



Fish

Histology session

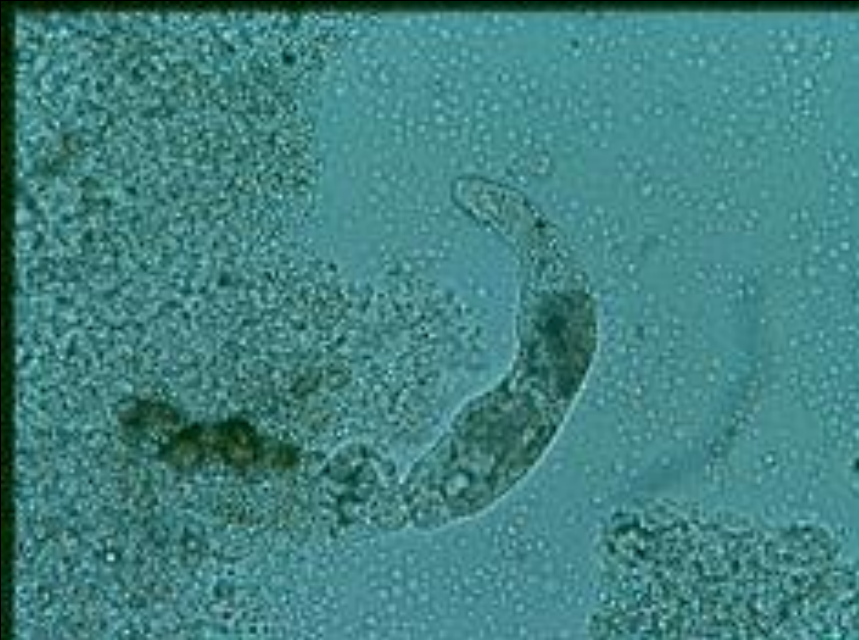


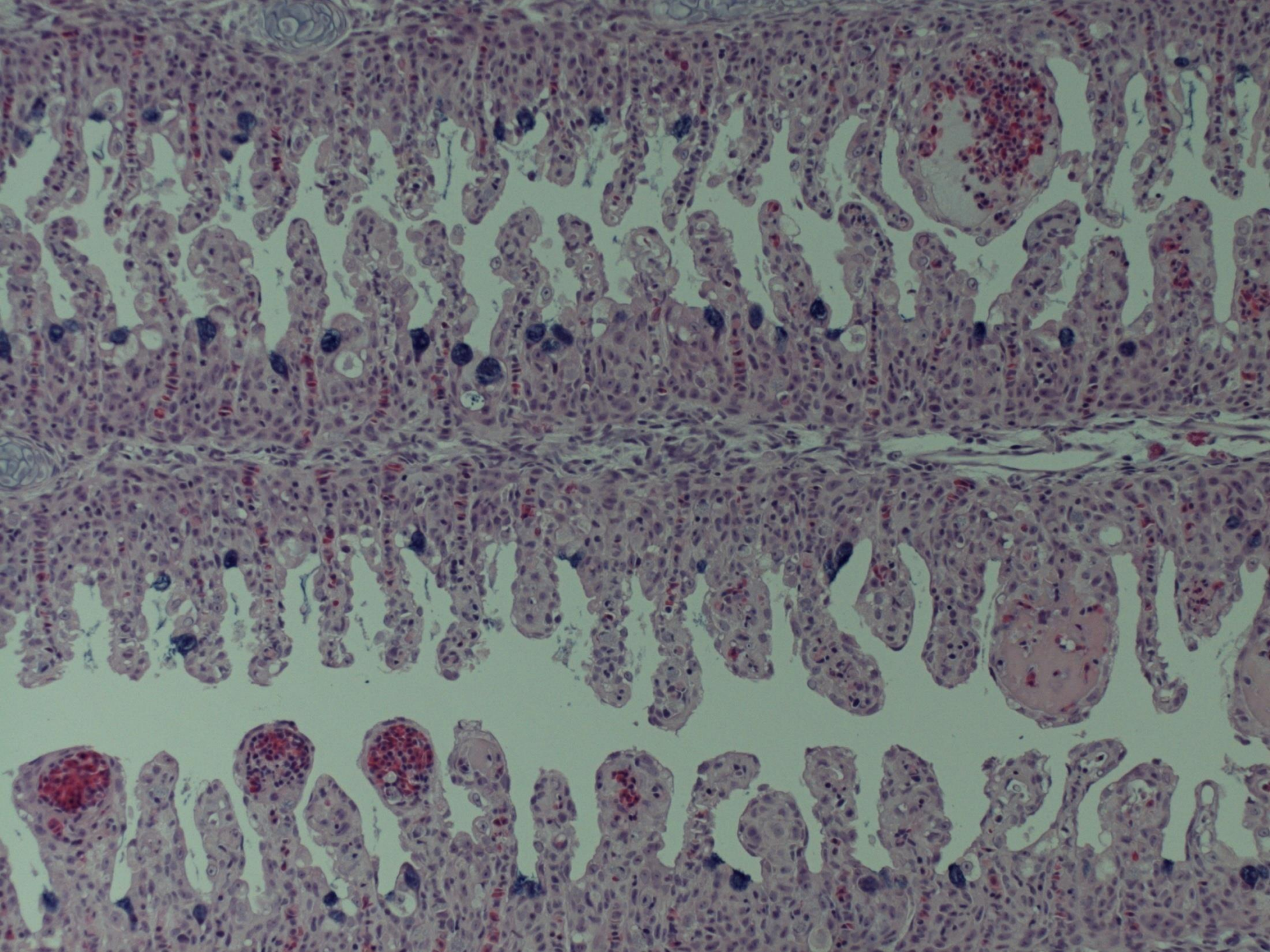
F08/1594 & F05/597

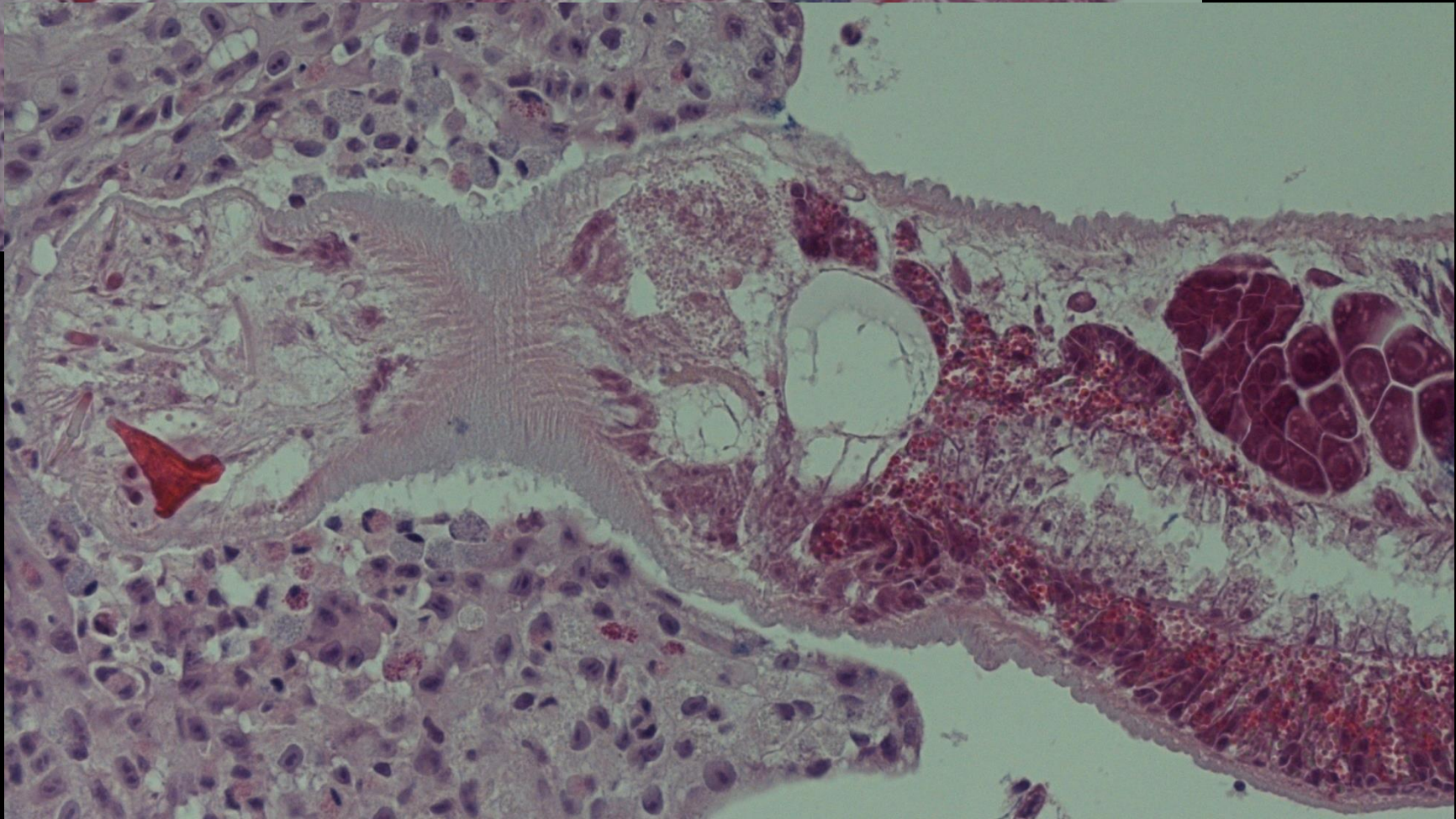
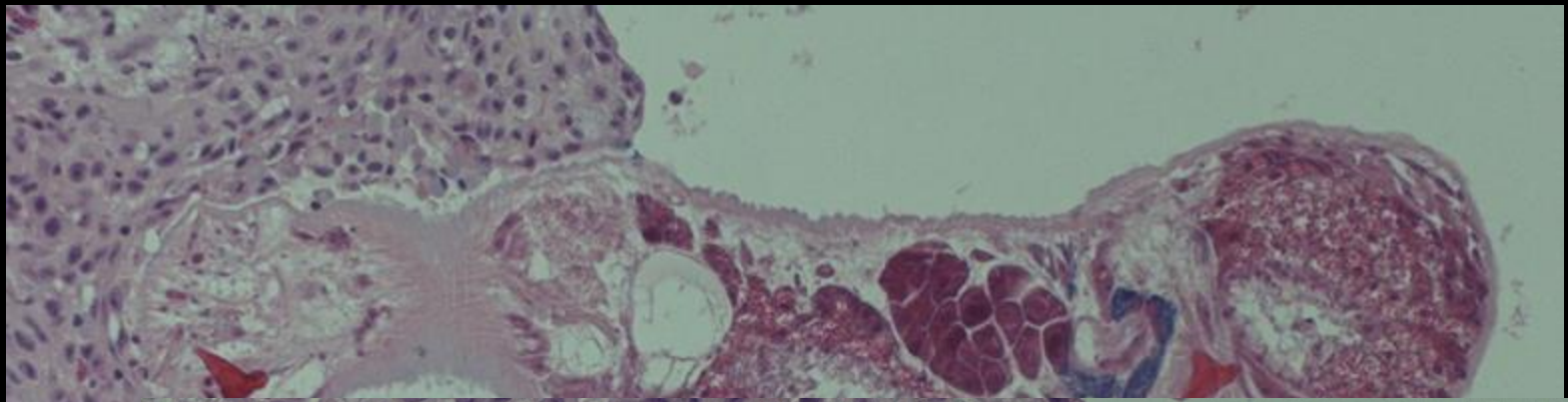
Koi, pond

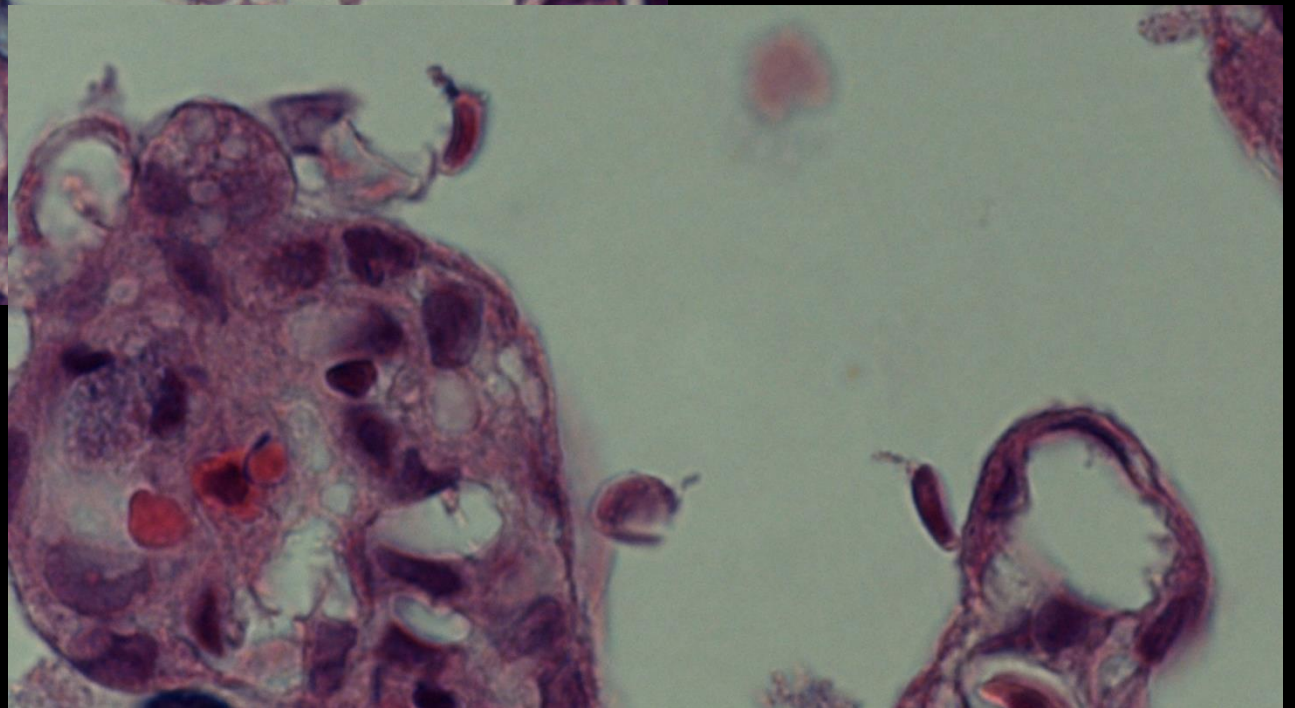
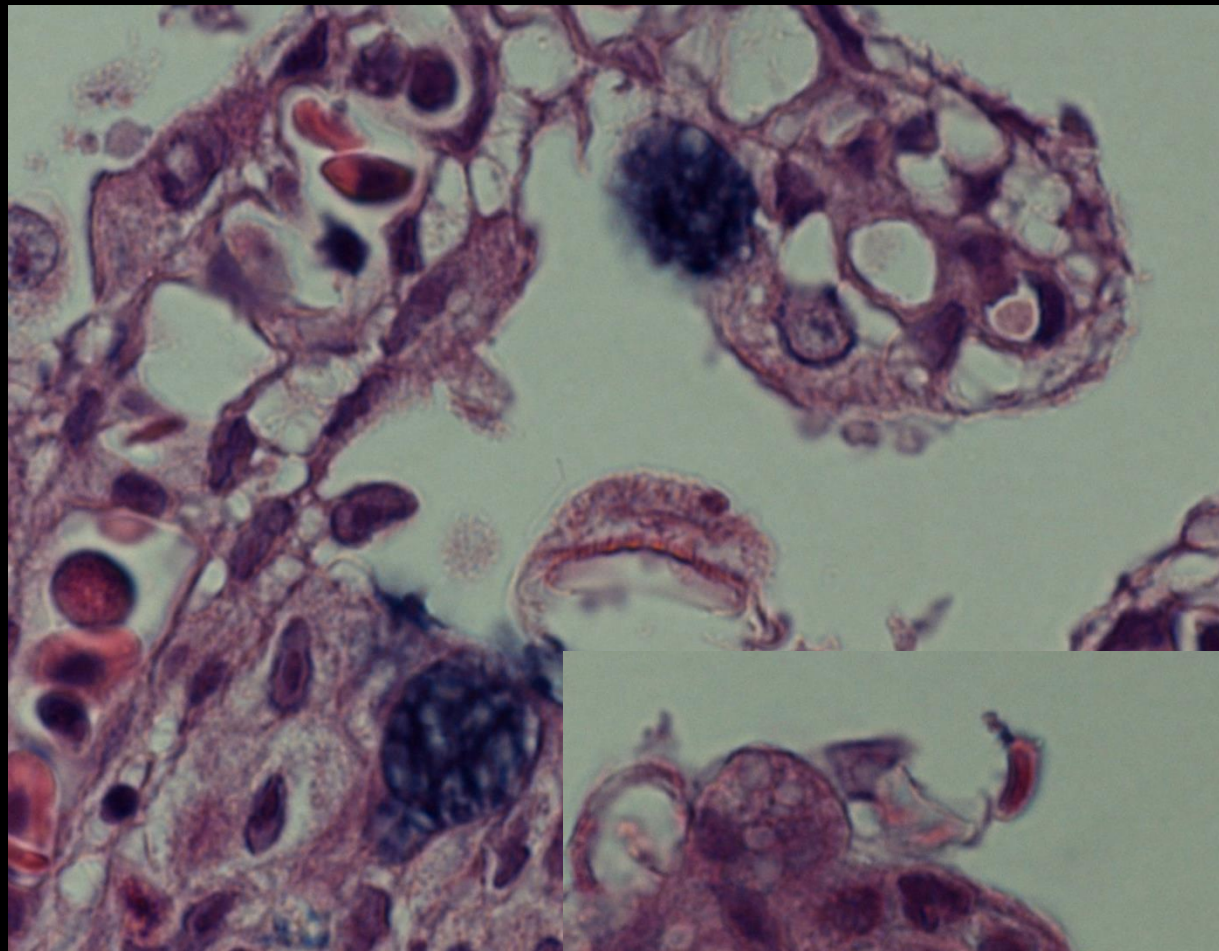
Clinic: increased respiration rate, abducted operculum

Organ: gills











Morphological diagnosis

Gills, proliferative branchitis, diffuse, severe, chronic with intralesional trematodes, ciliates and flagellates

Etiologies

Dactylogyrus sp.

