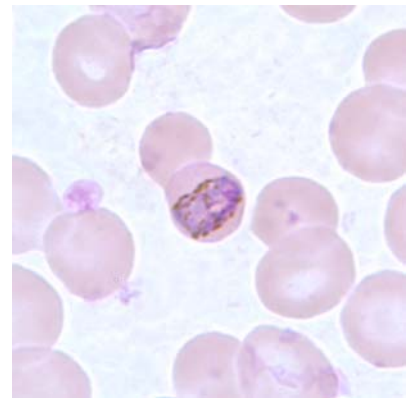
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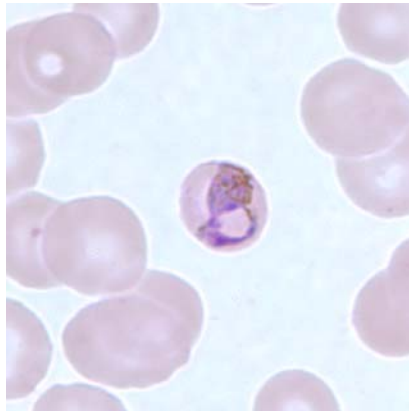
Trophozoite in a thick smear.



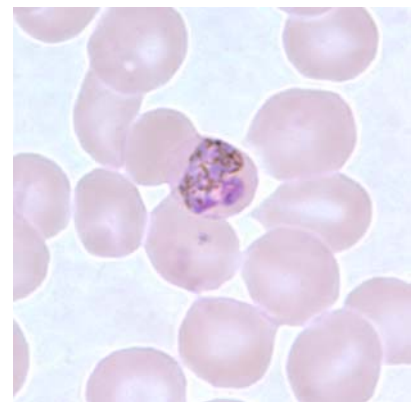
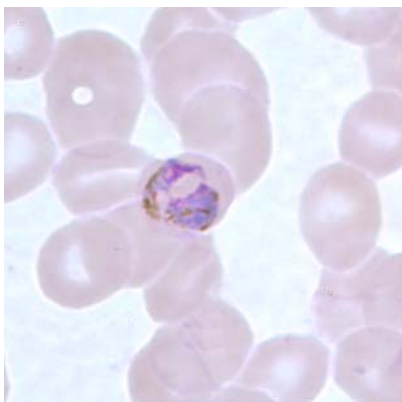
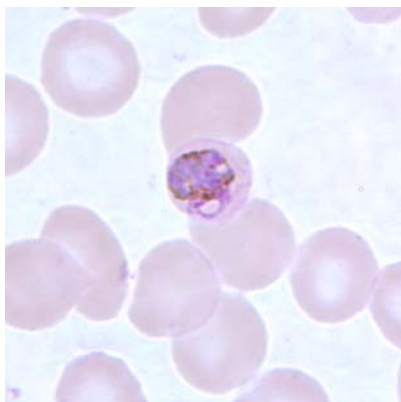
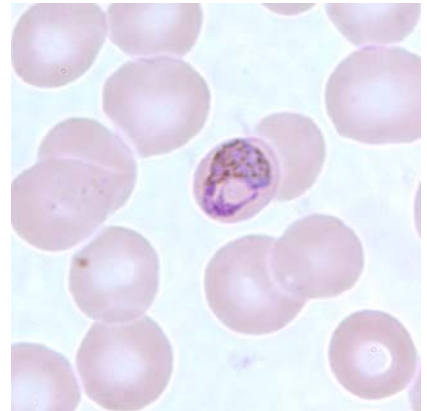
Band-form trophozoites in thin blood smears.



"Basket-form" trophozoite in a thin



"Basket-form" trophozoites in a thin smear.

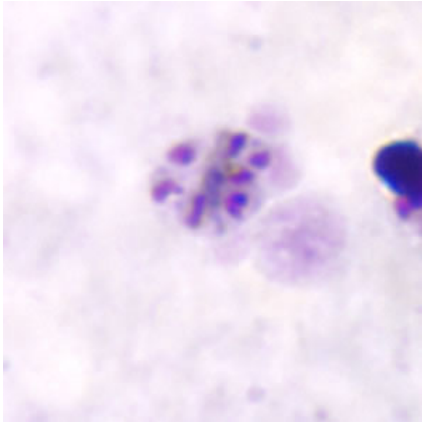


Trophozoites in thin blood smears. These images show variations on the "basket-form."

