

2015-5-3 Rat - Liver

Khan Shahid

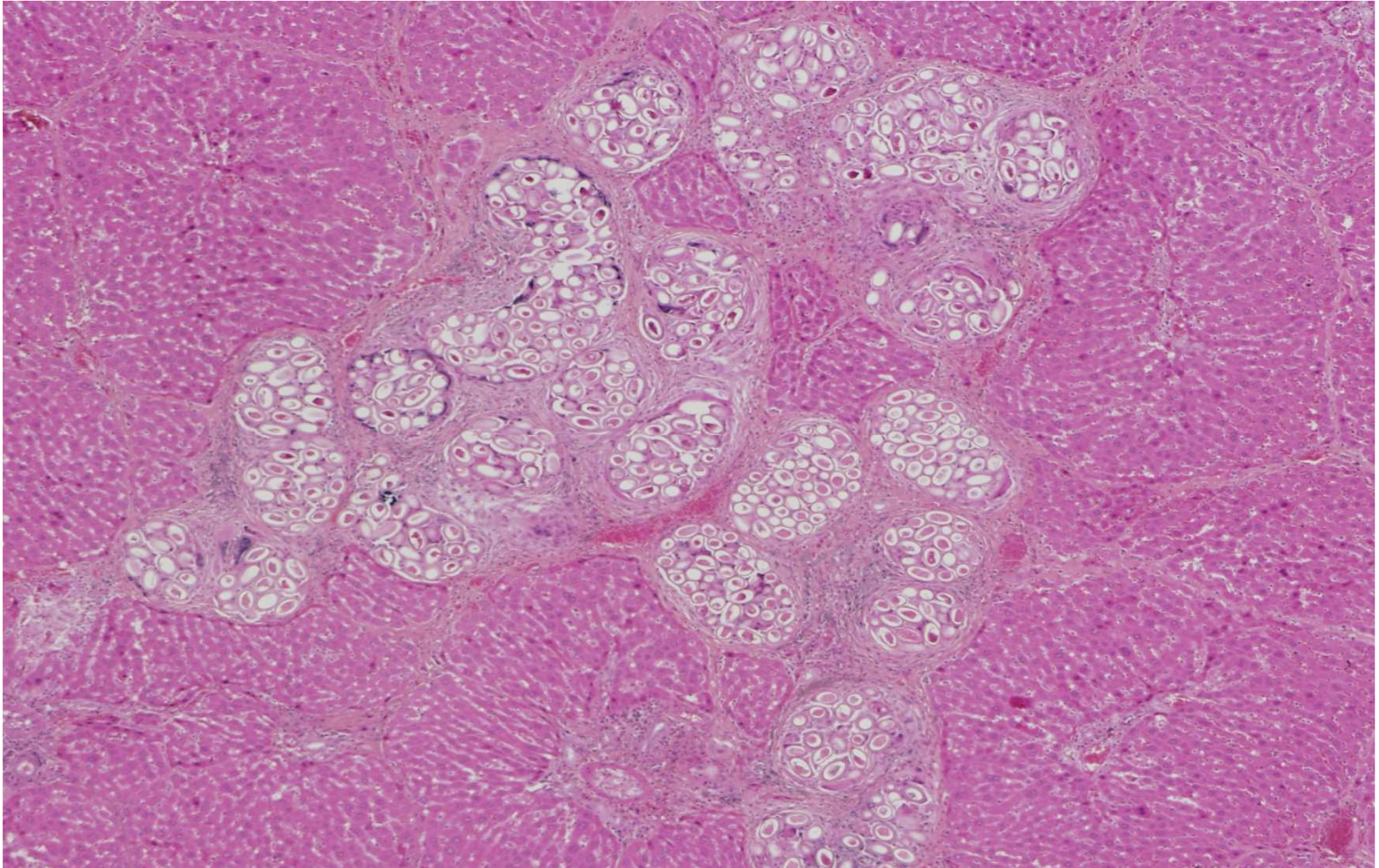
Signalment: Black rats (*Rattus rattus*) unknown age and gender

History: In November 2011, a trapping campaign was organized in French Zoological park to assess the prevalence of capillariasis in wild rodents after the diagnosis of capillariasis in primate from the Zoo. Eighty rats were trapped and their livers were sampled.