Trichodina sp.

Ichthyobodo sp.

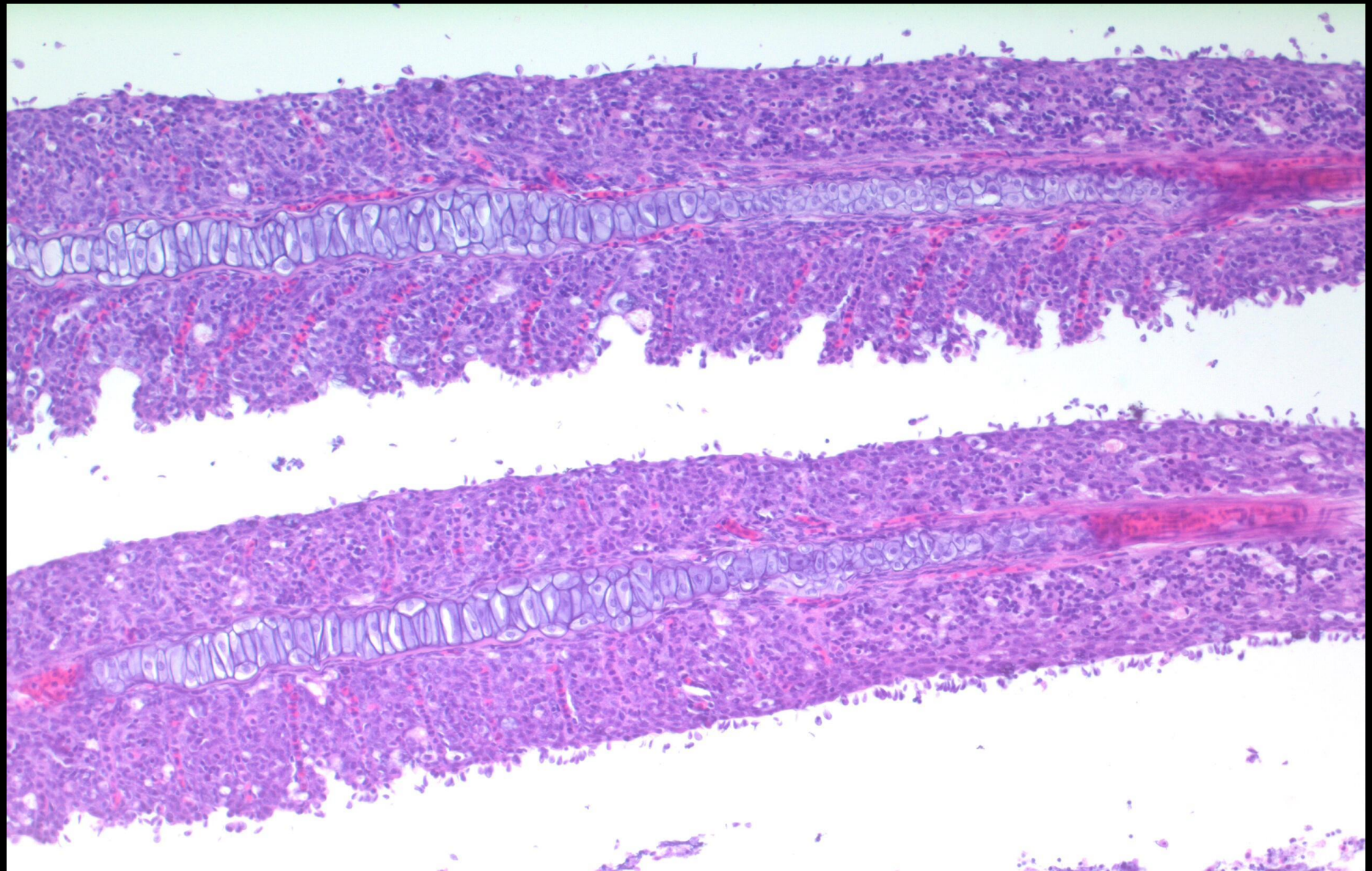
F13/7048

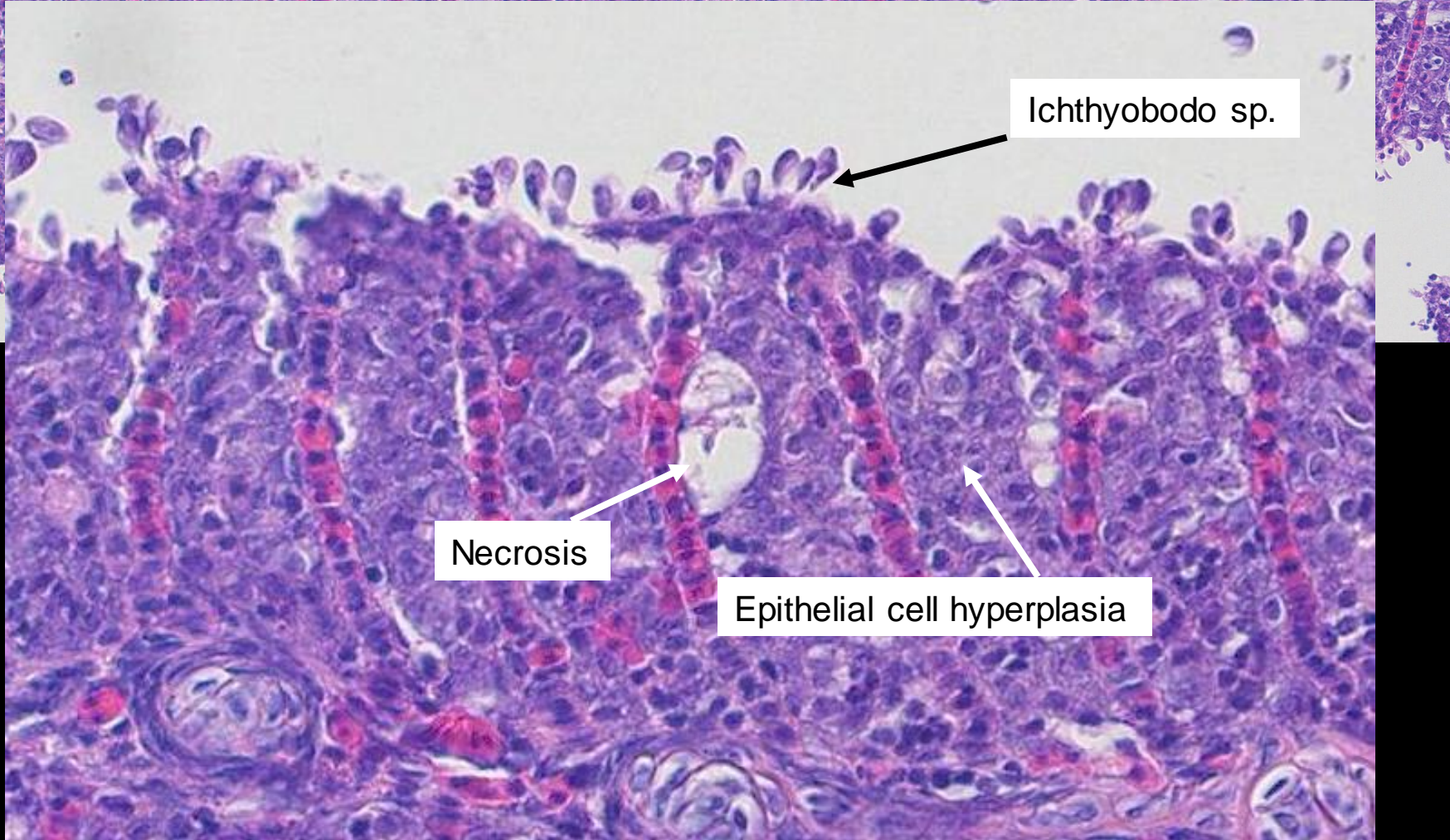
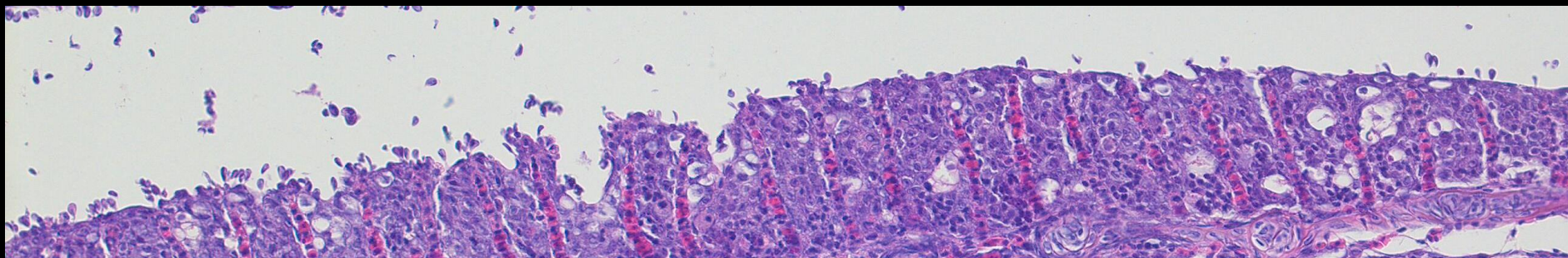


Goldfish, pond

Clinic: increased respiration rate, increased mortality in stress situations







Ichthyobodo sp.



Necrosis



Epithelial cell hyperplasia





Morphological diagnoses

Gills, proliferative branchitis, diffuse, severe, chronic with flagellets

Aetiologies

Ichthyobodo sp.



