

Plasmodium ovale

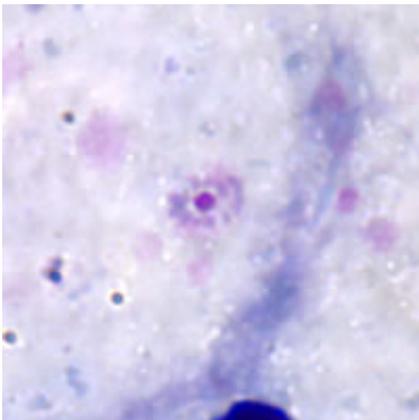
Basic guidelines

- 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.

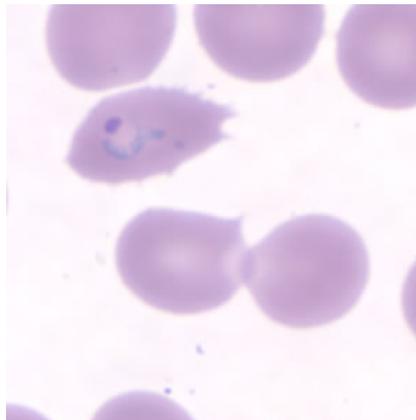
In *P. ovale* infections, red blood cells (rbc) can be normal or slightly enlarged (up to 1 1/4x) in size, may be round to oval, and are sometimes fimbriated. Under optimal conditions, Schüffner's dots may be seen in Giemsa stained slides.

1. Rings

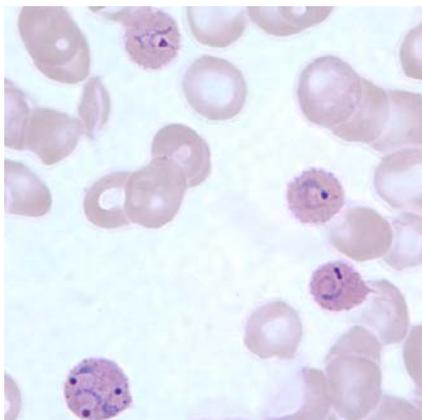
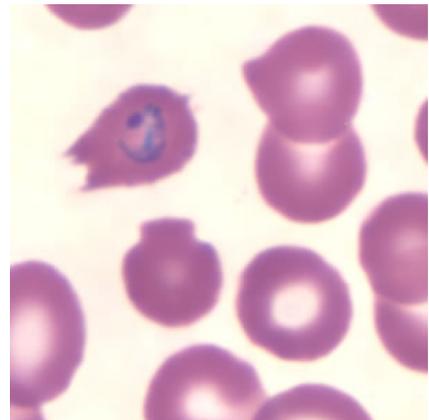
P. ovale rings have sturdy cytoplasm and large chromatin dots.



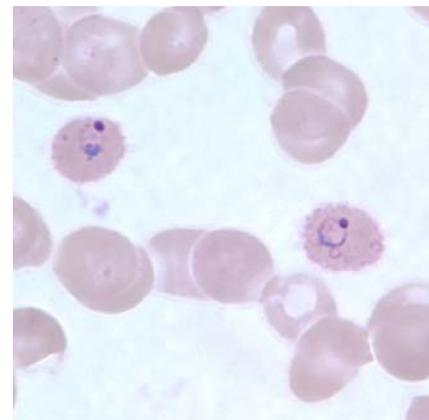
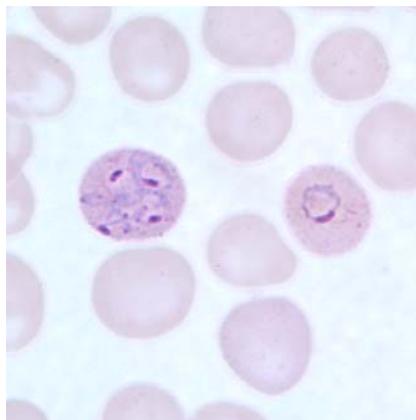
Ring in a thick blood smear.



Rings in fimbriated rbc's in thin blood smears.