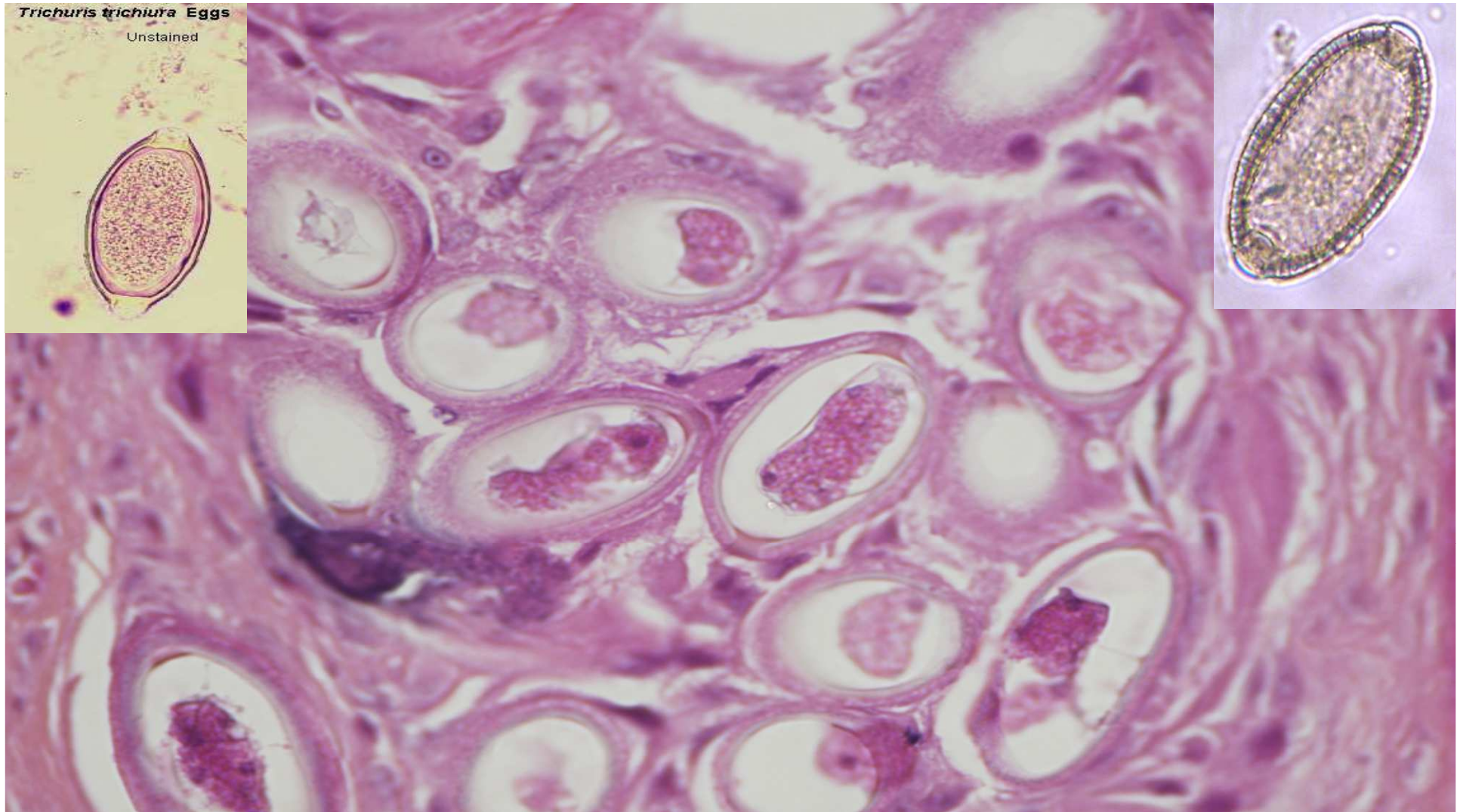
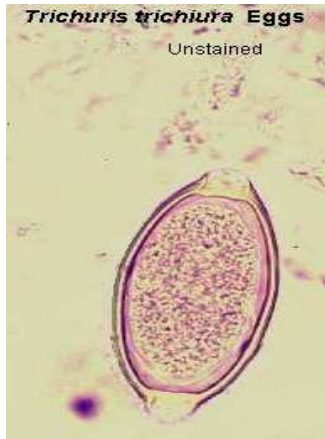
Gross Pathology: Most liver were grossly unremarkable. In few cases liver had a slightly irregular surface with some pin point foci and small irregular tracts

Histopathology Description: There is some variability between slides regarding the severity and type of lesions:

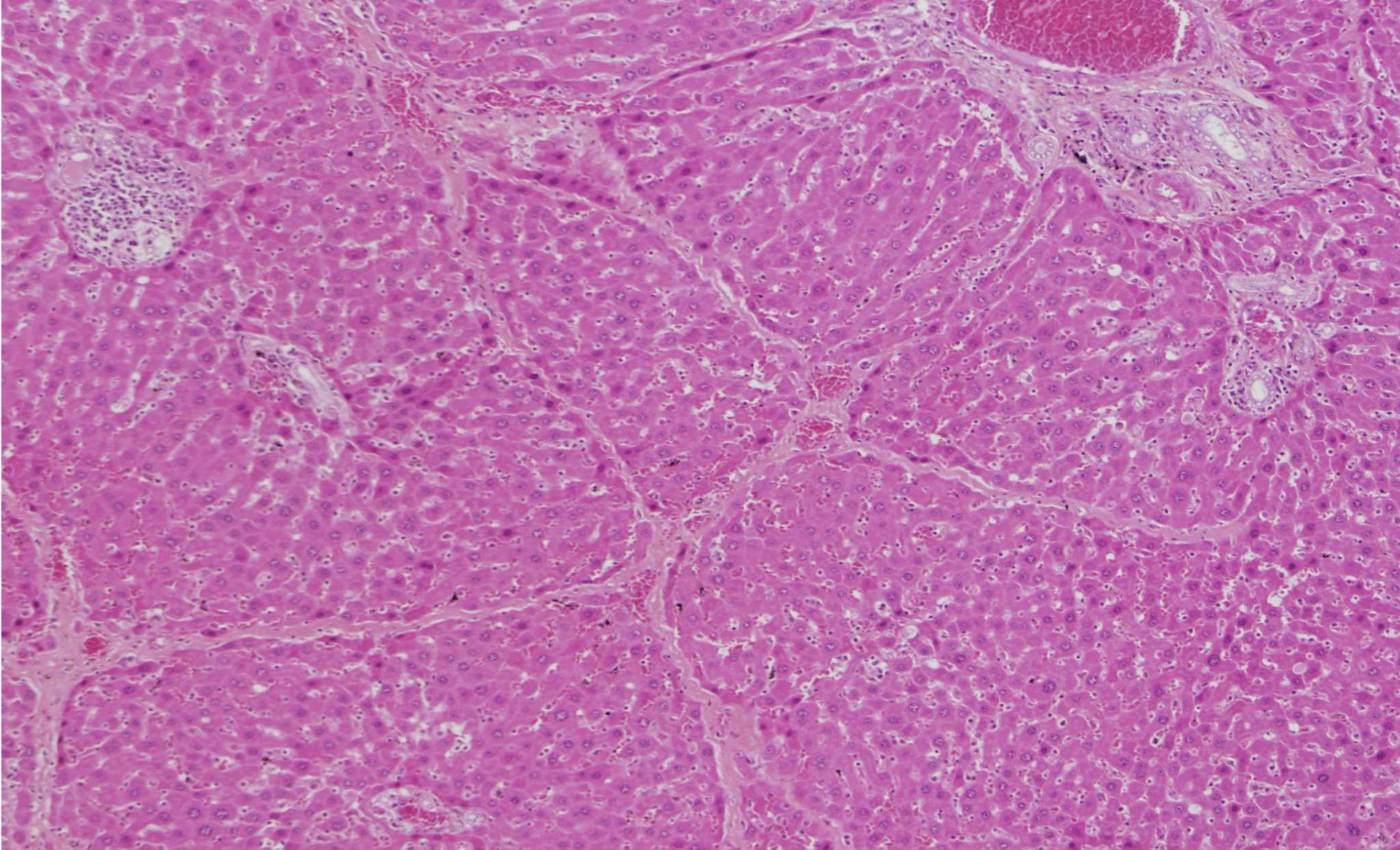
Liver shows dystrophic mineralization. In older granulomas, eggs are mainly surrounded by fibrosis.