R07/499 & F11/4467

Rainbow trout, fish farm

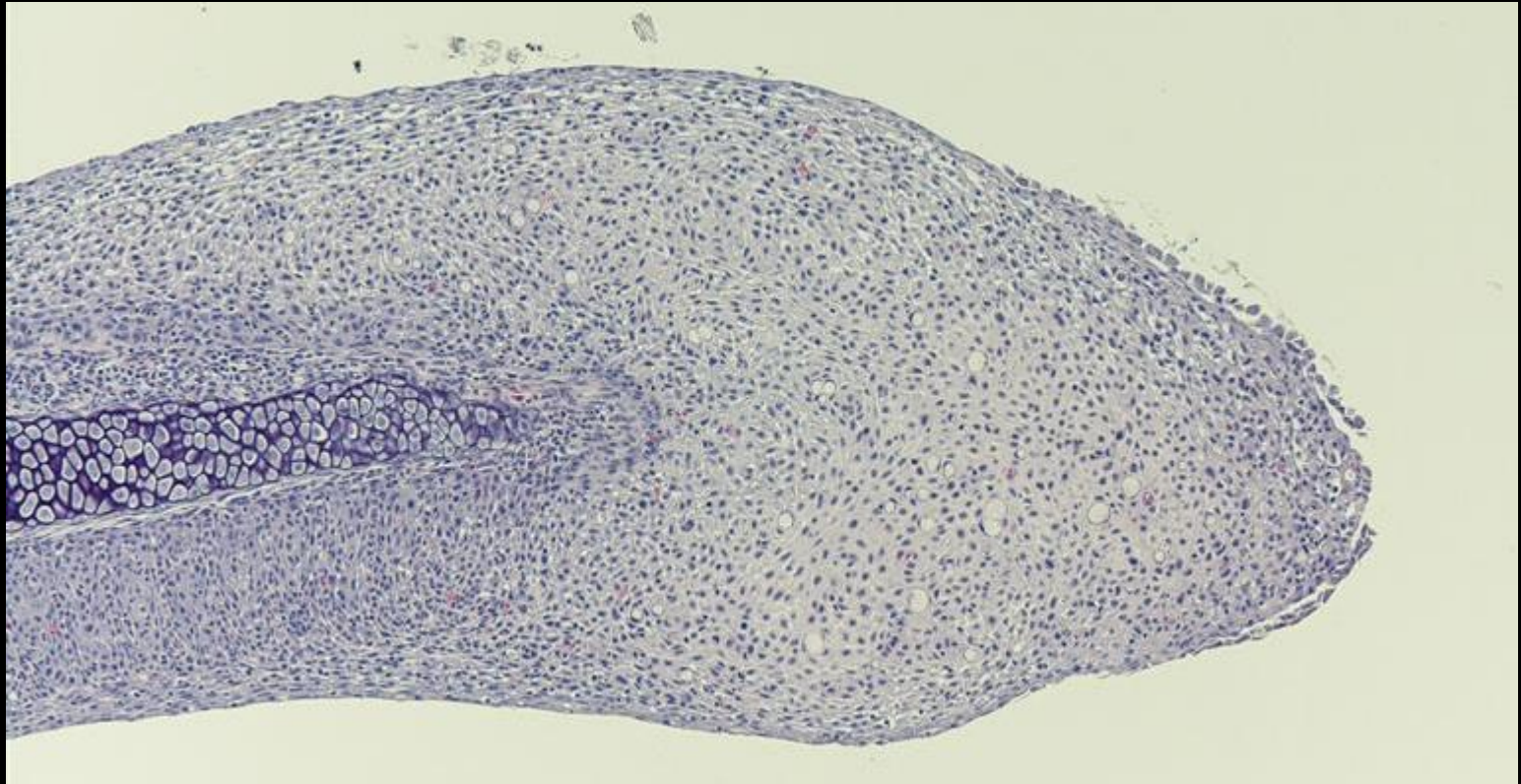
Organ: gills

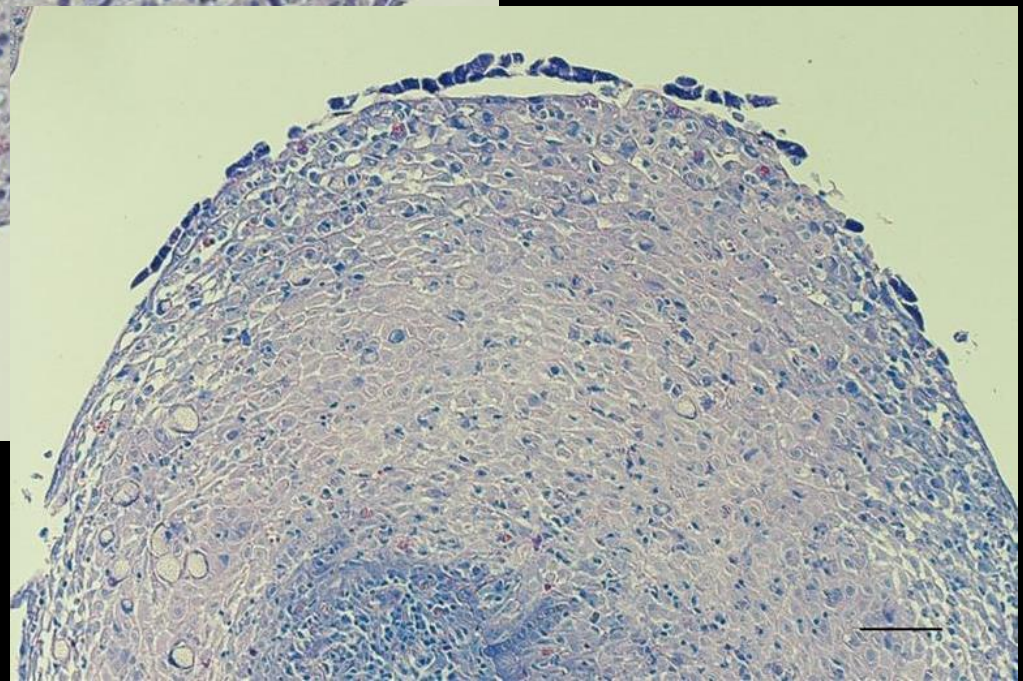
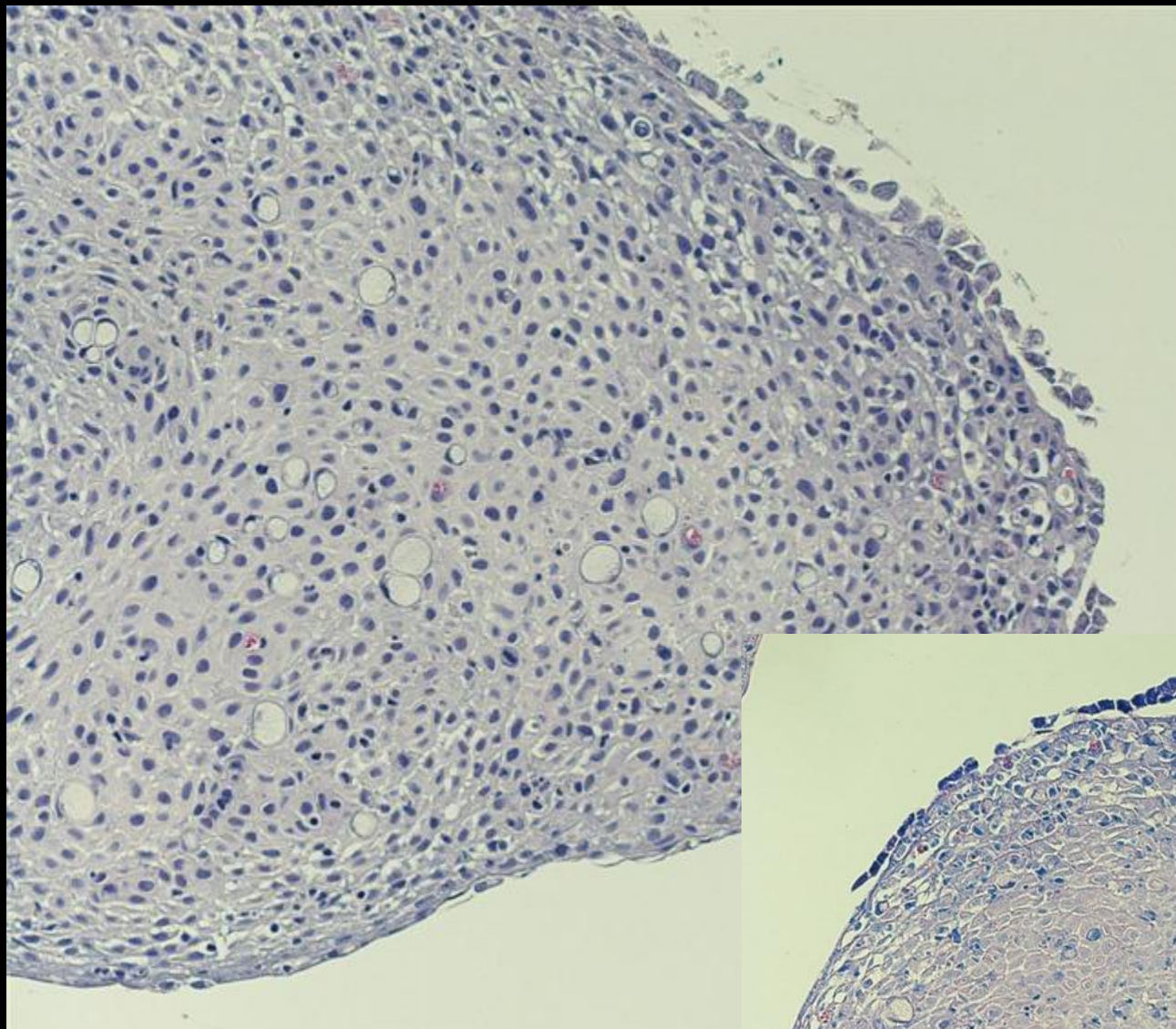
Clinic: increased respiration rate,
abducted operculum, mortality