Rings in thin blood smears. Note the multiply-infected rbc's.

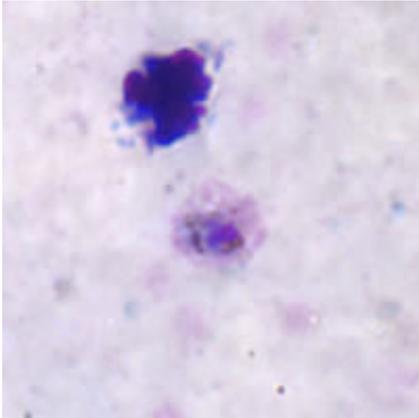


Rings in a thin blood smear.

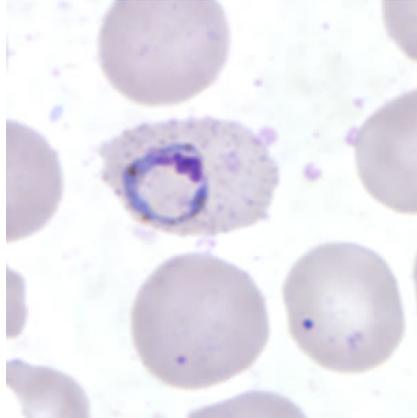
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2. Trophozoites

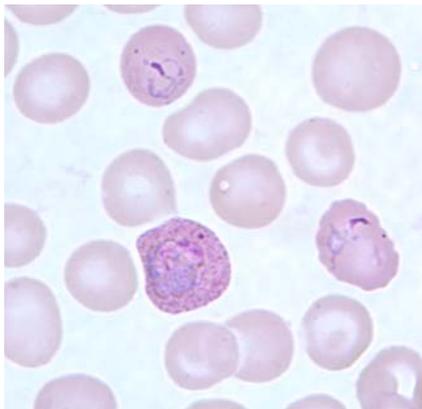
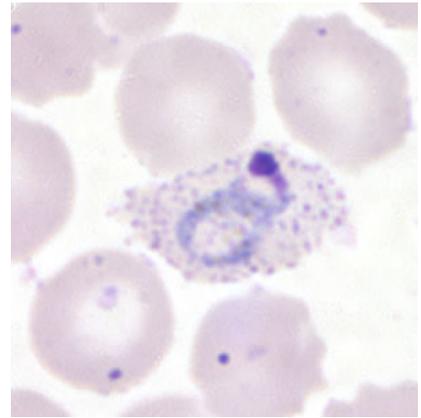
P. ovale trophozoites have sturdy cytoplasm, large chromatin dots, and can be compact to slightly irregular.



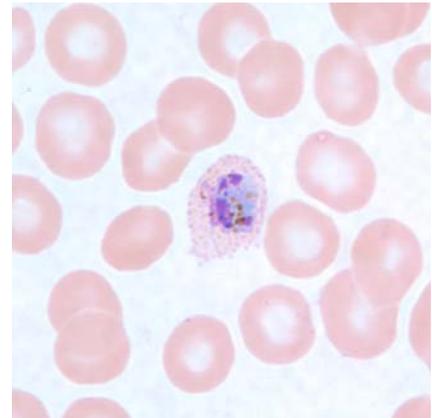
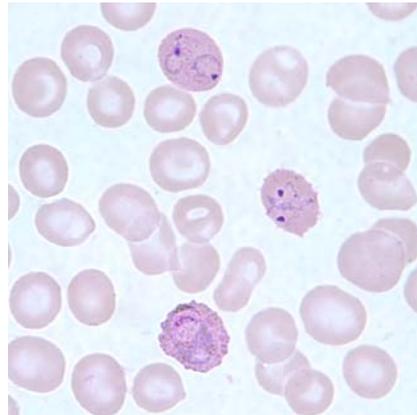
Trophozoite in a thick blood smear.



