



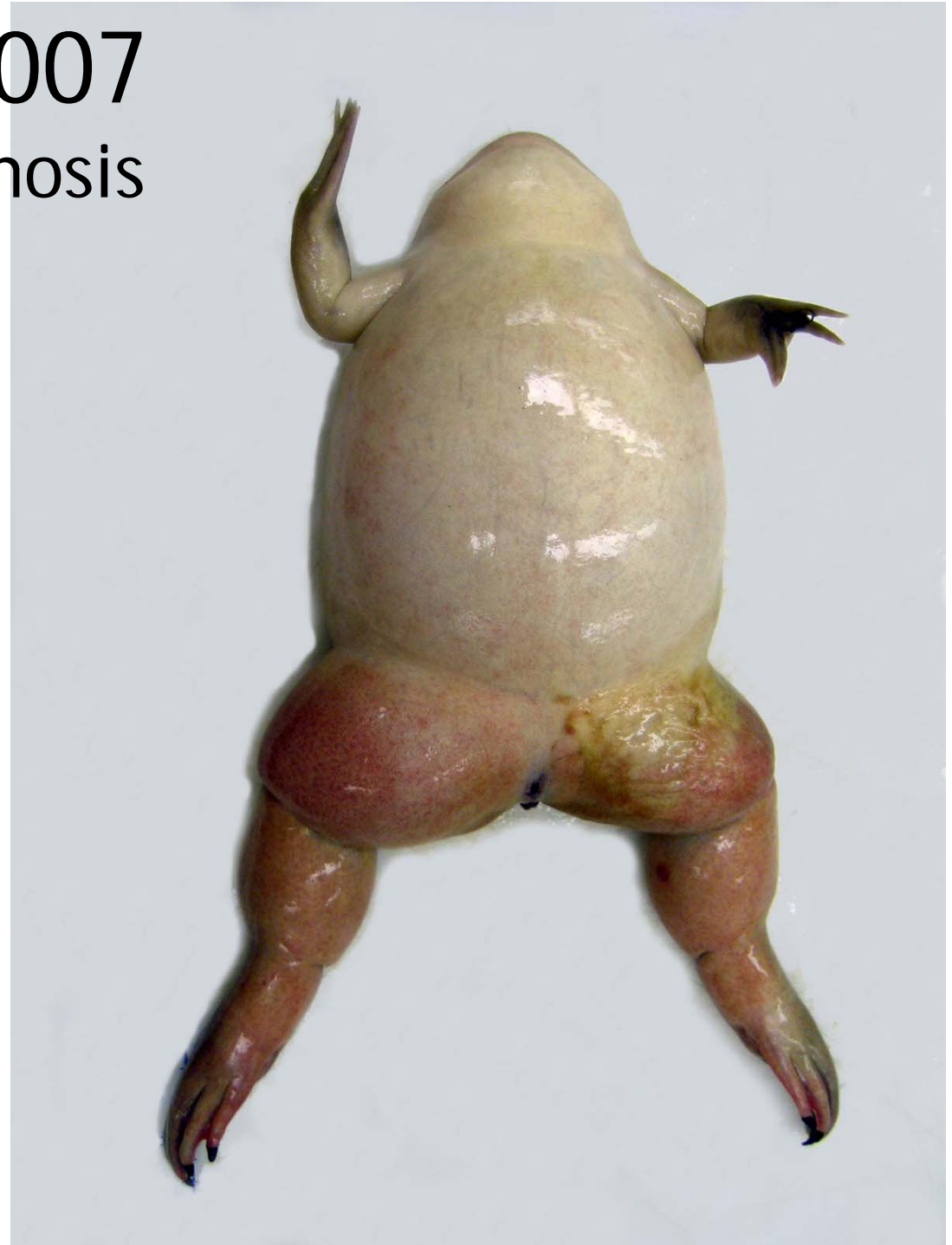
September 2007

What's Your Diagnosis
?

Xenopus laevis.

Distended.

Red skin, legs.