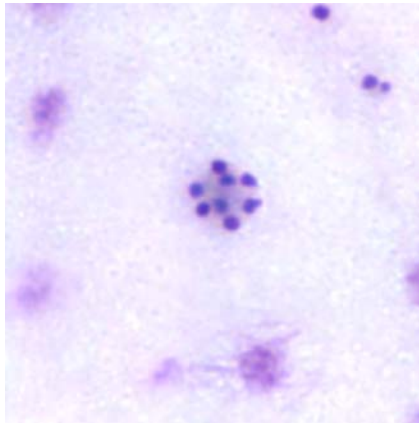
# Laboratory diagnosis of malaria

## 3. Schizonts

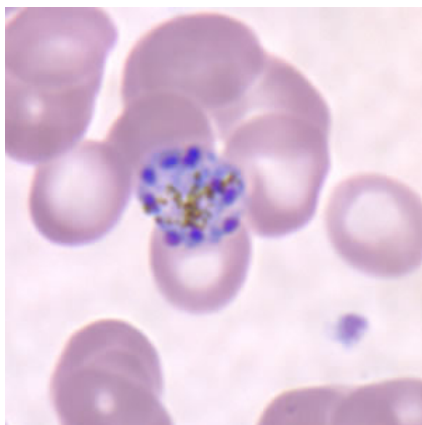
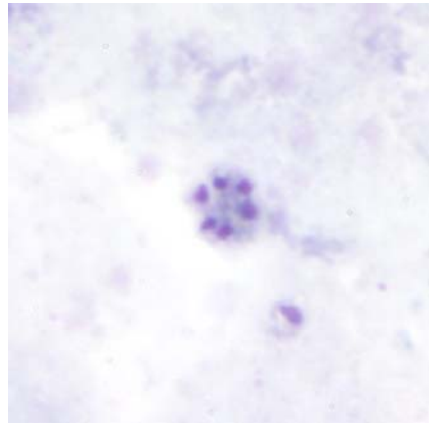
*P. malariae* schizonts have 6 to 12 merozoites with large nuclei, clustered around a mass of coarse, dark-brown pigment. Merozoites can occasionally be arranged as a rosette pattern.



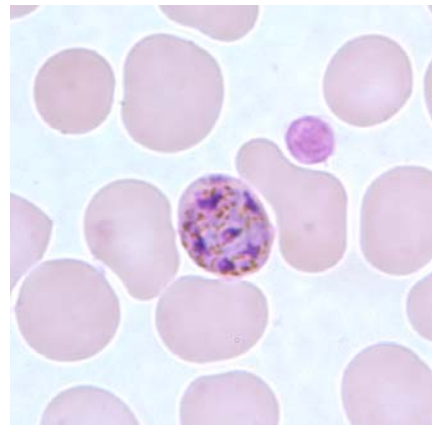
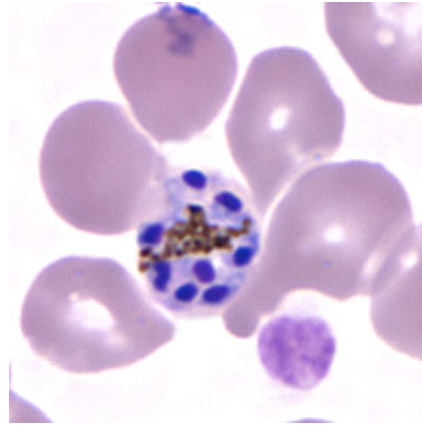
Schizont in a thick blood smear.



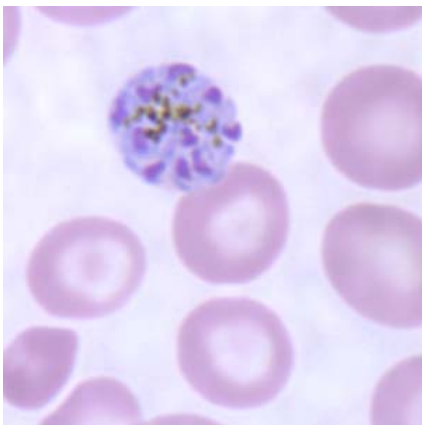
Schizont in thick blood smears. Note the classic "rosette" appearance of the merozoites.