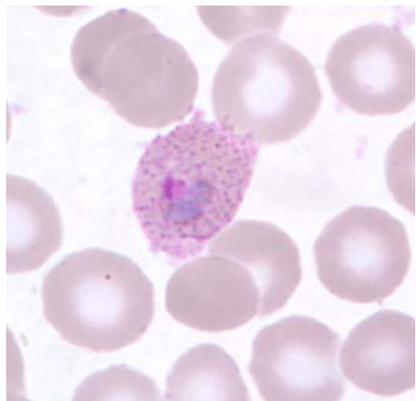
Compact trophozoites in fimbriated rbc's in thin blood smears. Schüffner's dots are also visible.



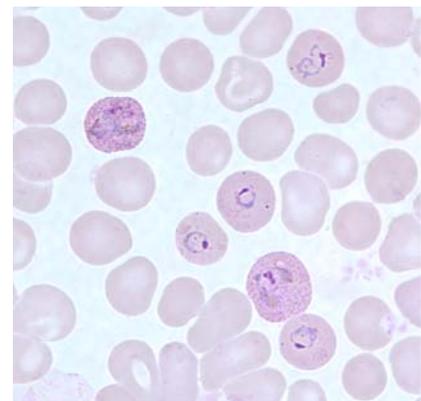
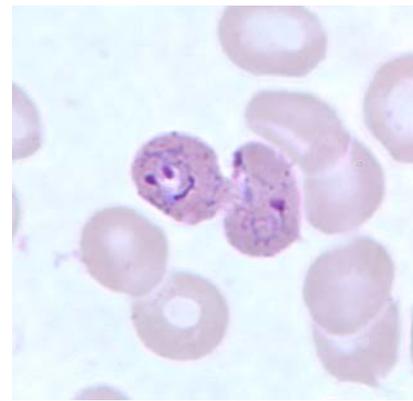
Ring forms and developing trophozoites in thin blood smears.



Compact trophozoite in a fimbriated rbc in a thin blood smear. Schüffner's dots are also visible.



Compact trophozoites showing Schüffner's dots. The image on the left also shows prominent fimbriation.

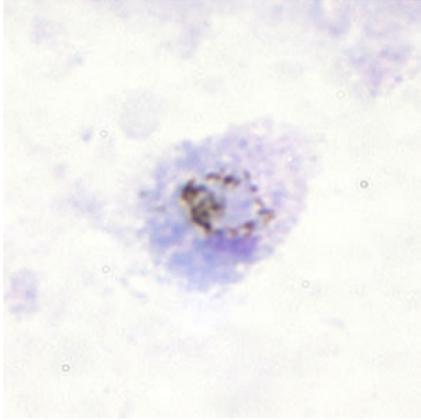


Ring forms, developing and compact trophozoites in a thin blood smear.

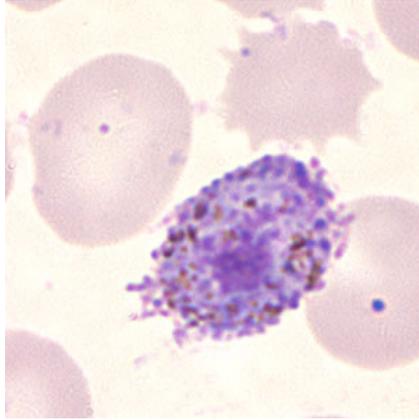
Laboratory diagnosis of malaria

3. Gametocytes

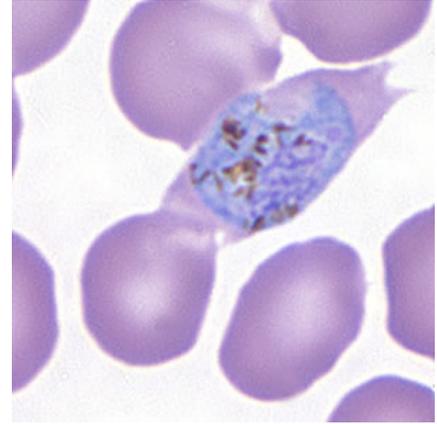
P. ovale gametocytes are round to oval and may almost fill the red blood cells. Pigment is brown and more coarse in comparison to *P. vivax*.