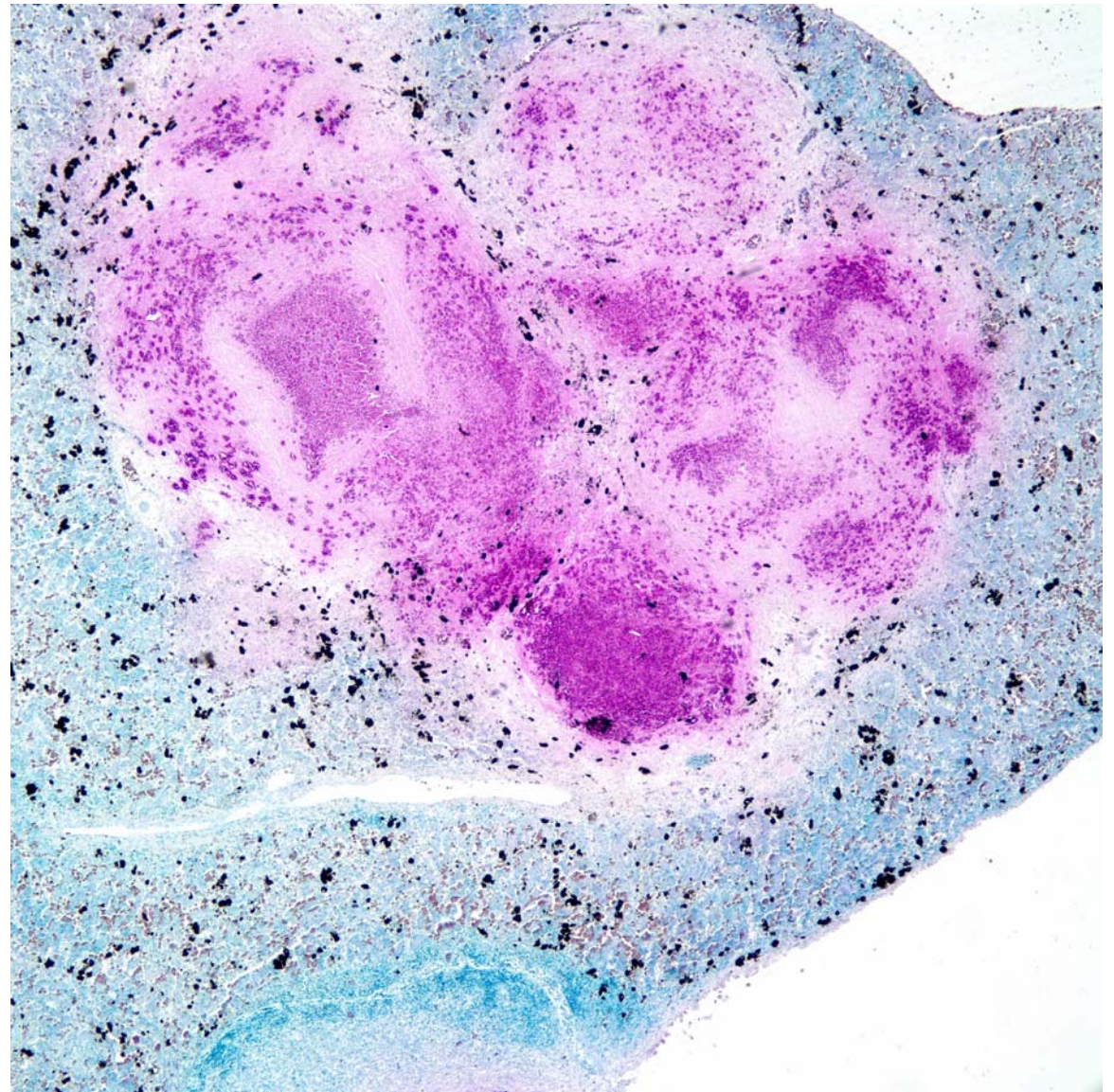
September 2007

What's Your Diagnosis ?

X. Laevis

Ziehl Neelsen Stain

Liver.