Mainly in autumn

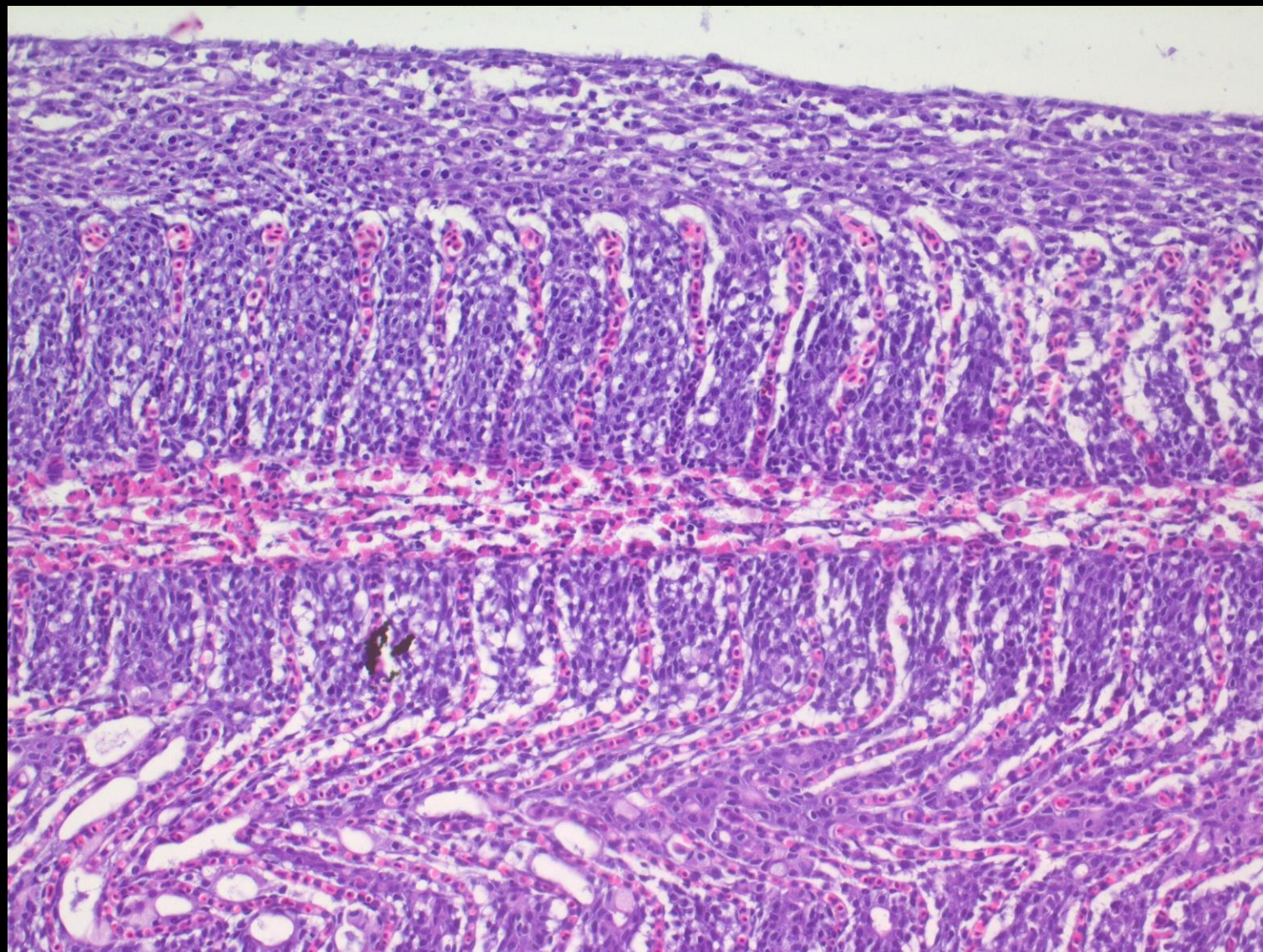


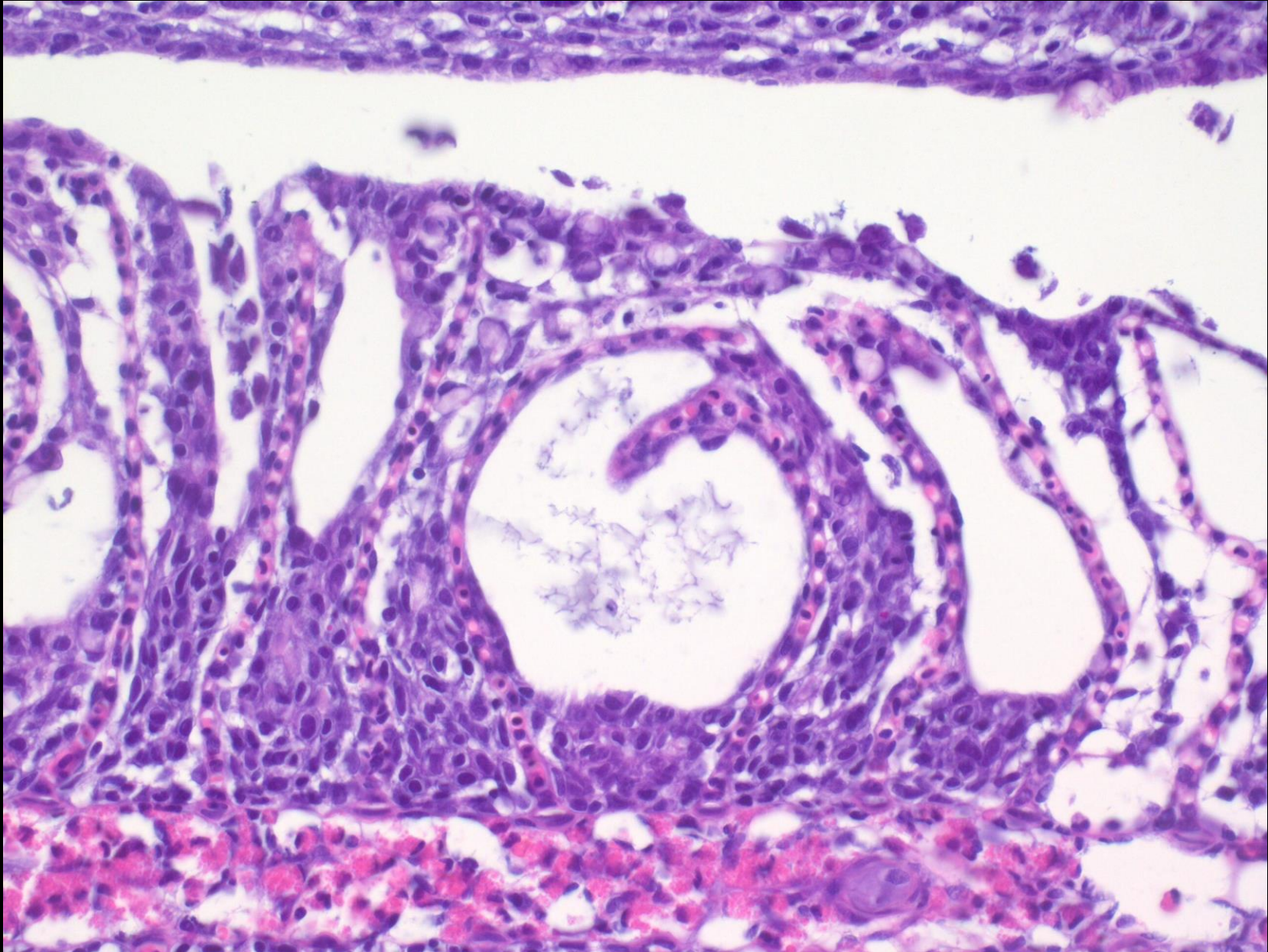
F07/499

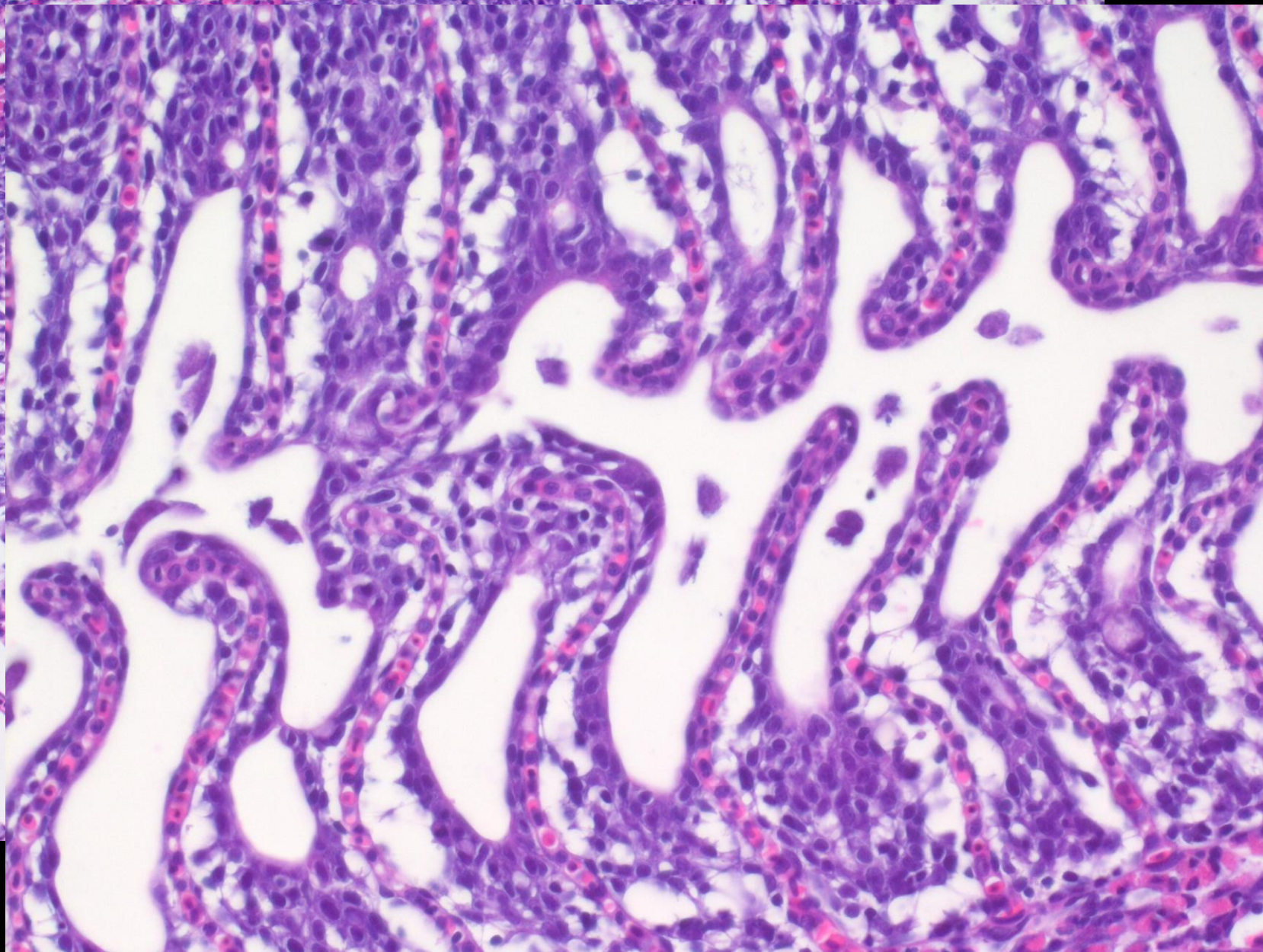
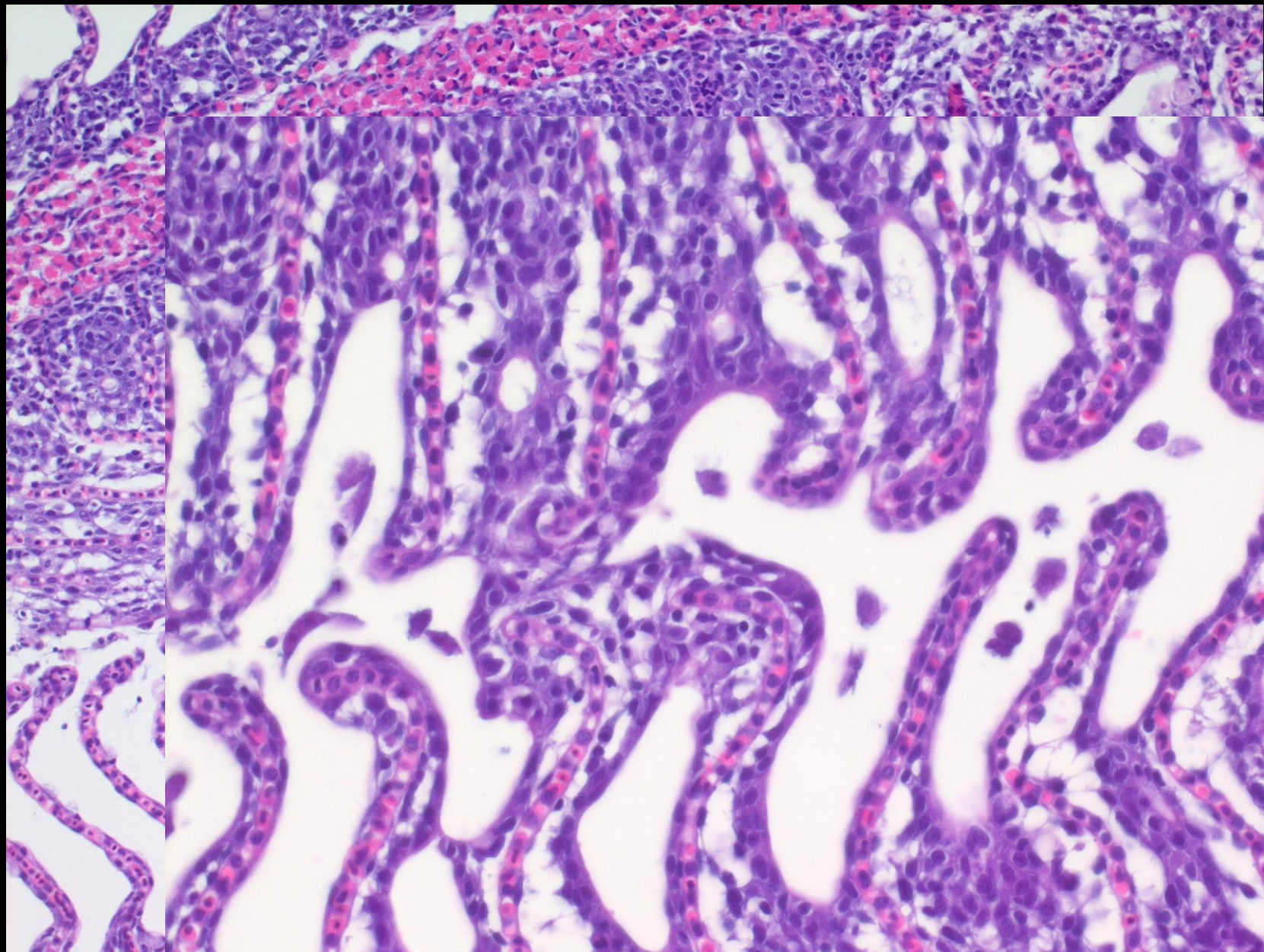




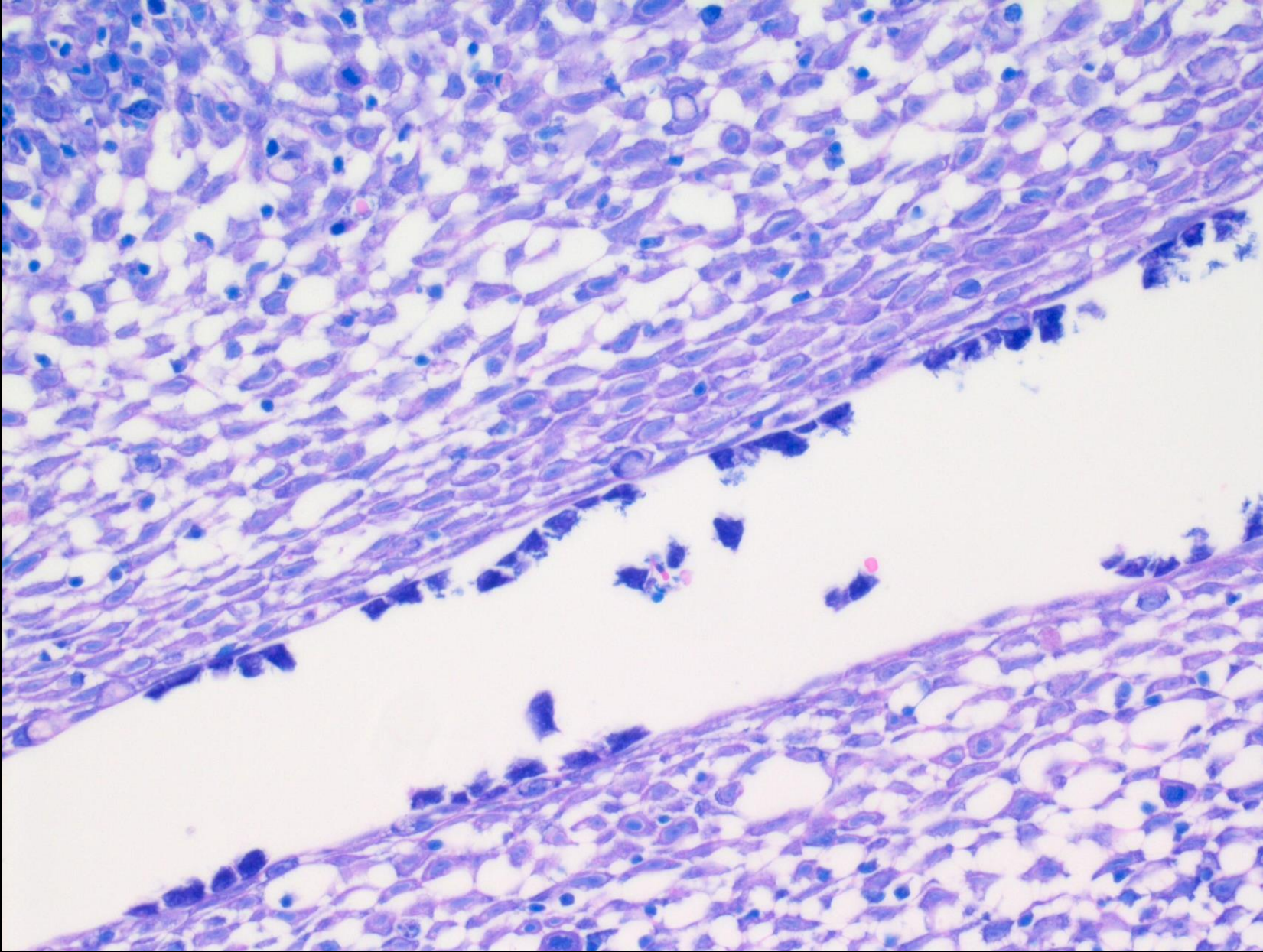
F11/4467







Giemsa-staining





Morphological diagnoses

Gills, proliferative branchitis, multifocal, severe, chronic with squamous cell metaplasia, amoeba (and flavobacteria)

Aetiologies

Thecamoeba sp., *Cochliopodium* sp.