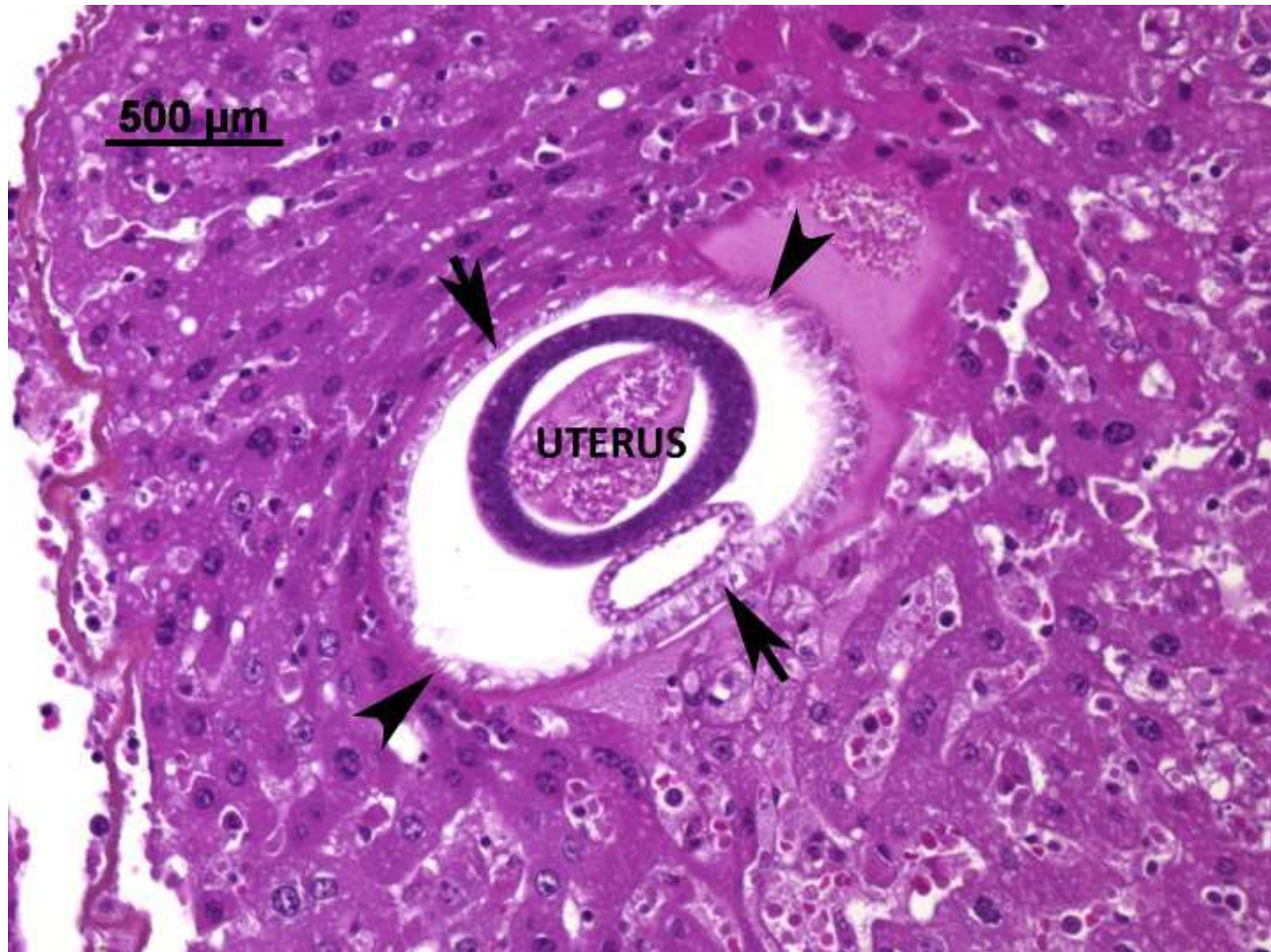
Liver shows aggregates of *Capillaria hepatica* eggs (typically barrel shaped, bi-operculate and have a thick shell with striated outer layer).



Liver show various degrees of bridging fibrosis characterized by fine fibrous septea connecting portal tracts to portal tracts.



adult worm



Contributor's morphologic Diagnosis:

Liver: Hepatitis, granulomatous and eosinophilic, chronic, multifocal, moderate with intralesional eggs and adult nematodes consistent with *Capillaria hepatica*

Liver: Porto-portal and porto-central bridging fibrosis, multifocal, moderate to severe (septal fibrosis)

JPC Diagnosis:

Liver: Hepatitis, granulomatous and eosinophilic, chronic, multifocal, moderate with bridging fibrosis and adult nematodes.

Contributor's Comment: The peculiarity of hepatic capillariasis is that eggs are kept within the hepatic parenchyma instead of being released through the biliary tract as for other hepatic parasites. A peculiar finding in rats infected with *Capillaria hepatica* is the development of septal fibrosis, a type of bridging fibrosis in which portal tracts are connected to portal tracts by thin strands of connective tissue containing collagen, fibroblasts and lymphocytes.

Conference Comment: Noted slide variation with absence of adult nematodes in some sections. Presence of eosinophilic and granulomatous inflammation, hepatocellular degeneration and necrosis directly surrounding adult nematodes in some sections. Portal bridging fibrosis is a prominent feature of this entity. However unlike many other types of portal fibrosis, hepatic stellate cells involvement is absent.