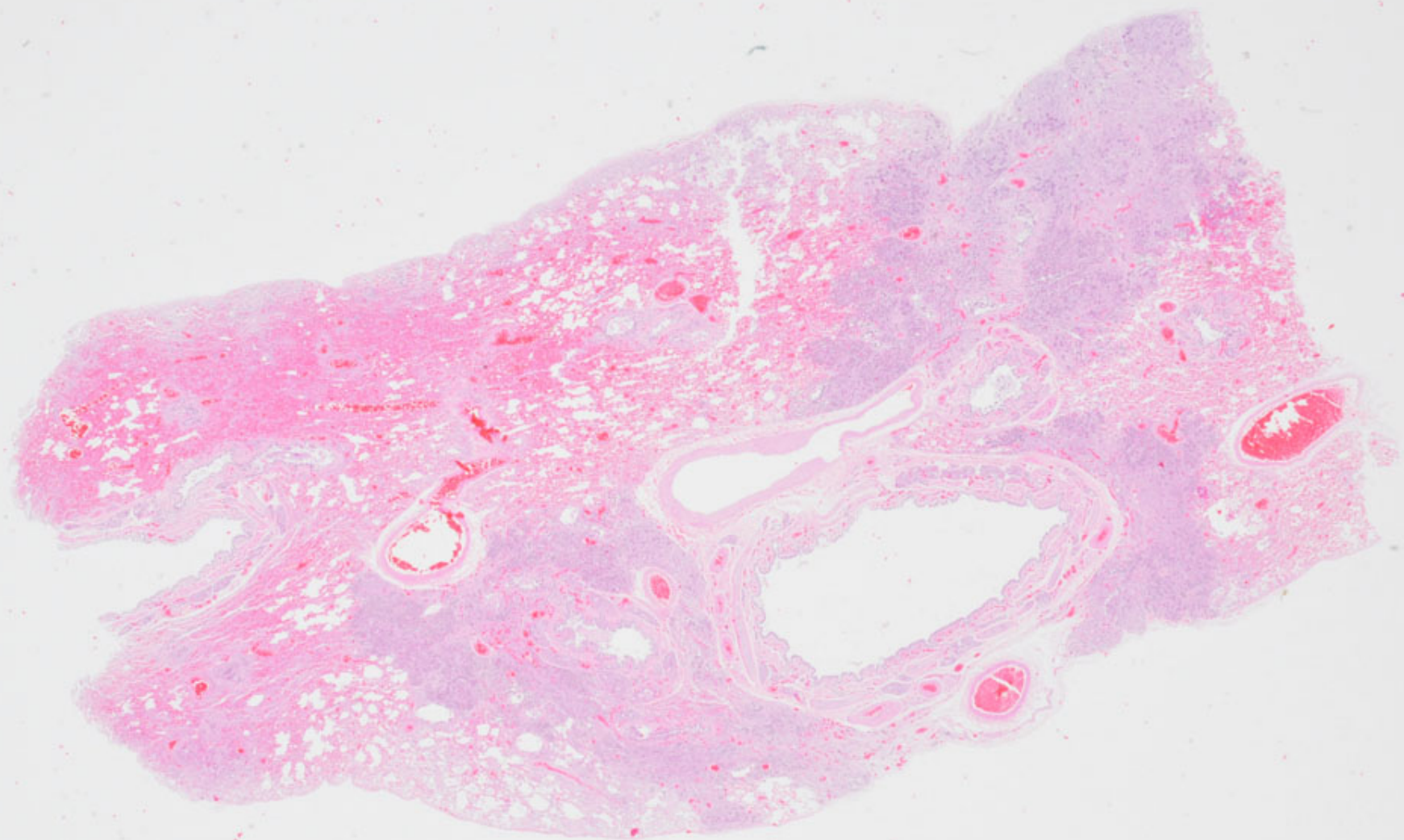


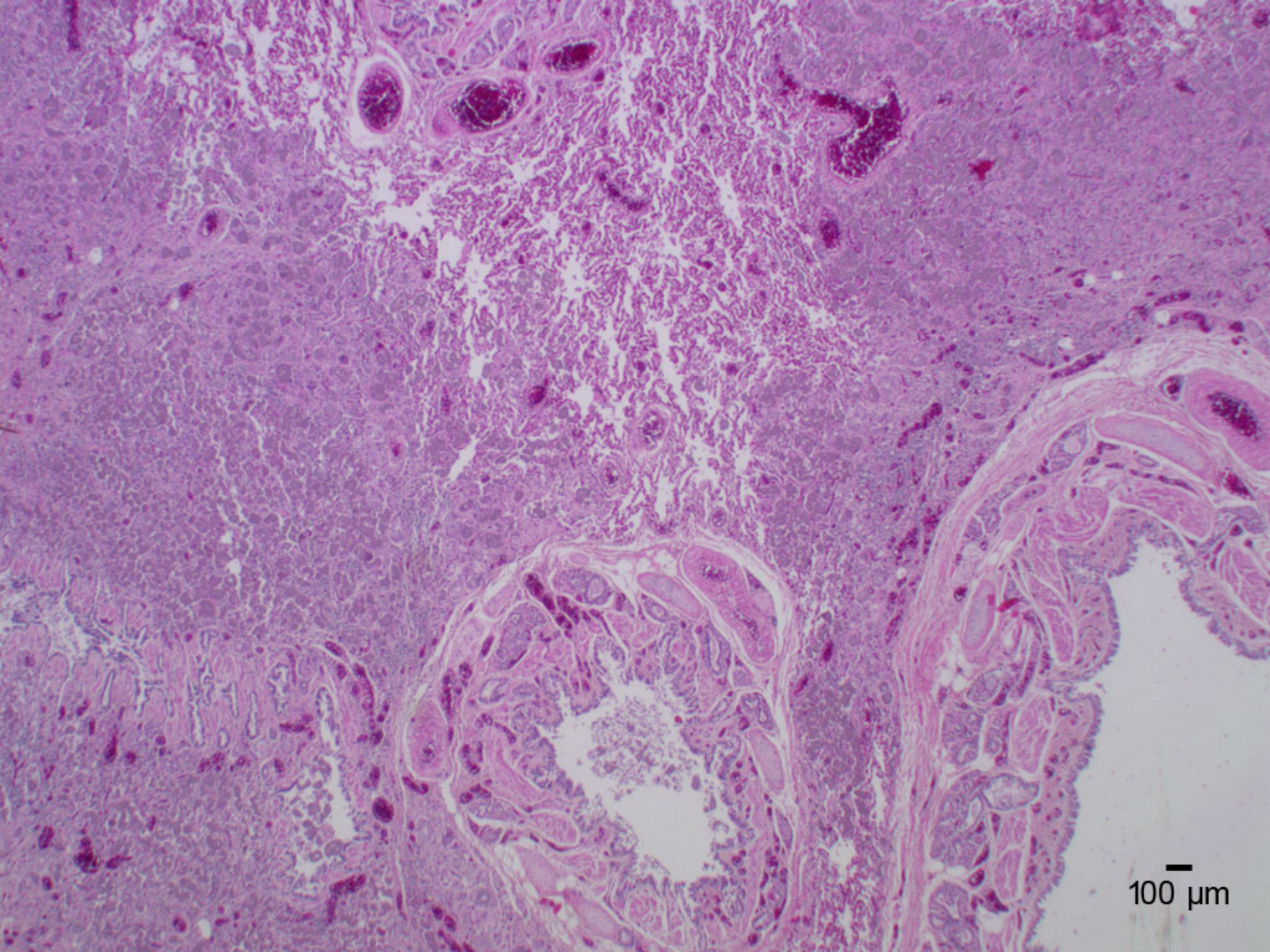
2011-1-3

Canine lung

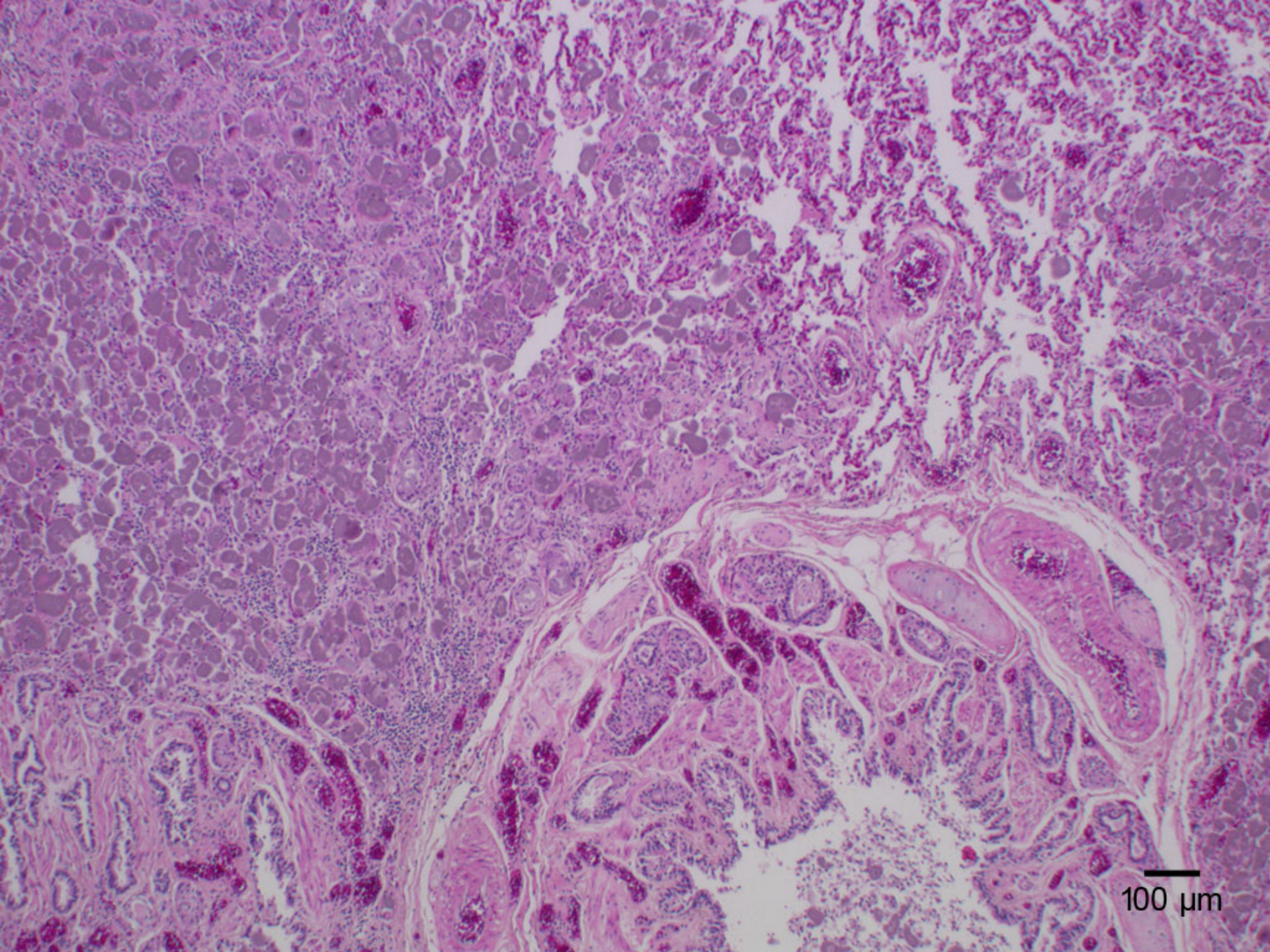
Bat Otgontugs
Bovine Pathology

- **Contributor:** Atlantic Veterinary College, University of Prince Edward Island
- **Signalment:** 9-year-old intact male beagle dog (*Canis familiaris*)
- **History:** This dog, submitted by a Humane Society that had received several complaints from residents that the dog was neglected and left outdoors during the winter, was found dead and frozen in an outdoor enclosure.
- **Gross pathology:** The dog was thin. There were small amount of visceral fat and no evidence of serous fat atrophy in the bone marrow. The lungs had dark red and there were multifocal to coalescing tan-white areas (10%) that were firmer than the surrounding lung tissue and were slightly collapsed. The liver was dark reddish-brown and the gall bladder was mildly distended with bile.