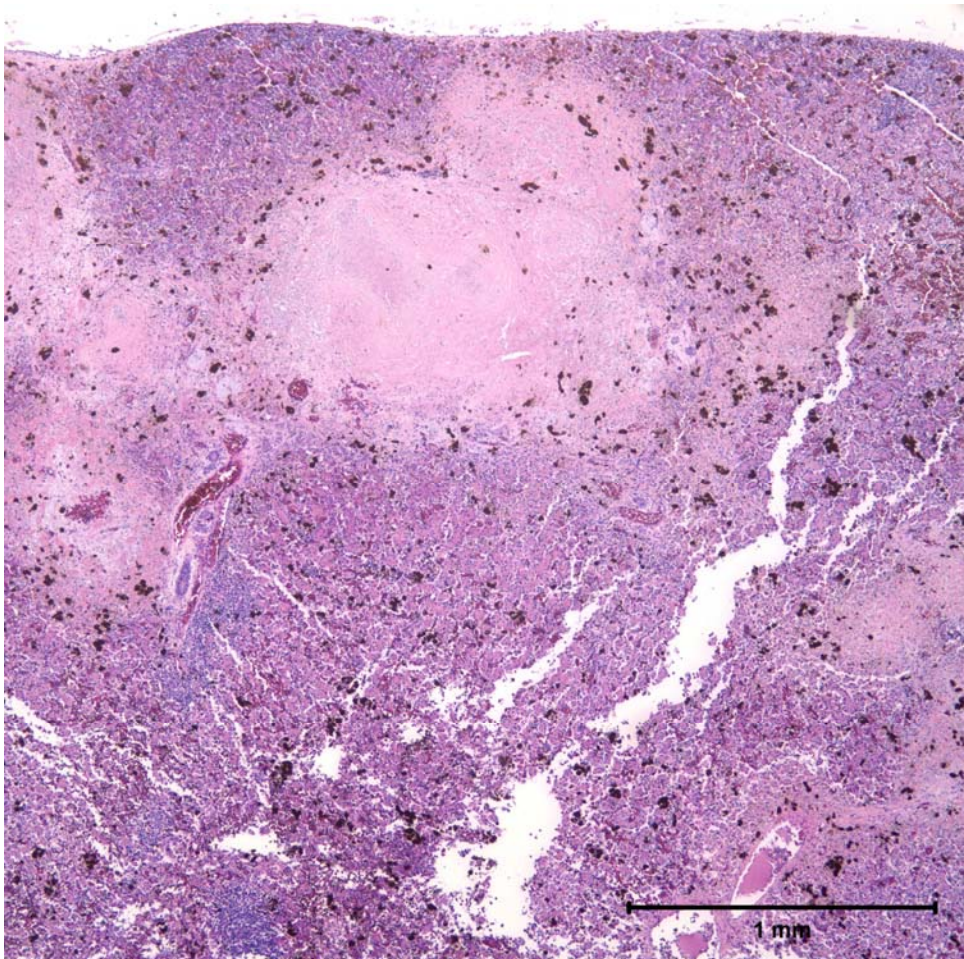




Xenopus laevis

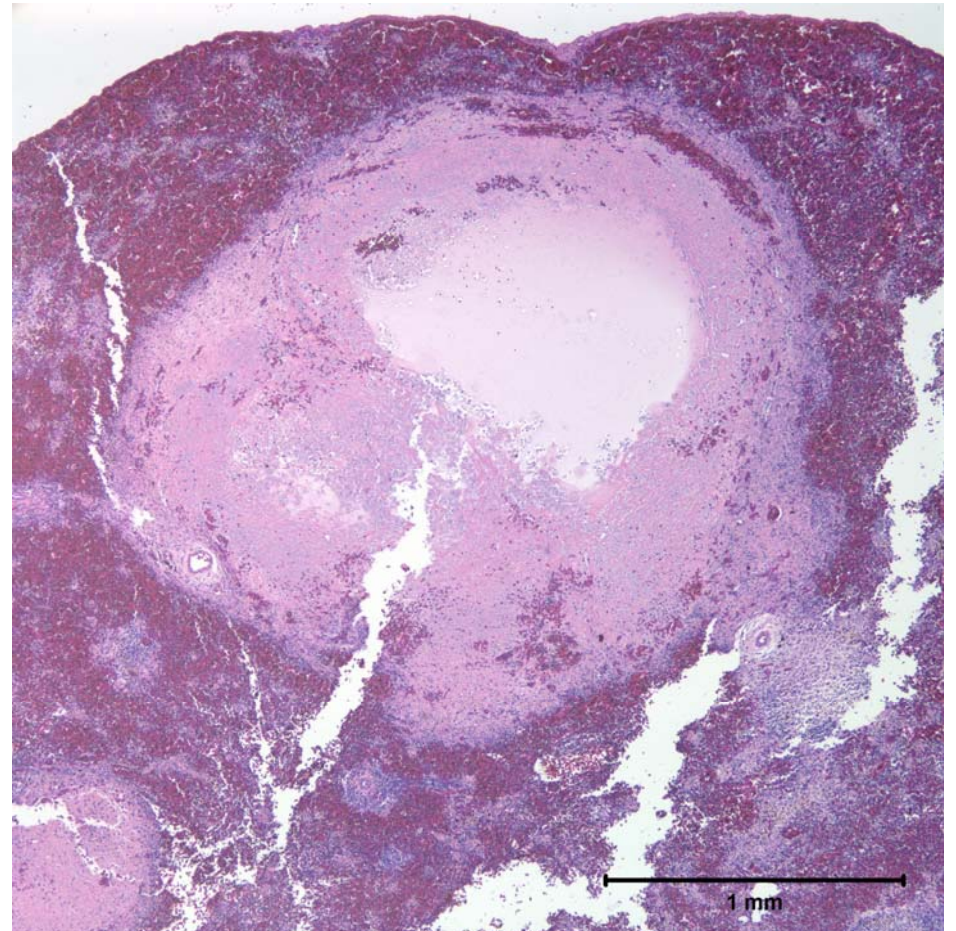
Liver (H&E)