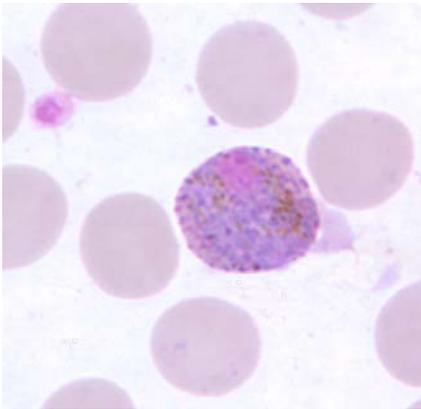
Gametocyte in a thick blood smear.



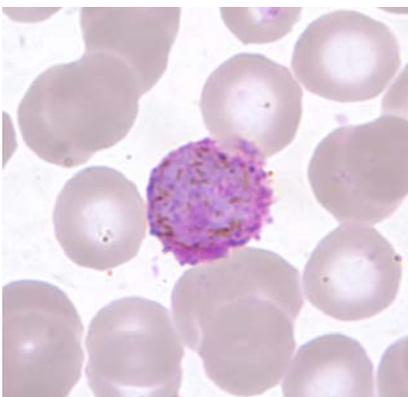
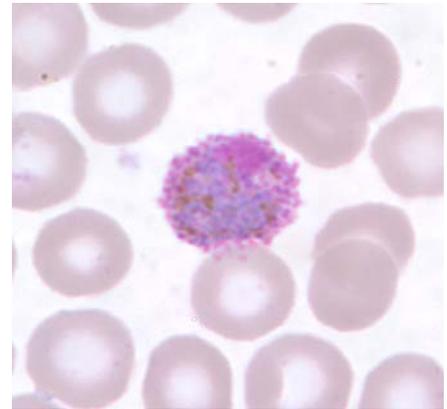
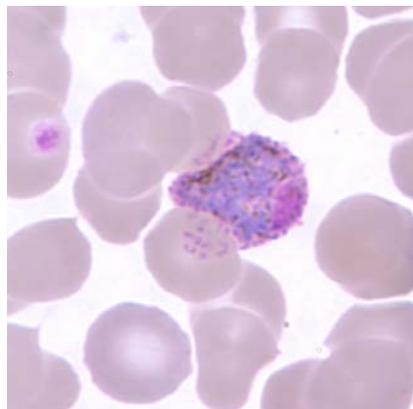
Gametocyte in a thin blood smear.



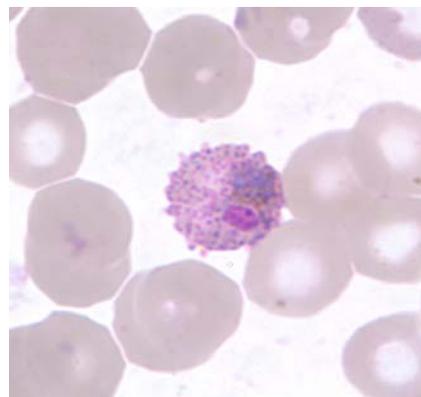
Gametocyte in a thin blood smear. The infected rbc shows some fimbriation.



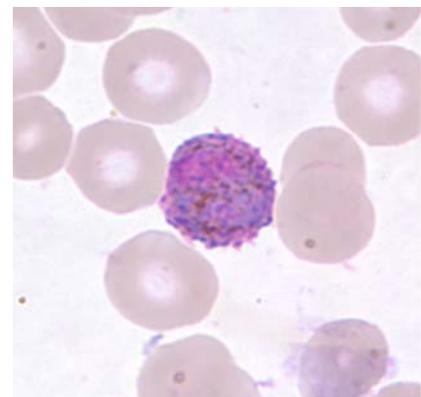
Macrogametocytes in thin blood smears. Notice how they nearly fill the infected rbc's. Coarse pigment, a discrete red nucleus and Schüffner's dots can be seen.



Microgametocyte in thin blood smear.
Note the diffuse pigment.