Flavobacterium branchiophilum

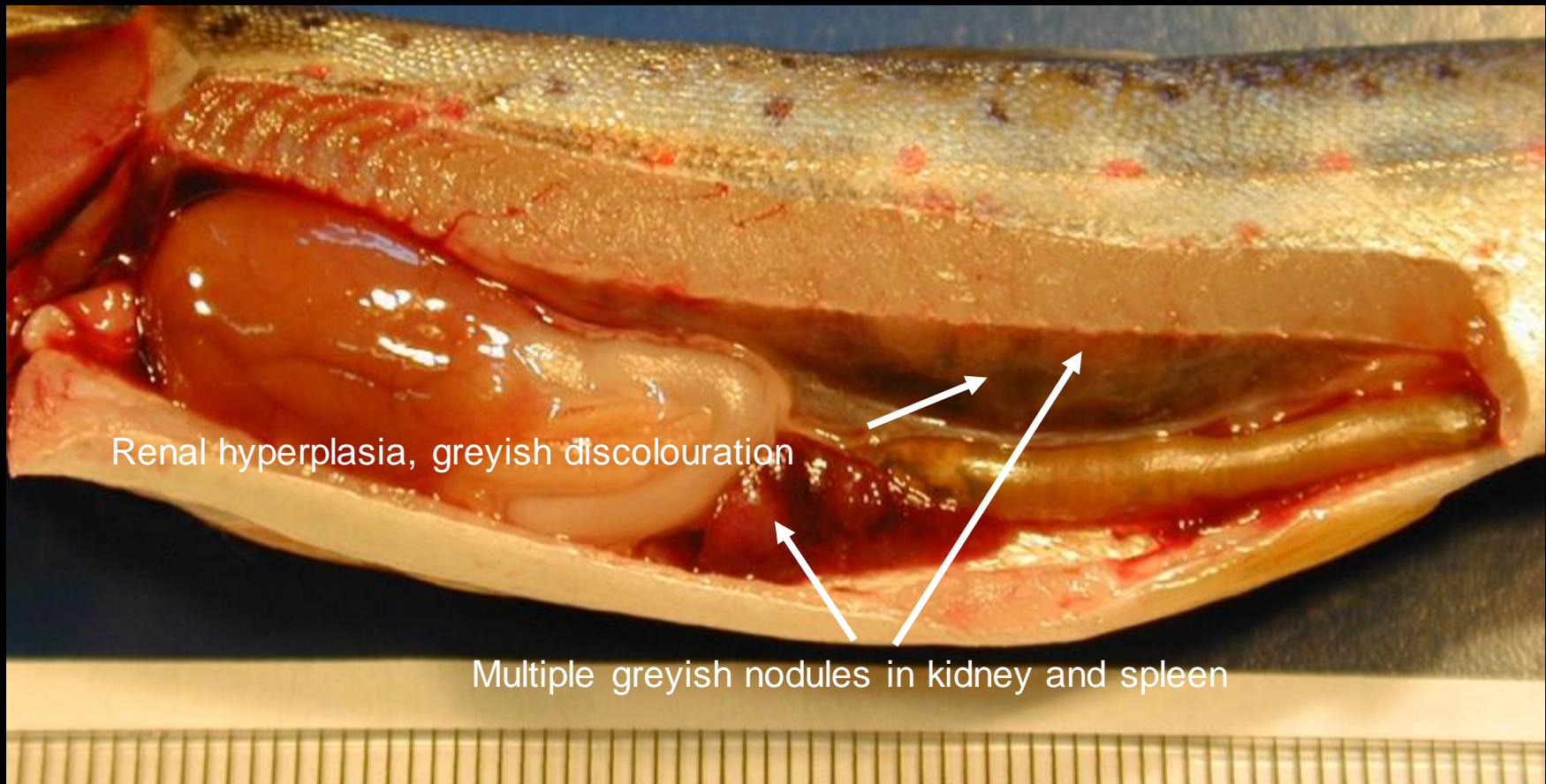
F05/3485

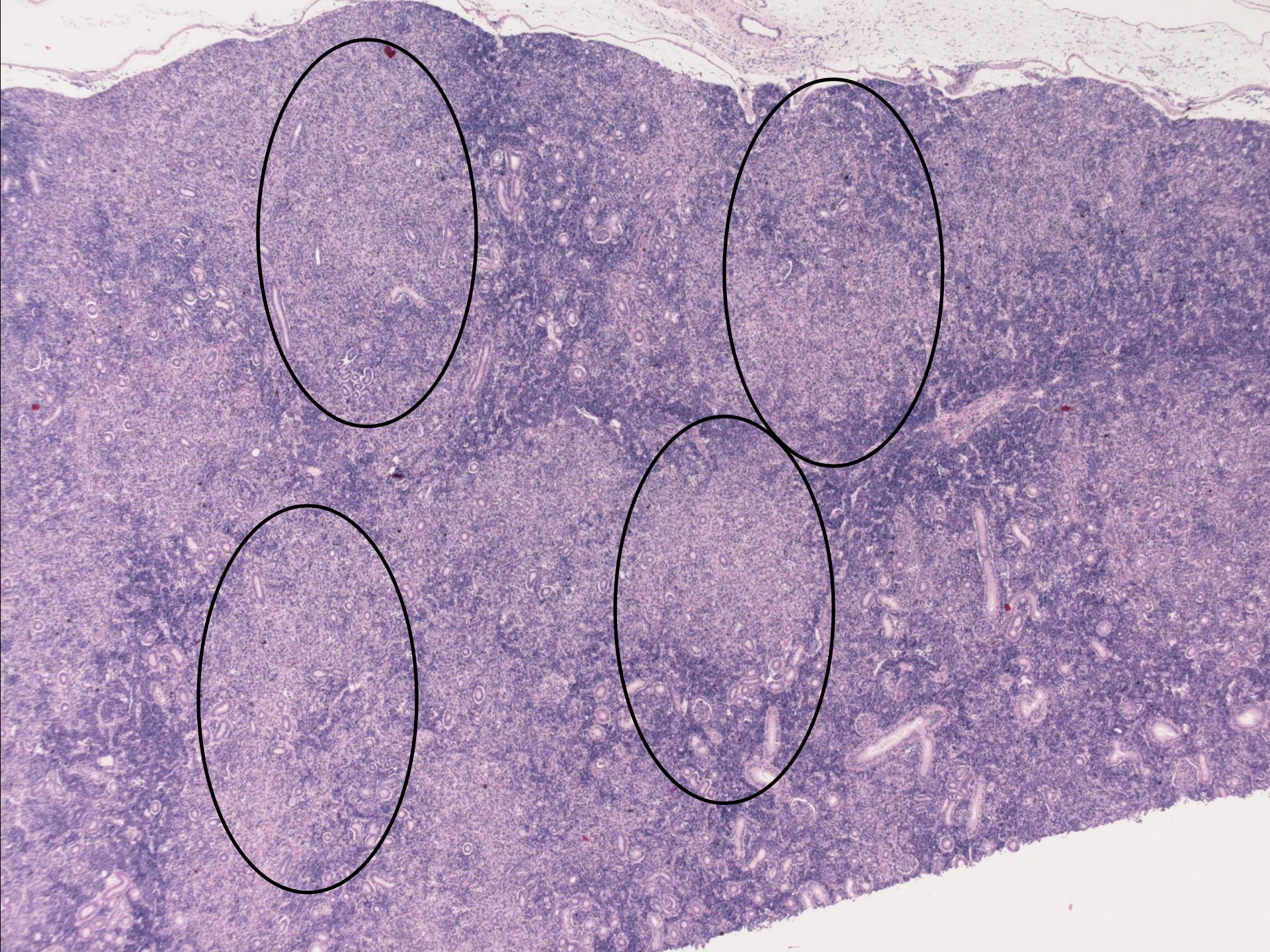


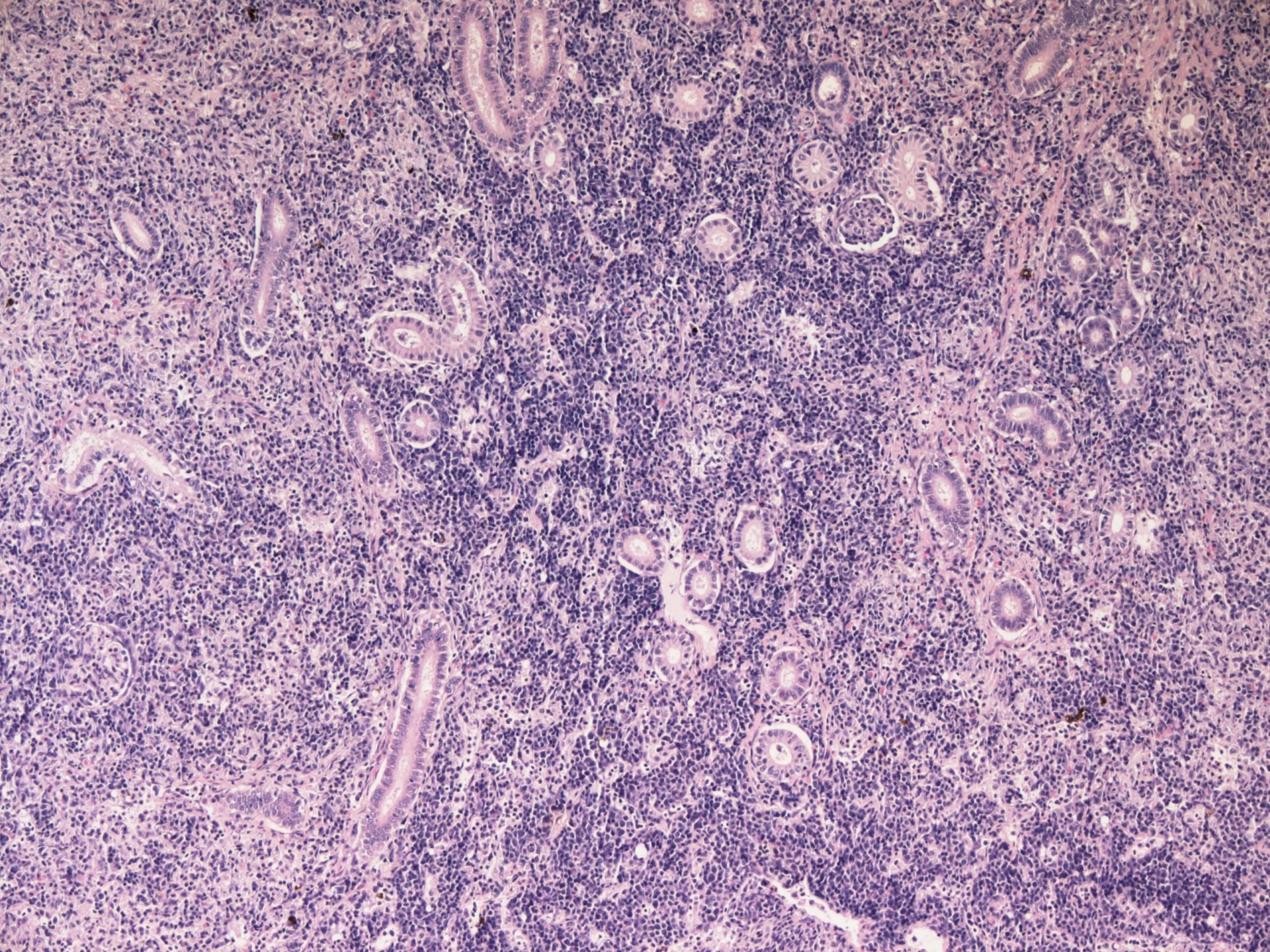
Feral brown trout

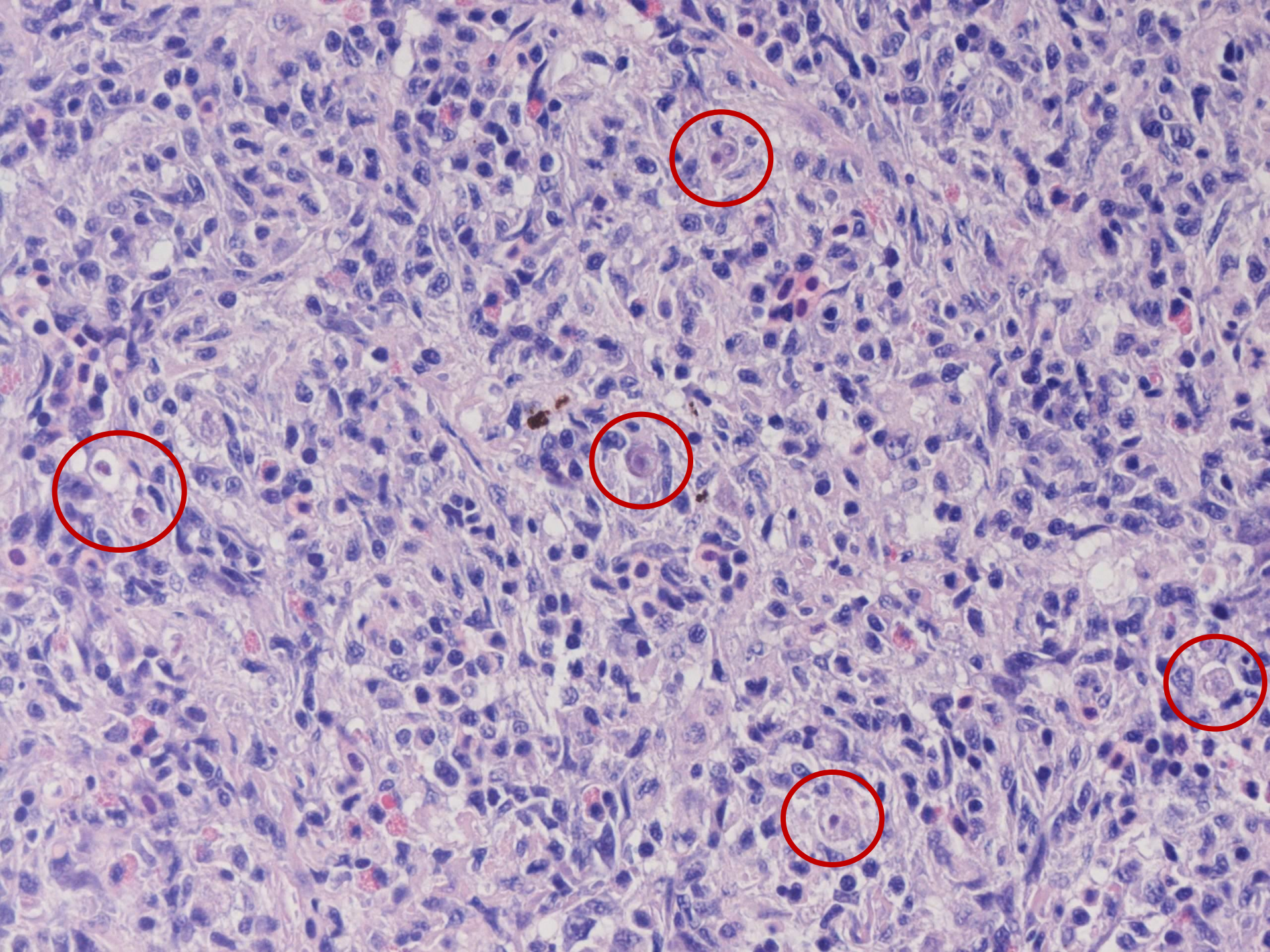
Organ: kidney

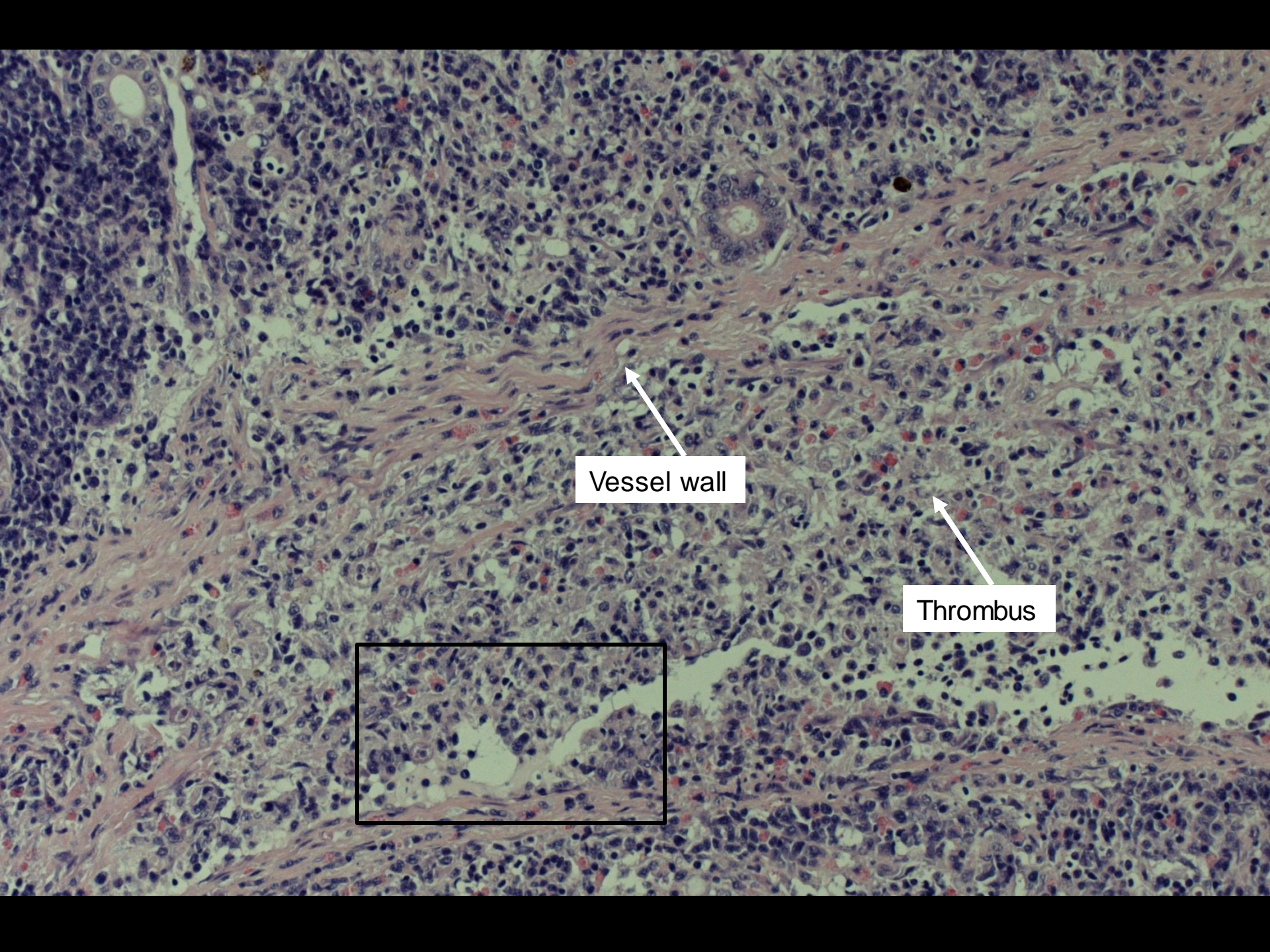
Clinic: high mortality during summer months, exophthalmia, anaemia





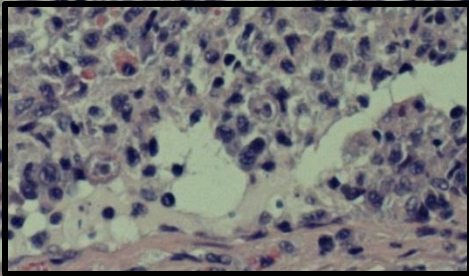


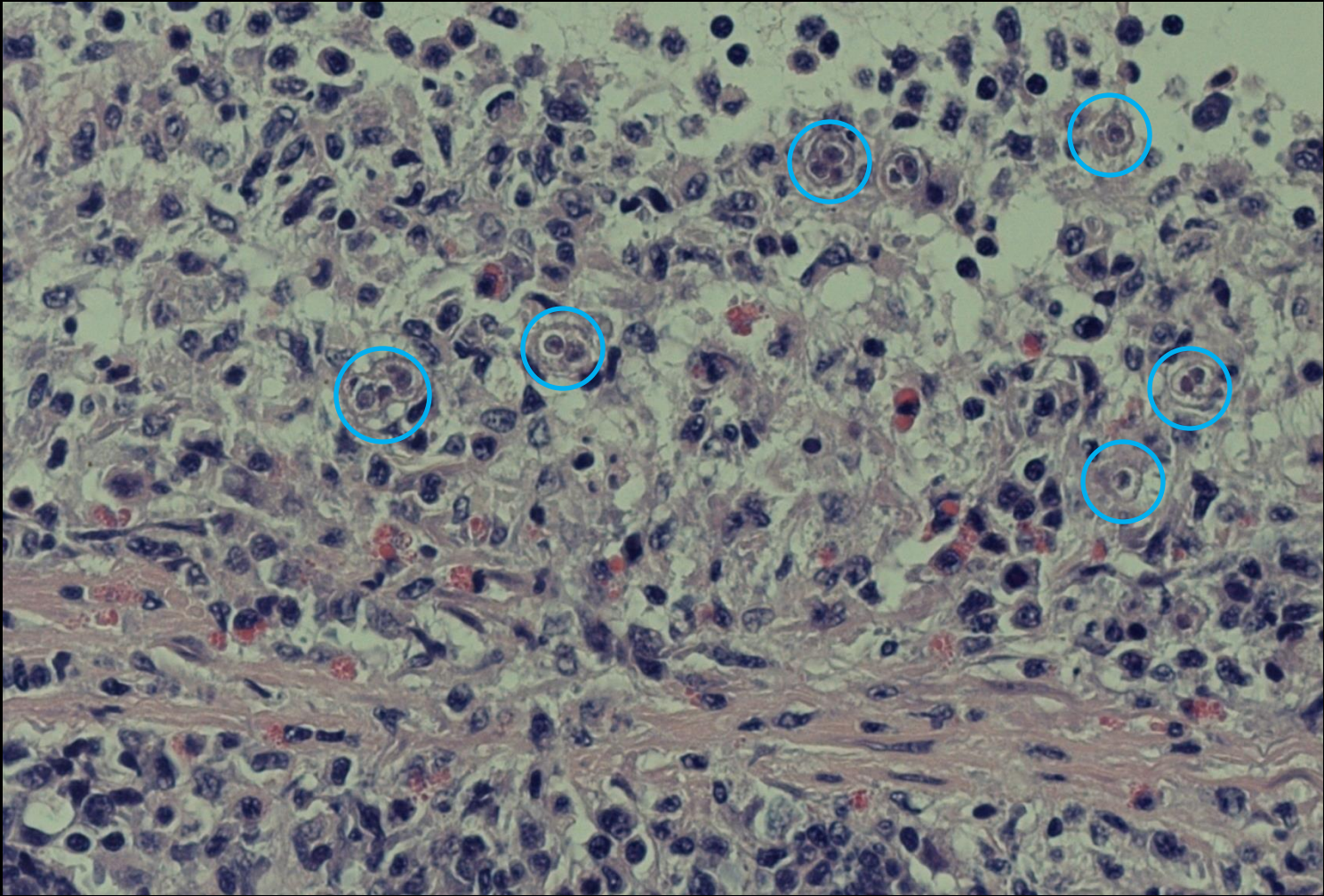




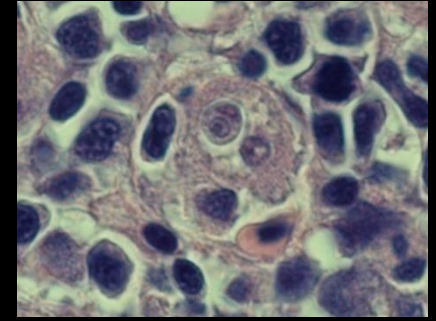
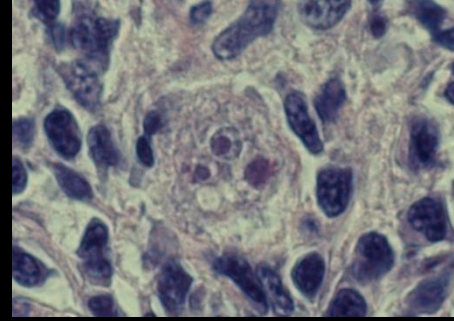
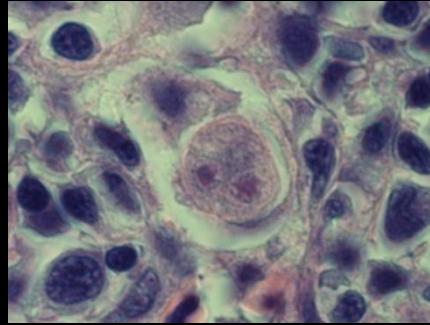
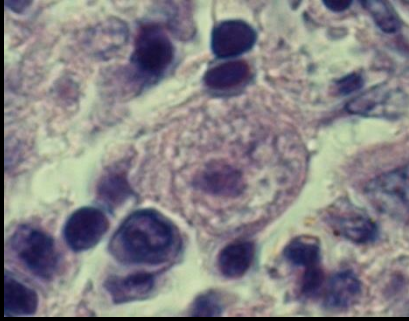
Vessel wall