- Necrosis



Spleen (H&E)

- Necrosis

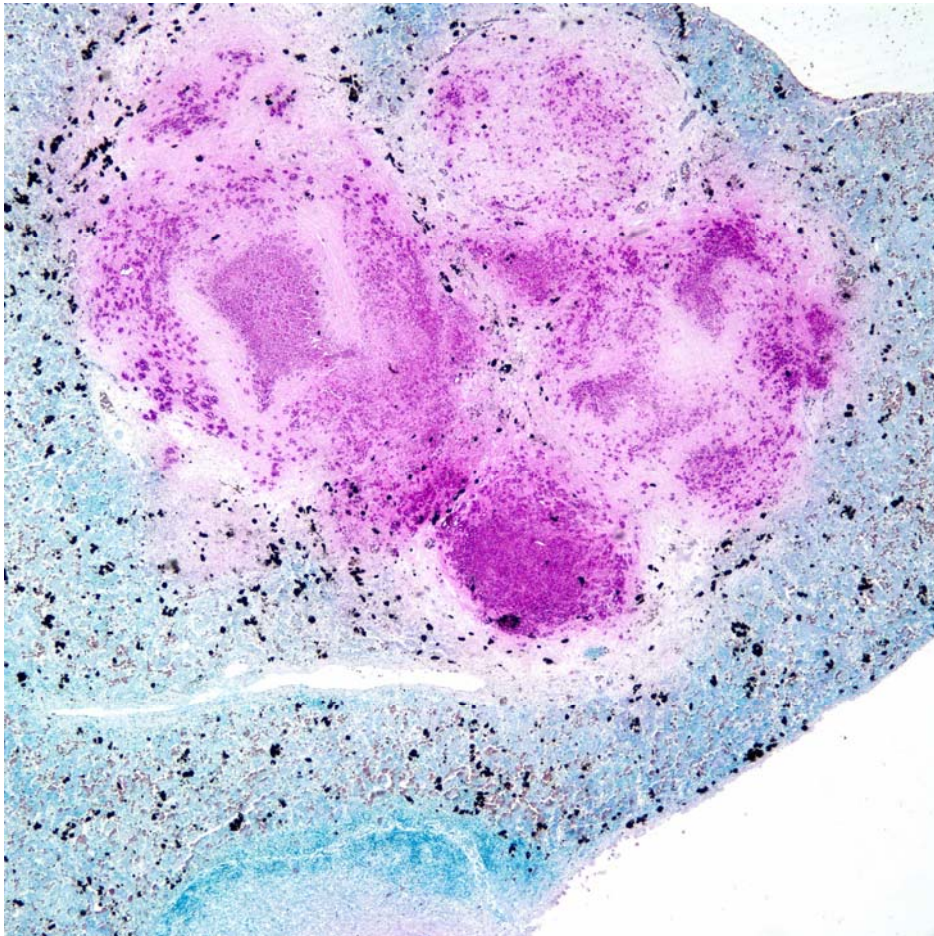




Xenopus laevis

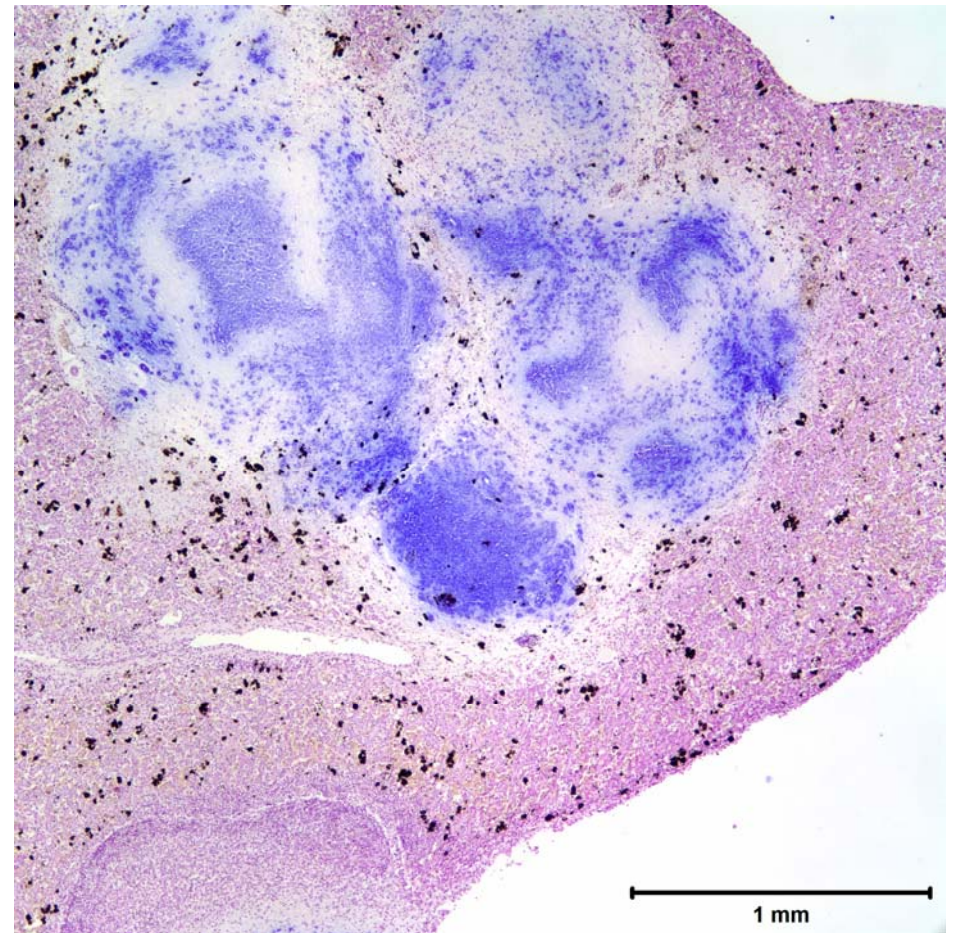
Liver (Ziehl Neelsen)

- Many Acid Fast Bacilli (Red)



Liver (Brown Hopps)

- Many Gram Positive Bacilli (Blue)