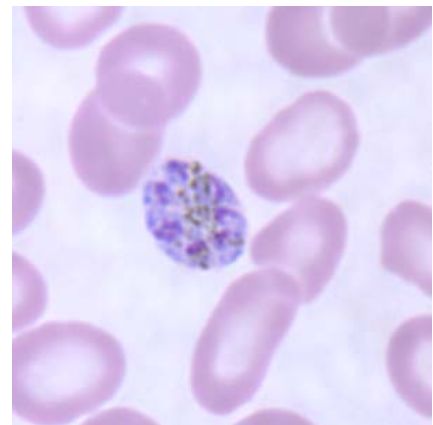
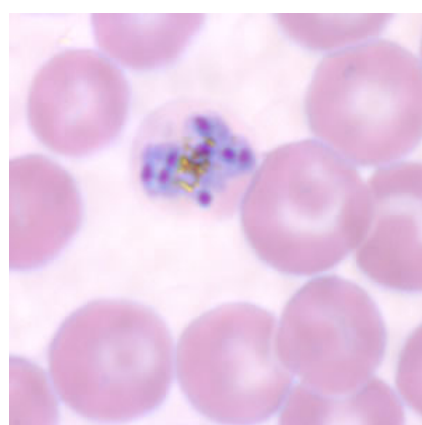
Schizonts in thin blood smears. The schizont on the left has the appearance of a rosette pattern.



Schizont in a thin blood smear; note the rosette pattern of the merozoites.



Schizonts in thin blood smears

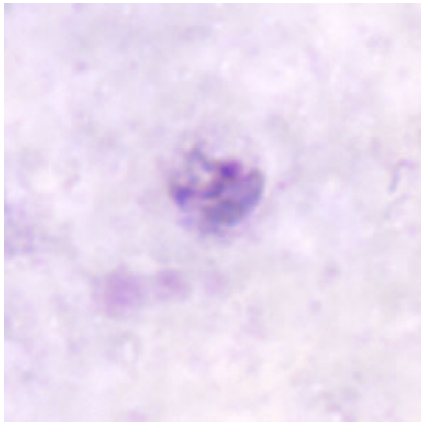


Schizont in a thin blood smear; another resembling a rosette.

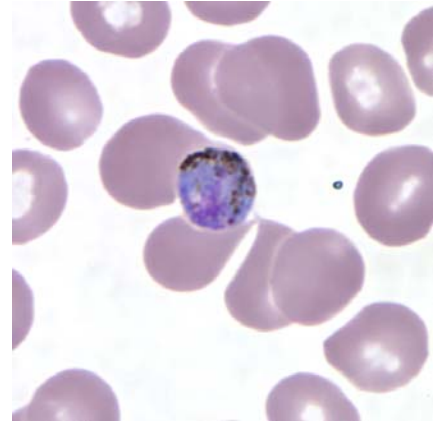
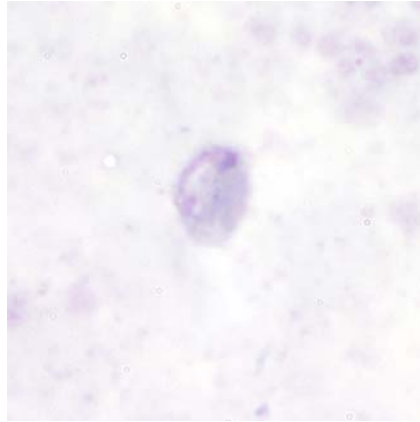
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### 4. Gametocytes

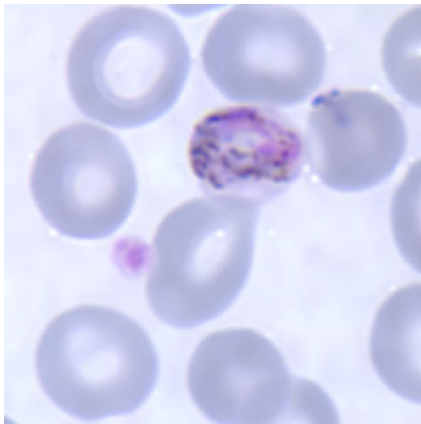
*P. malariae* gametocytes are round to oval with scattered brown pigment; they may almost fill the infected red blood cell.



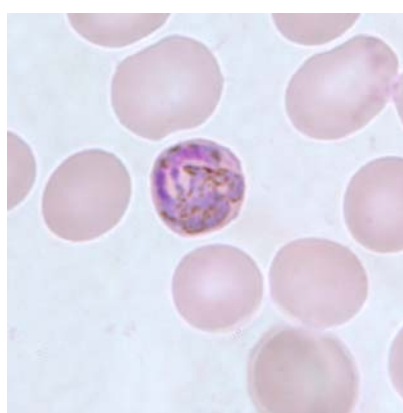
Gametocytes in thick blood smears.



Gametocyte in a thin blood smear.



Gametocyte in thin blood smears.



Gametocytes in thin blood smears.



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