Thrombus

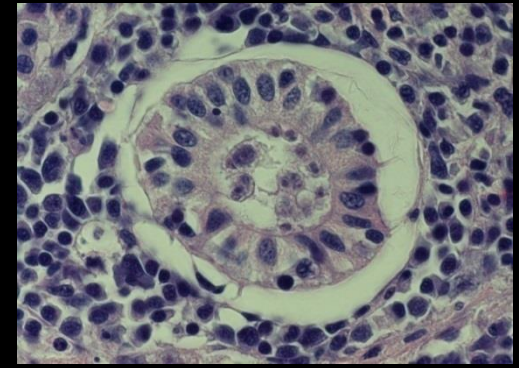
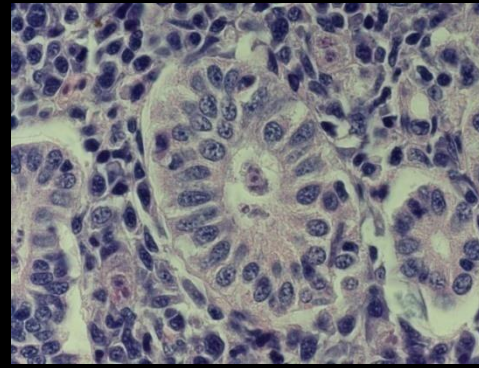
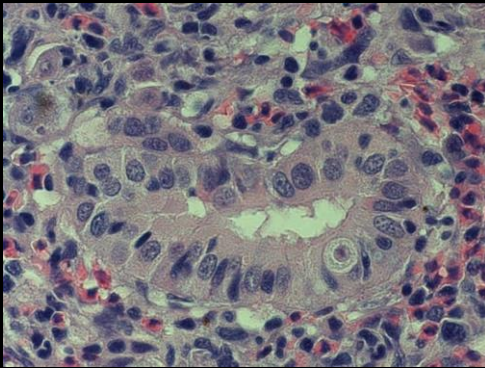




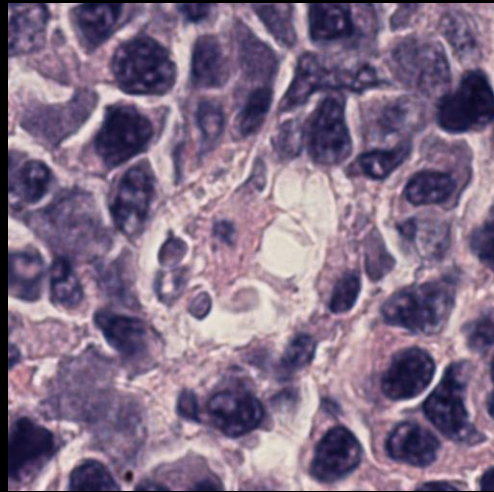
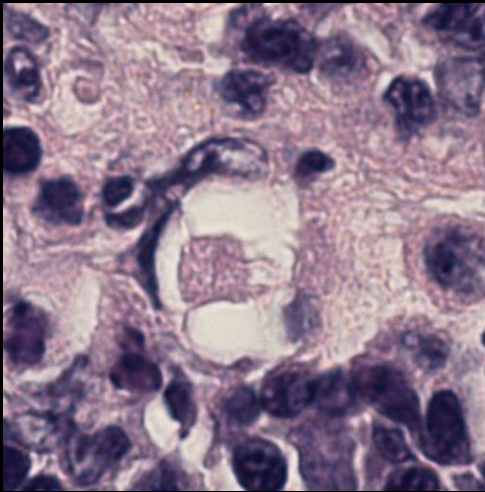
Extrasporogonic stages in renal interstitium



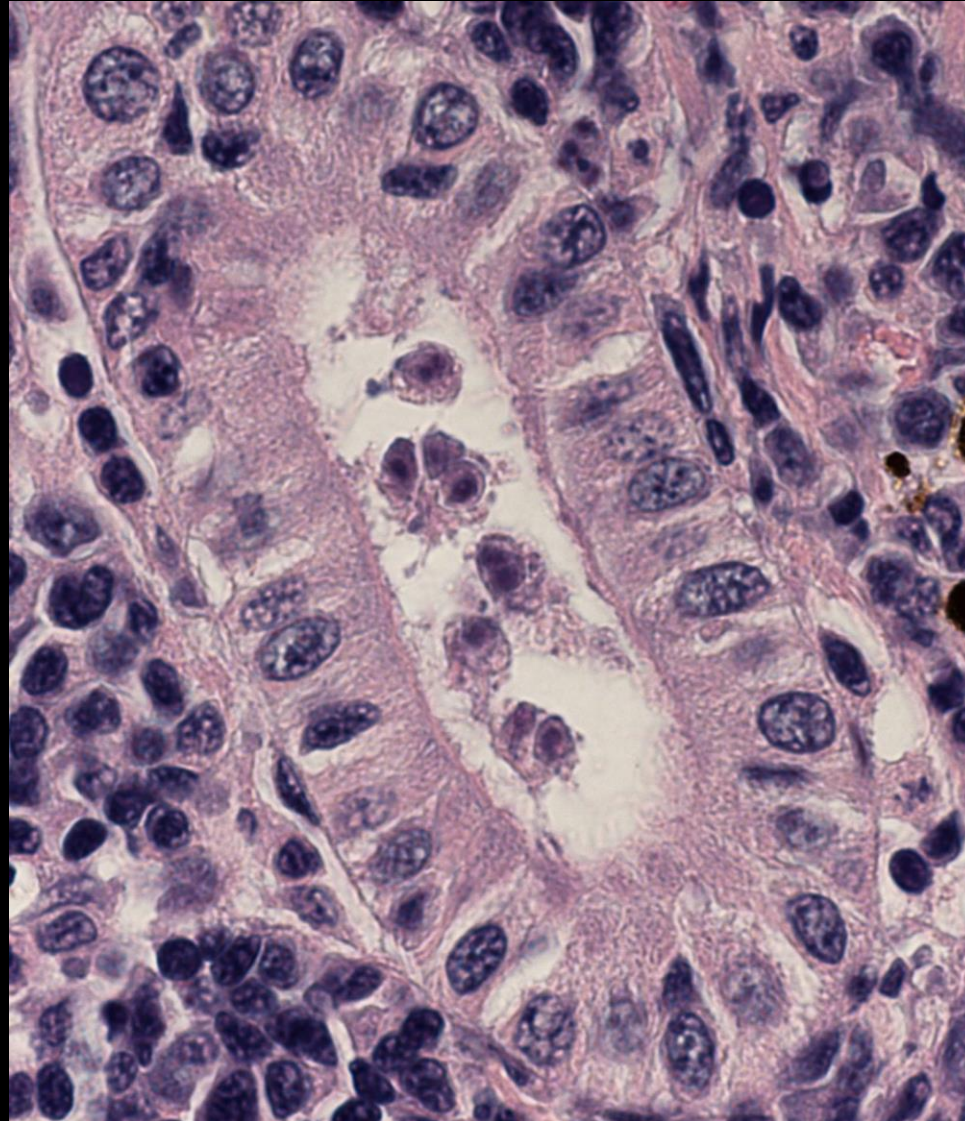
Sporogonic stages in tubular epithelial cells and lumen



Degenerated parasites:



Sphaerospora truttae





Morphological diagnoses

Kidney, granulomatous interstitial nephritis, multifocal to coalescing, severe with multiple myxozoa consistent with *Tetracapsuloides bryosalmonae*