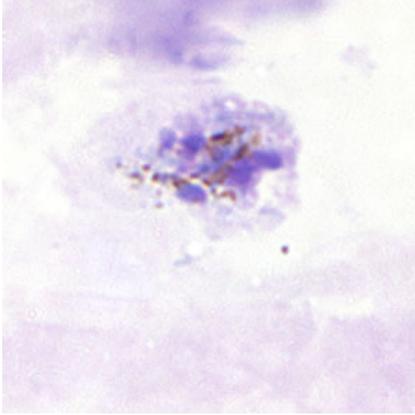
Gametocytes in thin blood smears.



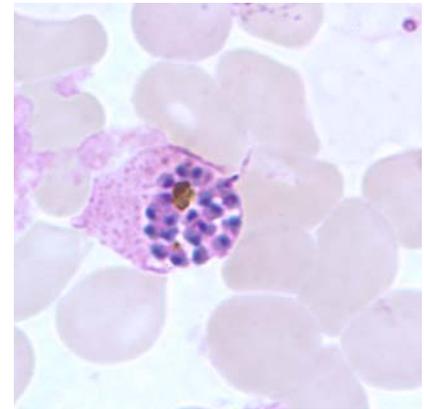
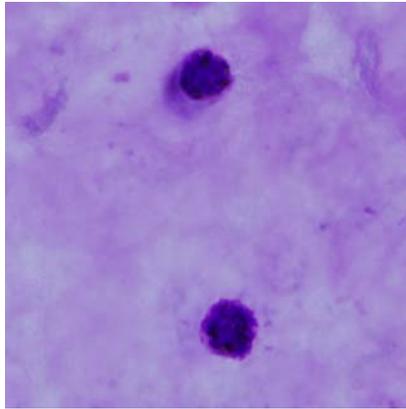
Laboratory diagnosis of malaria

4. Schizonts

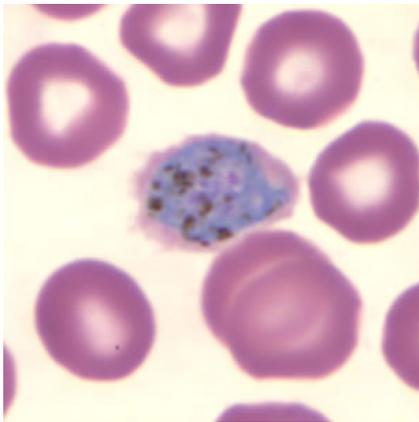
P. ovale schizonts have 6 to 14 merozoites with large nuclei, clustered around a mass of dark-brown pigment.



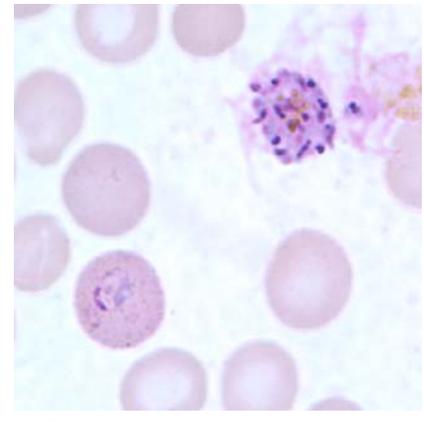
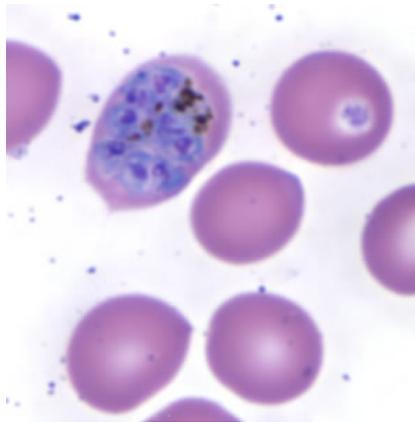
Schizonts in thick blood smears.



Schizont in a thin blood smear.



Schizonts in thin blood smears. Note the infected rbc's are oval.



Schizont in a thin blood smear with a developing trophozoite.



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