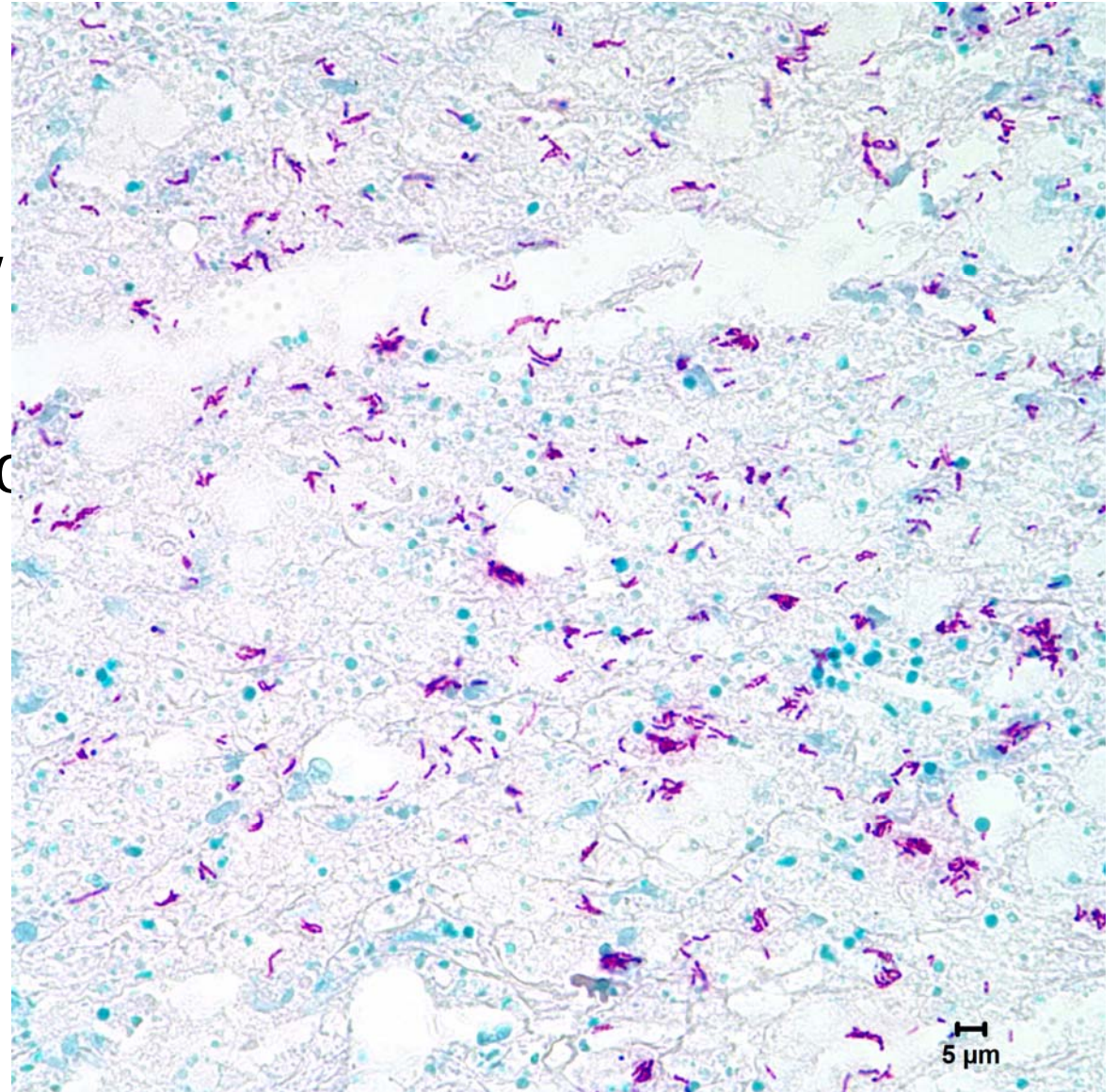




Xenopus laevis

Liver (Ziehl Neelsen)

- Acid Fast Bacilli
- Beaded morphology
- Necrosis
- Minimal inflammatory cellular response in this case