Kidney, necrotising vasculitis, multifocal, severe with thrombus formation

Kidney, *Sphaerospora truttae* in tubular lumen

Aetiologies: *Tetracapsuloides bryosalmonae*, *Sphaerospora truttae*

Proliferative Kidney Disease



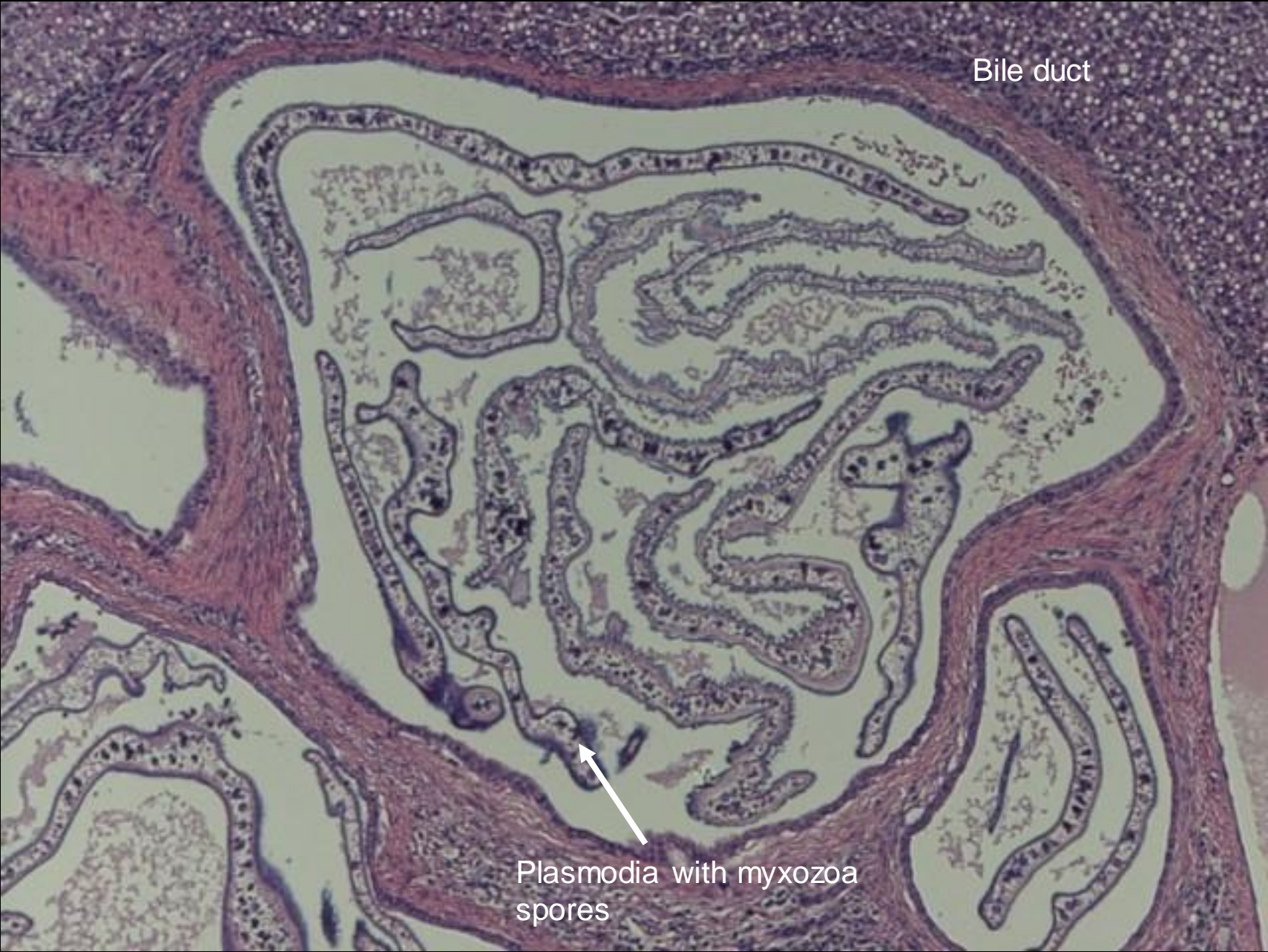
R06/34

Feral brown trout

Organ: liver

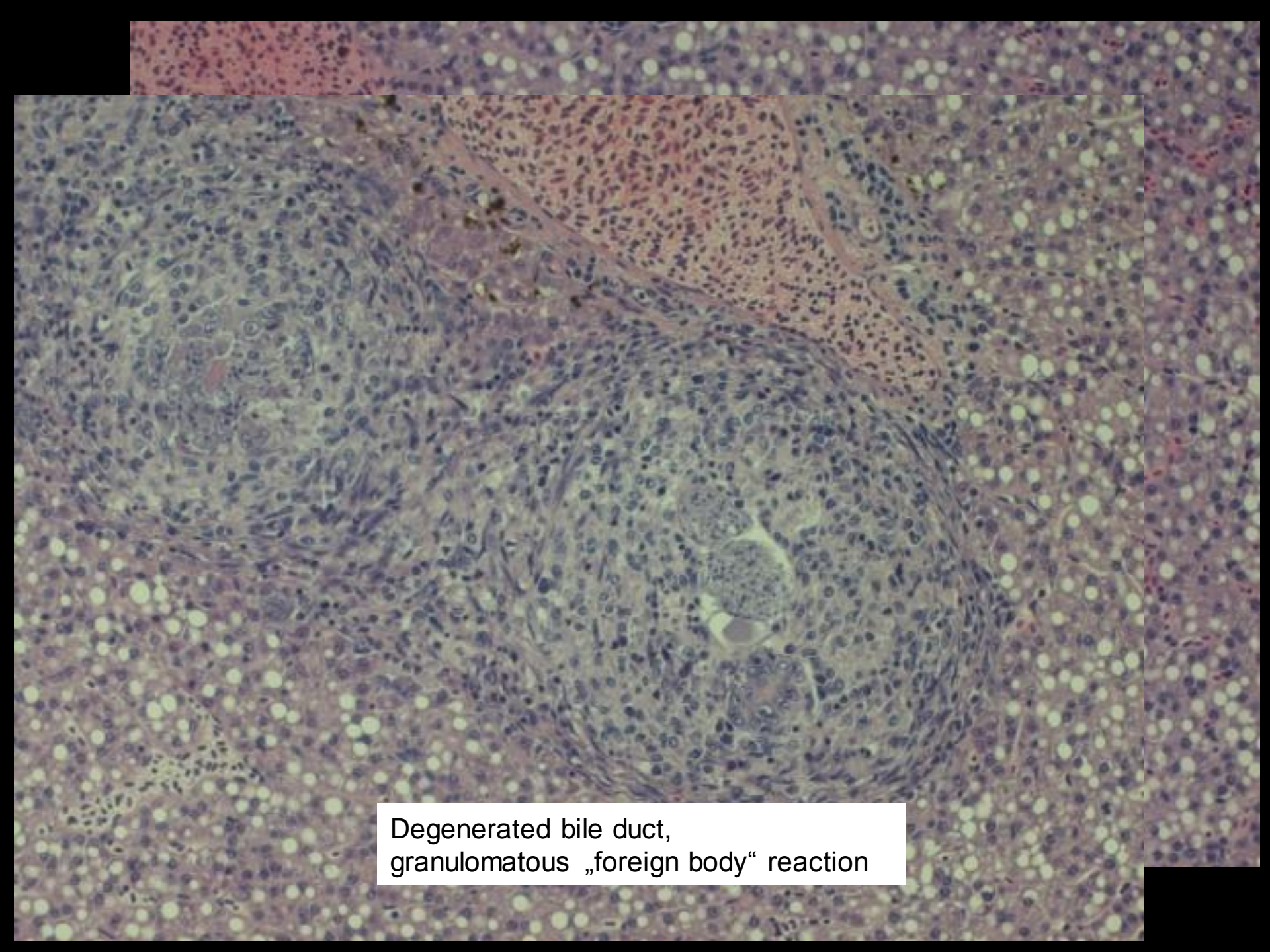
No clinical symptoms



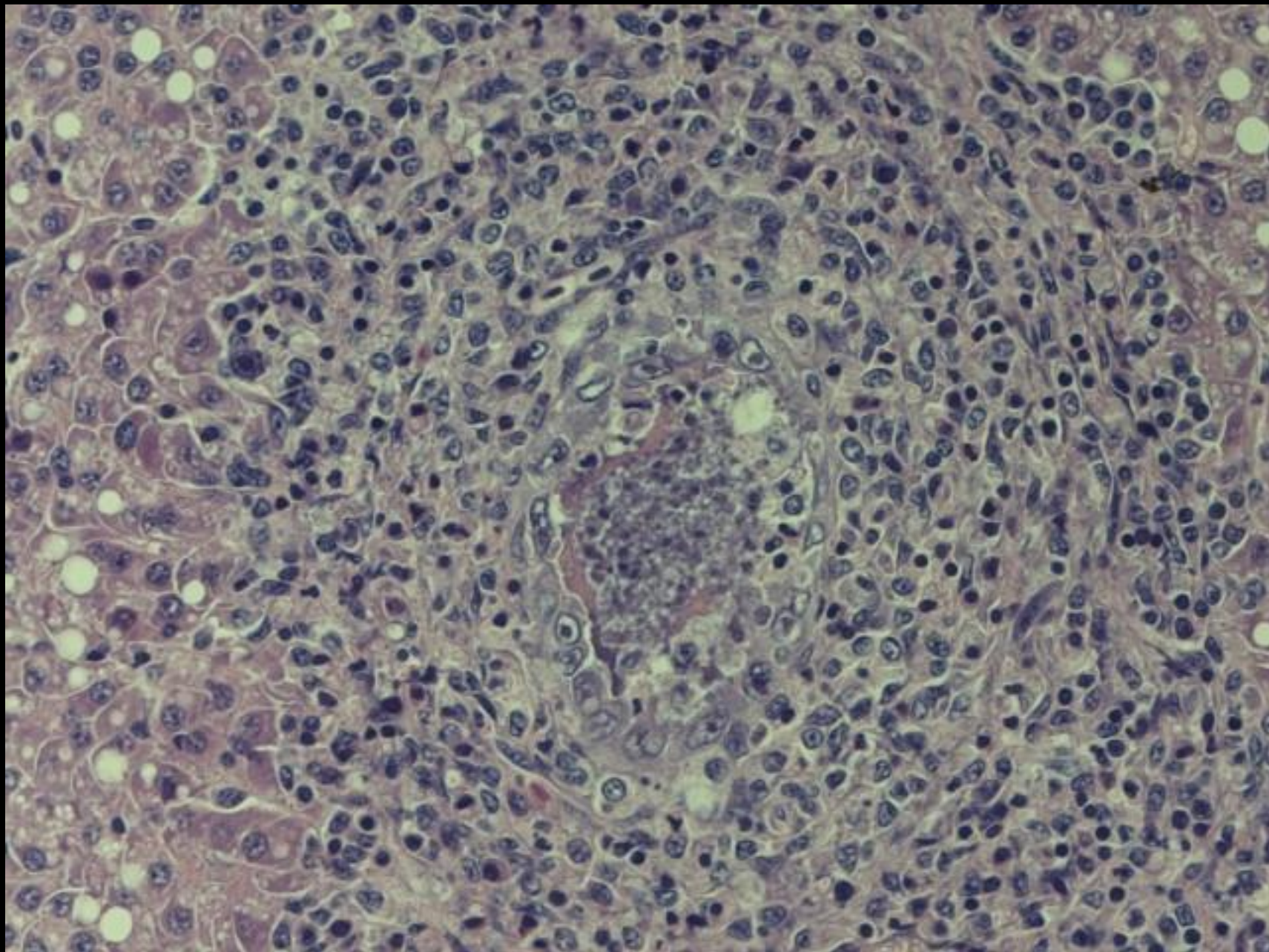


Bile duct

Plasmodia with myxozoa
spores

A high-magnification photomicrograph of a liver biopsy stained with hematoxylin and eosin (H&E). The image shows a central bile duct that is severely degenerated, appearing as a pale, irregular structure. This duct is surrounded by a dense, organized granulomatous reaction. The reaction consists of multiple layers of cells, including lymphocytes, plasma cells, and macrophages, arranged in a somewhat circular pattern. The surrounding liver parenchyma shows hepatocytes with pale cytoplasm and distinct nuclei. A white text box is overlaid at the bottom of the image.

Degenerated bile duct,
granulomatous „foreign body“ reaction





Morphological diagnosis

Liver, granulomatous hepatitis and cholecystitis, multifocal, severe with intraluminal myxozoa plasmodia

Aetiology

Myxidium truttae



F06/3309 and F09/2985

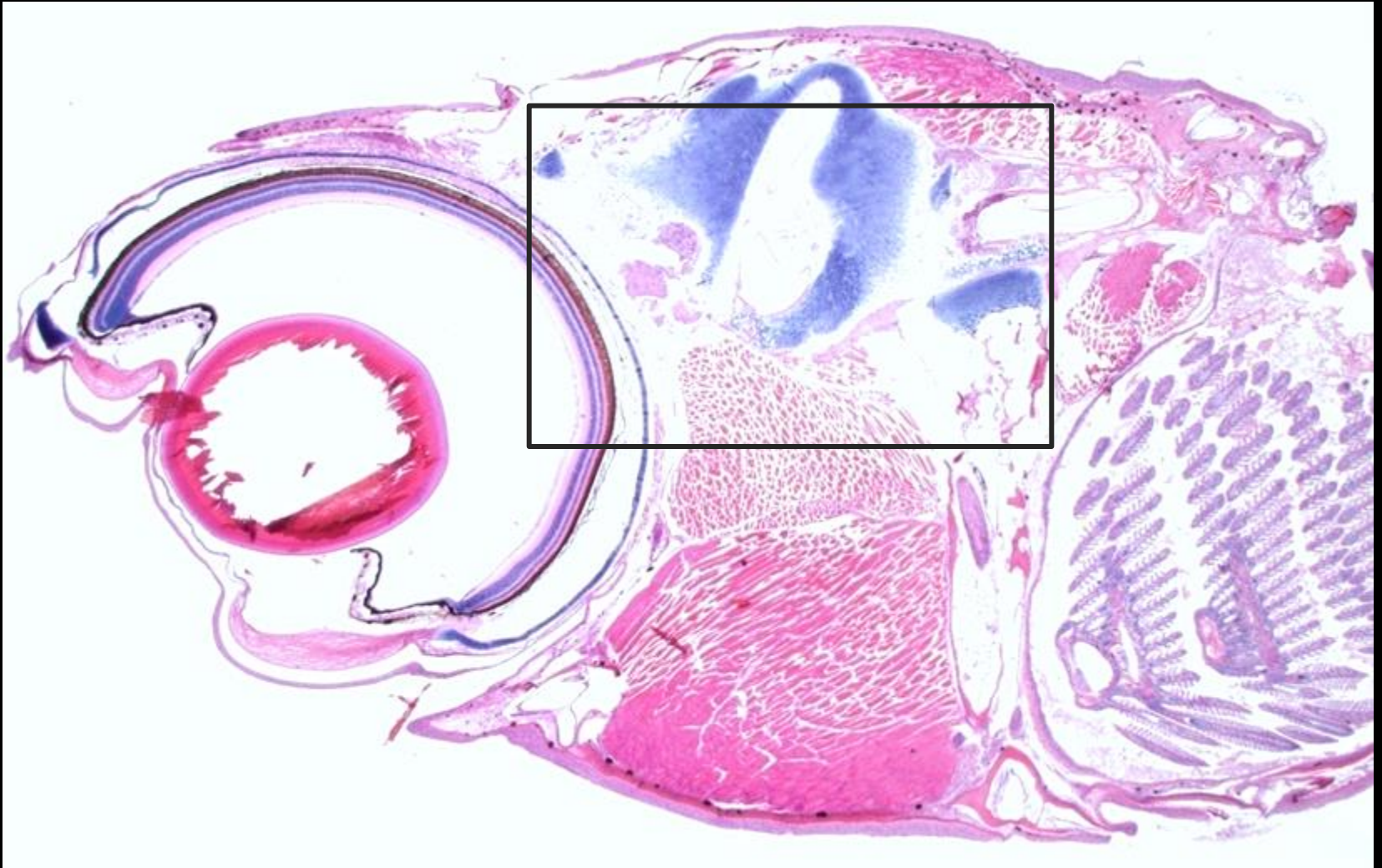
New: F13/7028

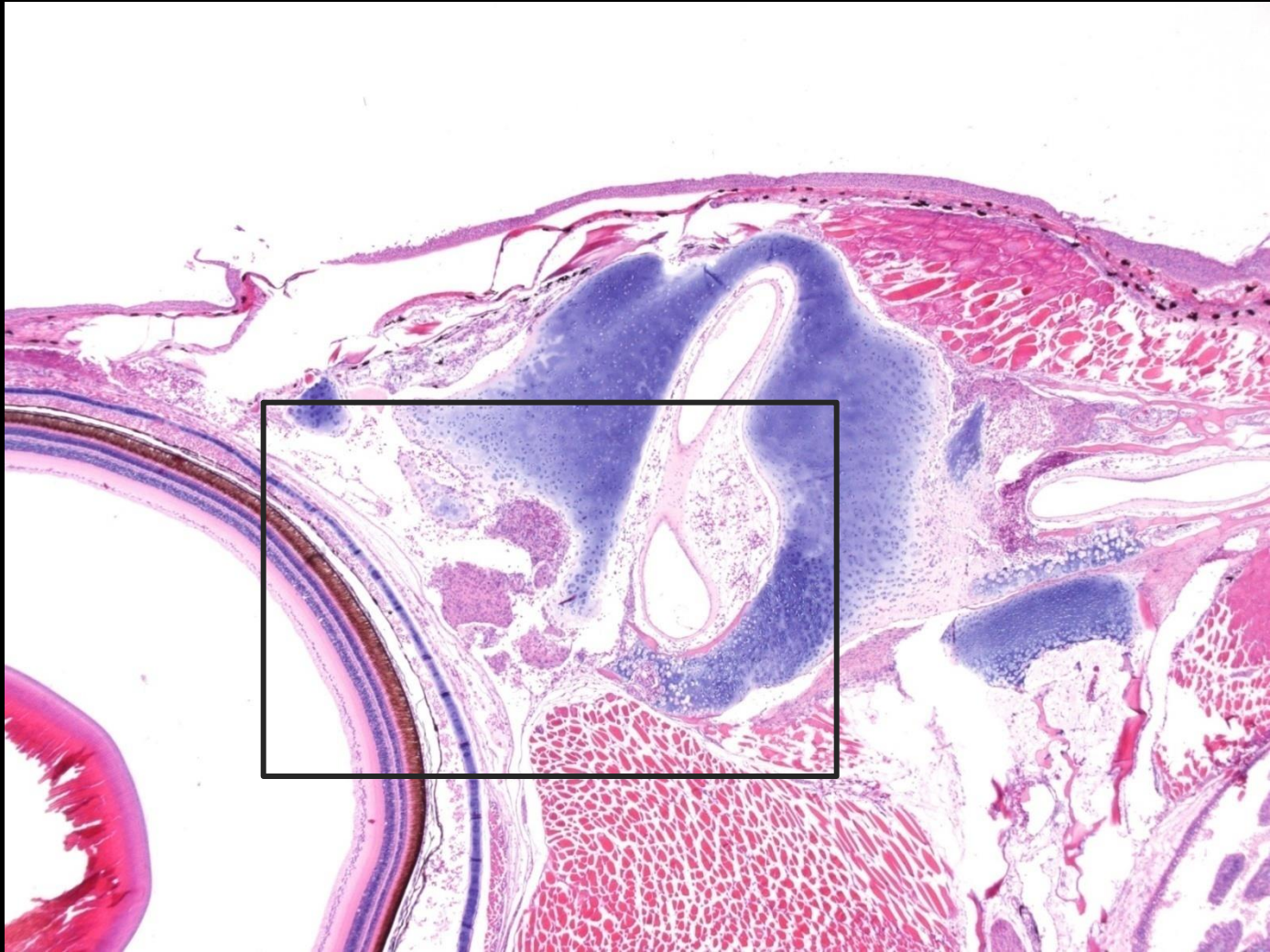
Rainbow trout, fish farm, natural environment

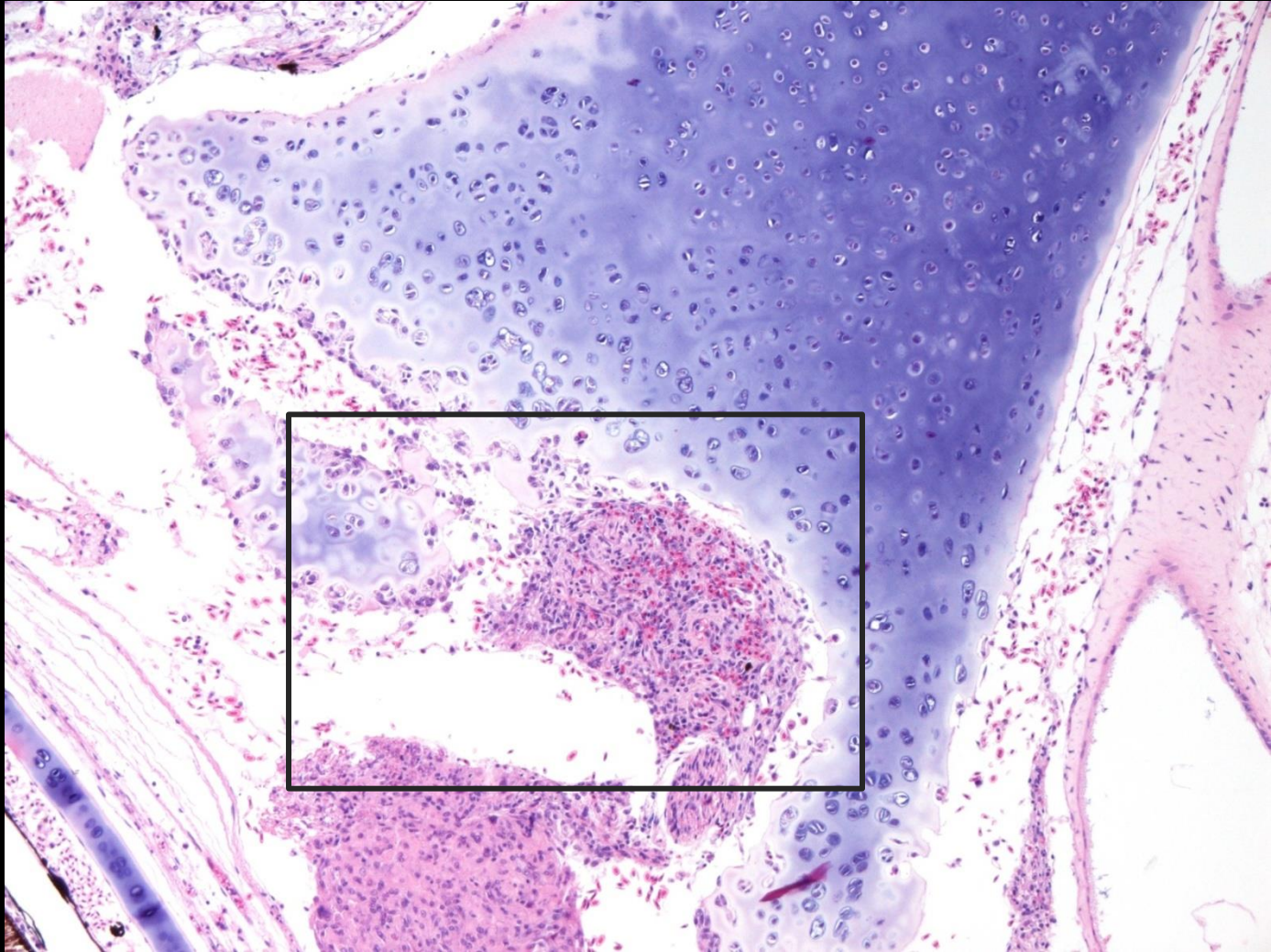
Clinic: spiral swimming behaviour, black discolouration of caudal body part