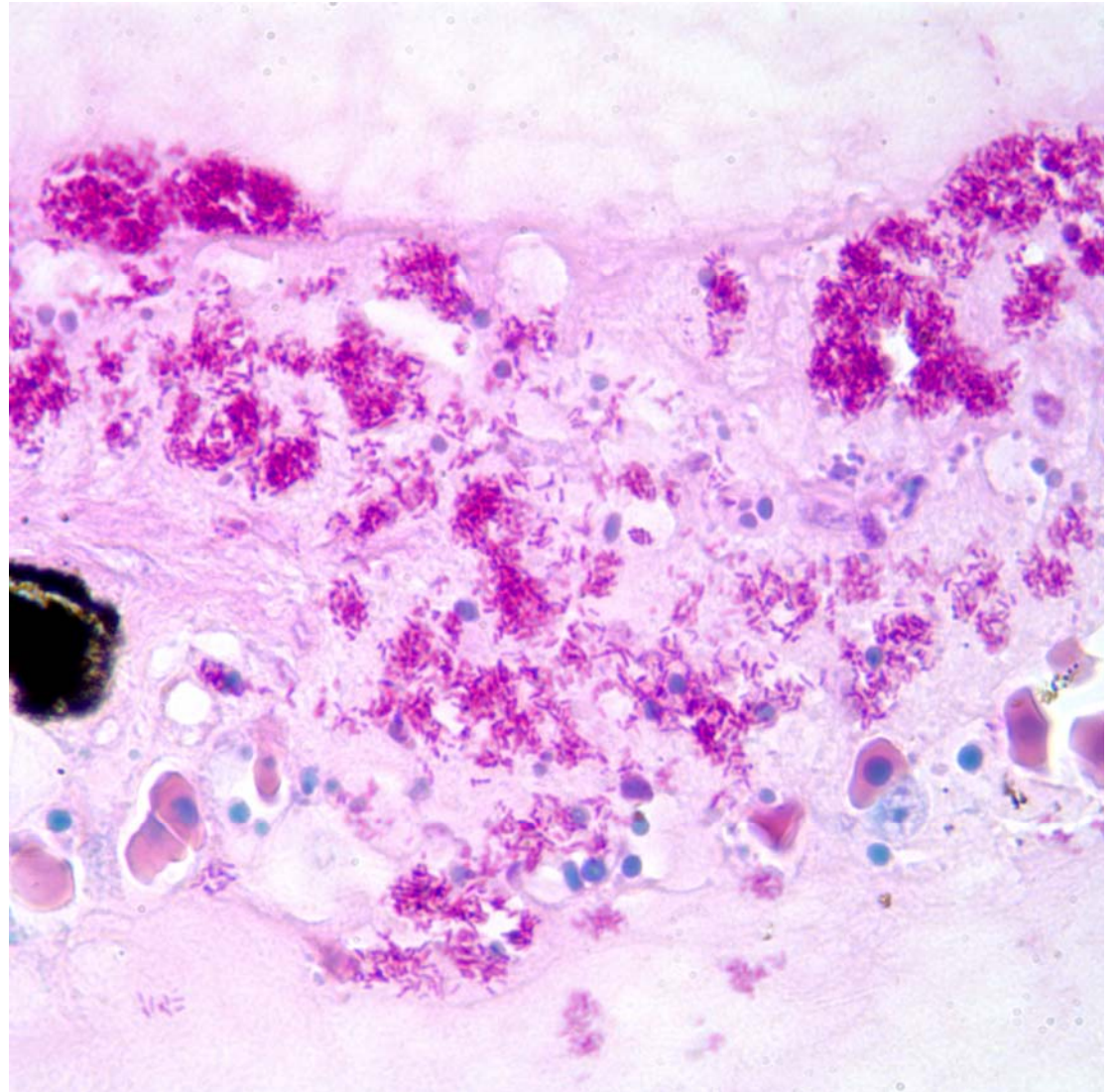




Xenopus laevis

Liver (Ziehl Neelsen)

- Acid Fast Bacilli
- Beaded morphology
- Minimal inflammation, cellular response in this case
- Melanomacrophages are common in livers of *Xenopus* & other amphibibia





Mycobacteriosis in Xenopus

Atypical mycobacteria are diagnostic and therapeutic challenge in research Xenopus colonies in US & EU. They also are a problem in aquaculture, research & pet fish, and have zoonotic potential especially for immunocompromised handlers.

Mycobacterium xenopi, *cheloniae*, *gordonii*, *liflandii* and unidentified atypical mycobacteria have been isolated from Xenopus and other aquatic spp.

Gram negative sepsis (dt *Pseudomonas* sp & *Aeromonas* sp) can have similar presentation, and has been called 'red leg'. These also can be cultured from the water & lesions of animals with mycobacteriosis.

Atypical mycobacteria are difficult & slow to grow, and may require temperatures lower than 38°C. Molecular techniques may be useful.

There were areas of necrosis and AFB in lungs and kidneys in this case

There are ulcerated skin lesions in some cases.

Mycobacteria may be gram positive or gram nothing. This case is interesting in that the organisms stain strongly gram positive.

Control & treatment is difficult, especially in recirculating systems.



Mycobacteriosis in Xenopus

Suggested References

University of Missouri Research Animal Diagnostic Laboratory (RADIL) Diseases of Research Animals (DORA)
<http://www.radil.missouri.edu/info/dora/mousepag/Bac.html>

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