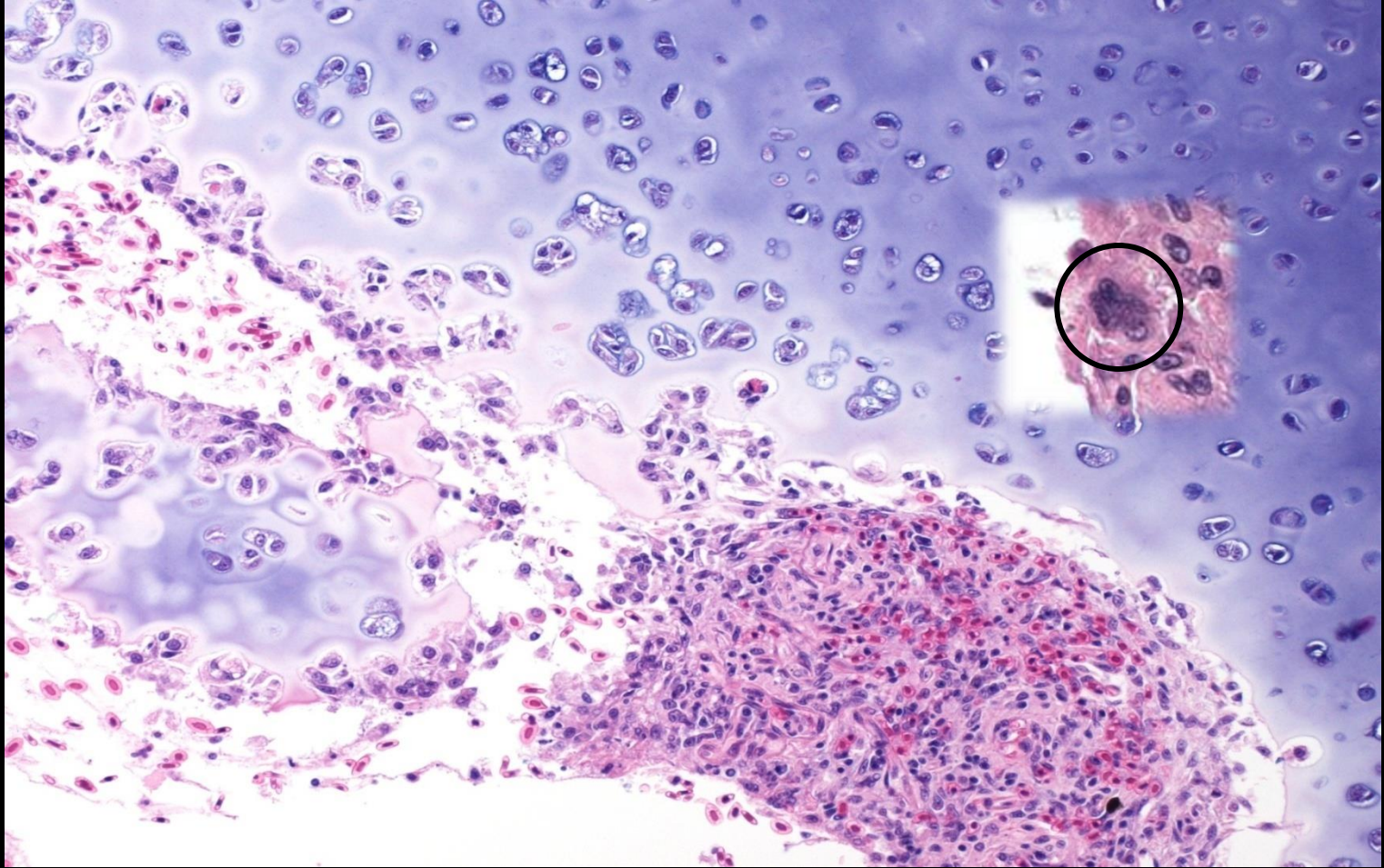
Organs: head, gills

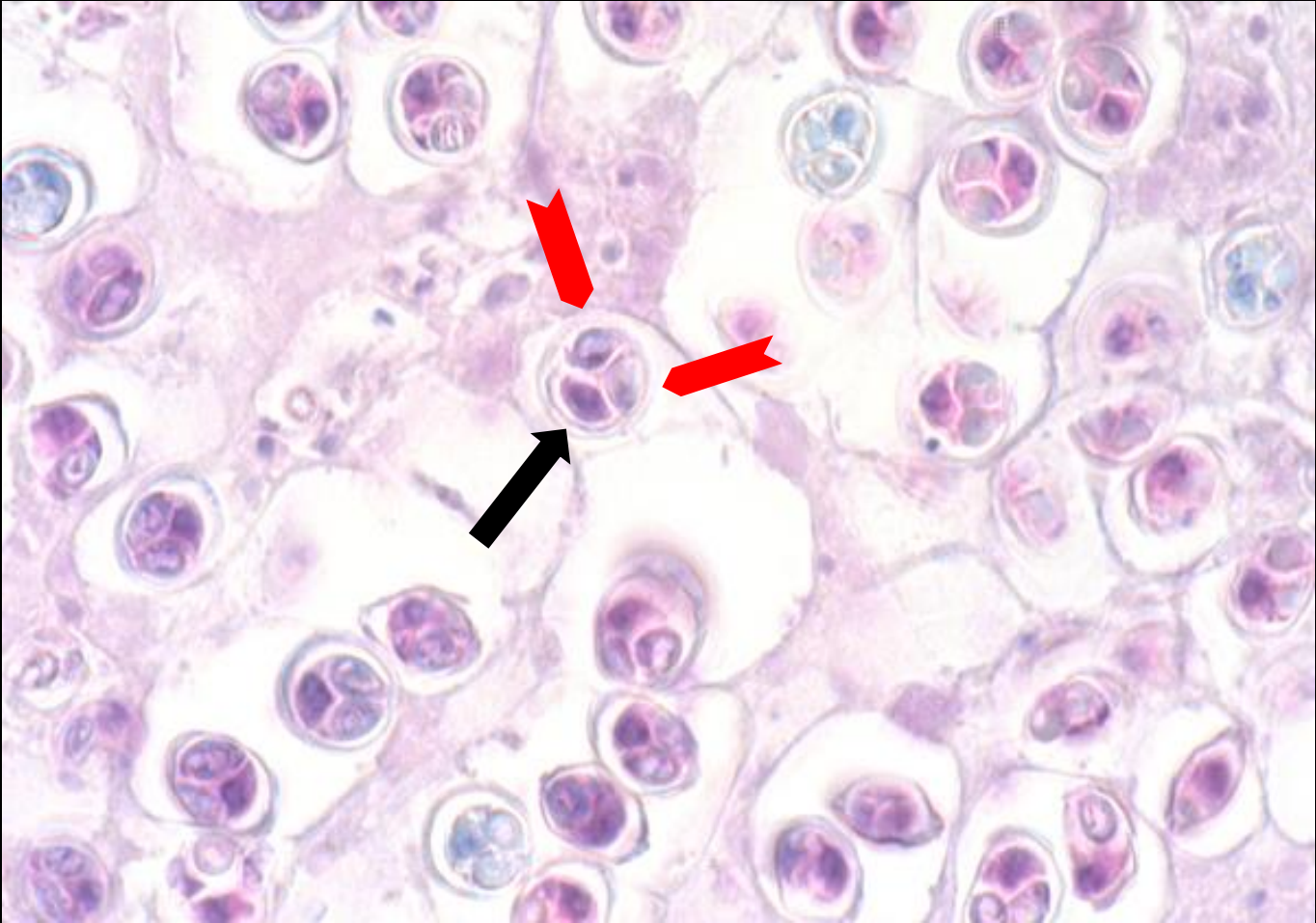


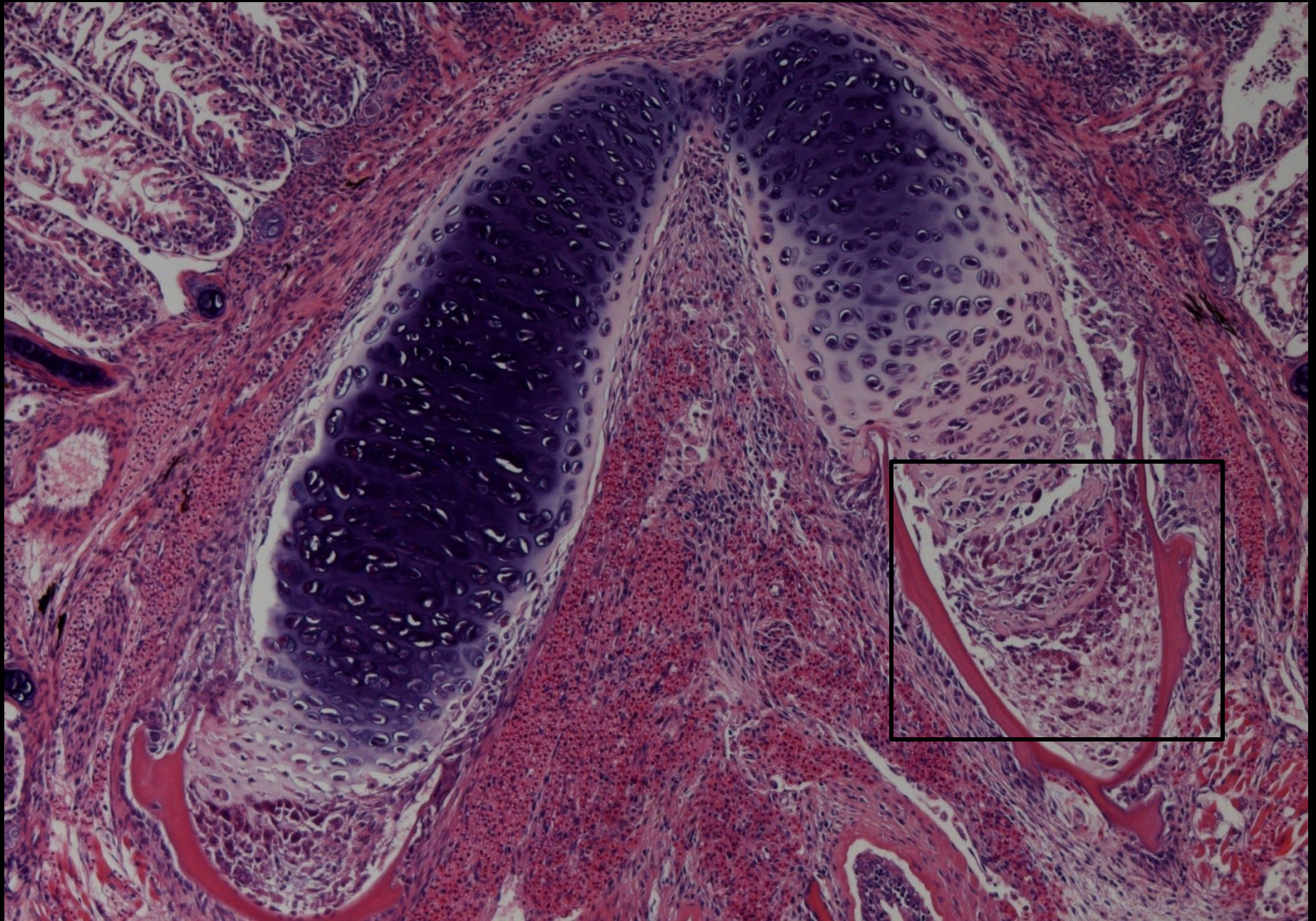


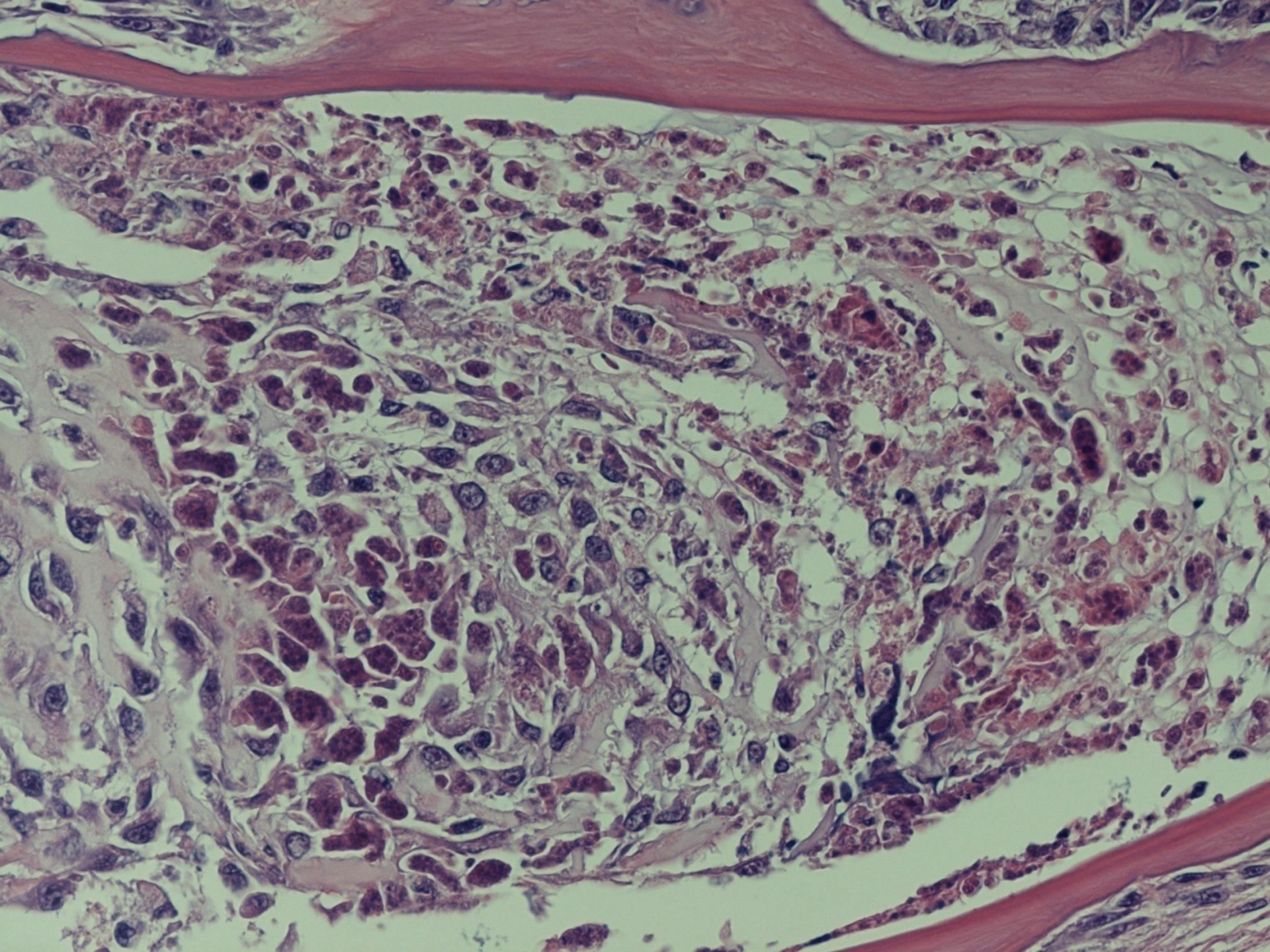














Morphological diagnosis

Head cartilage, gills, granulomatous and necrotising chondritis,
multifocal, moderate with intralesional myxozoan parasites

Aetiology

Myxobolus cerebralis

Whirling disease

Black tail



F01/4679

Feral minnow

Clinic: multiple black spots

Organ: Head, body cross section





Melanocytes

Granulomatous reaction

Metacercaria



Sucker

Eosinophilic cyst wall

Basophilic granula



Morphological diagnosis

Muscle, granulomatous myositis, multifocal, moderate with hyperpigmentation and trematode metacercaria

Aetiology

Postodiplostomum sp. metacercaria

Black spot disease