- **Laboratory Results:** Scant growth of mixed flora including *Bacillus* sp. was found on lung tissue culture.
- **Histopathologic Description:** Lung: The firm areas in the lungs correspond histologically to regions with diffuse alveolar fibrosis and infiltration of small to moderate numbers of predominately lymphocytes and plasma cells. Almost all of the alveolar spaces and many of the airways in this region are filled with aggregates of amorphous, relatively homogeneous (hyalinized) amphophilic material forming laminated bodies.

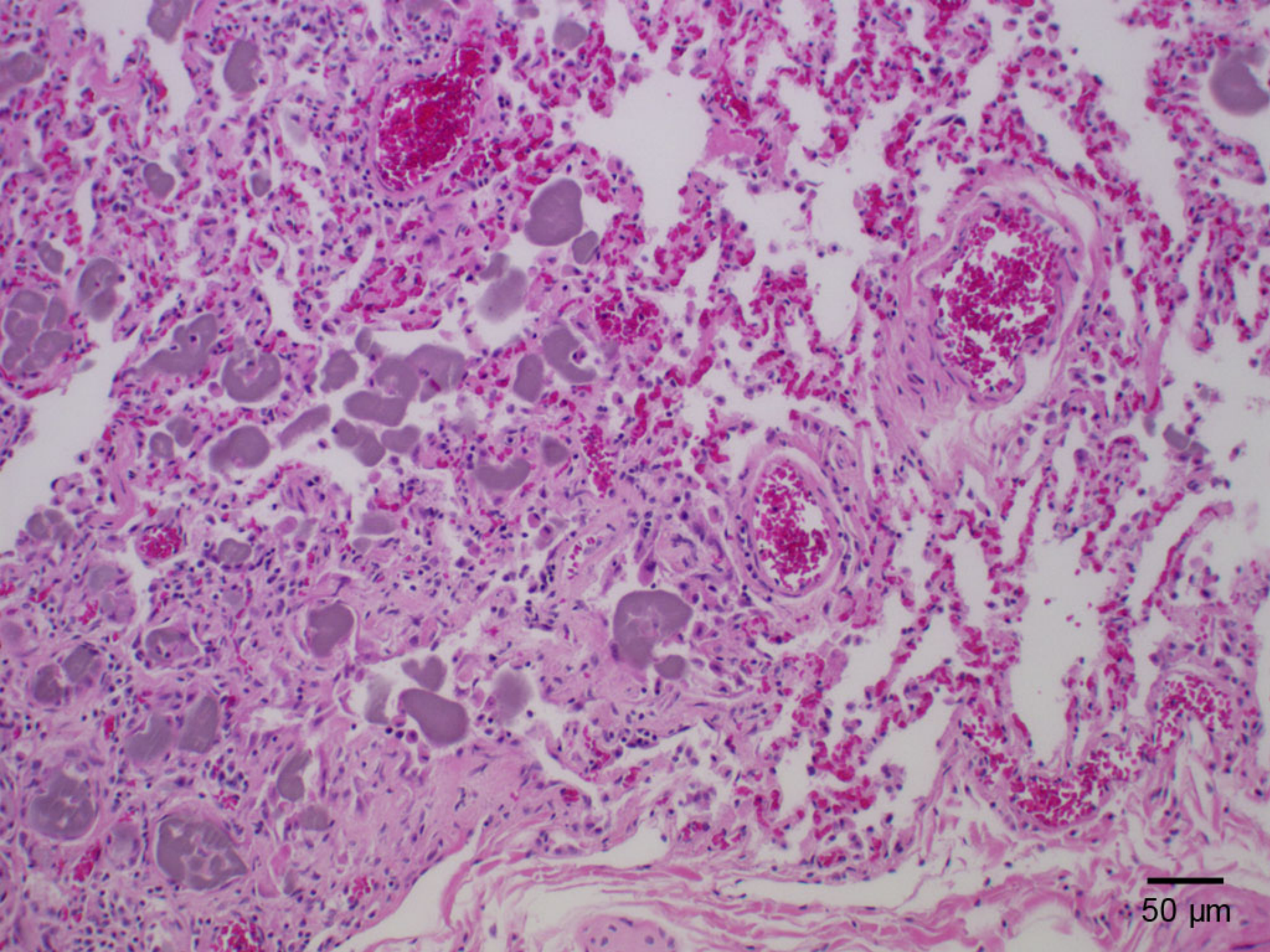




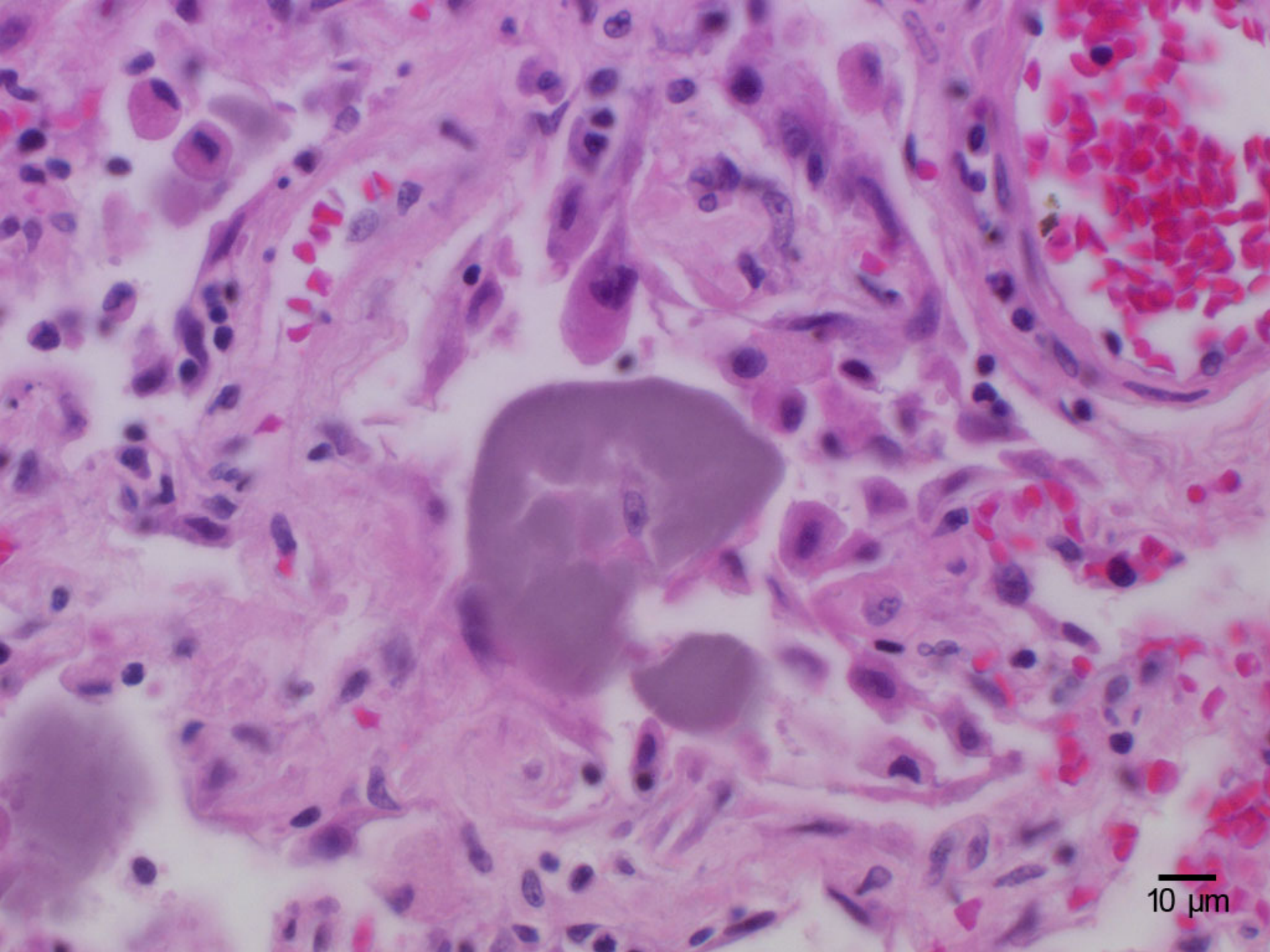
100 μ m



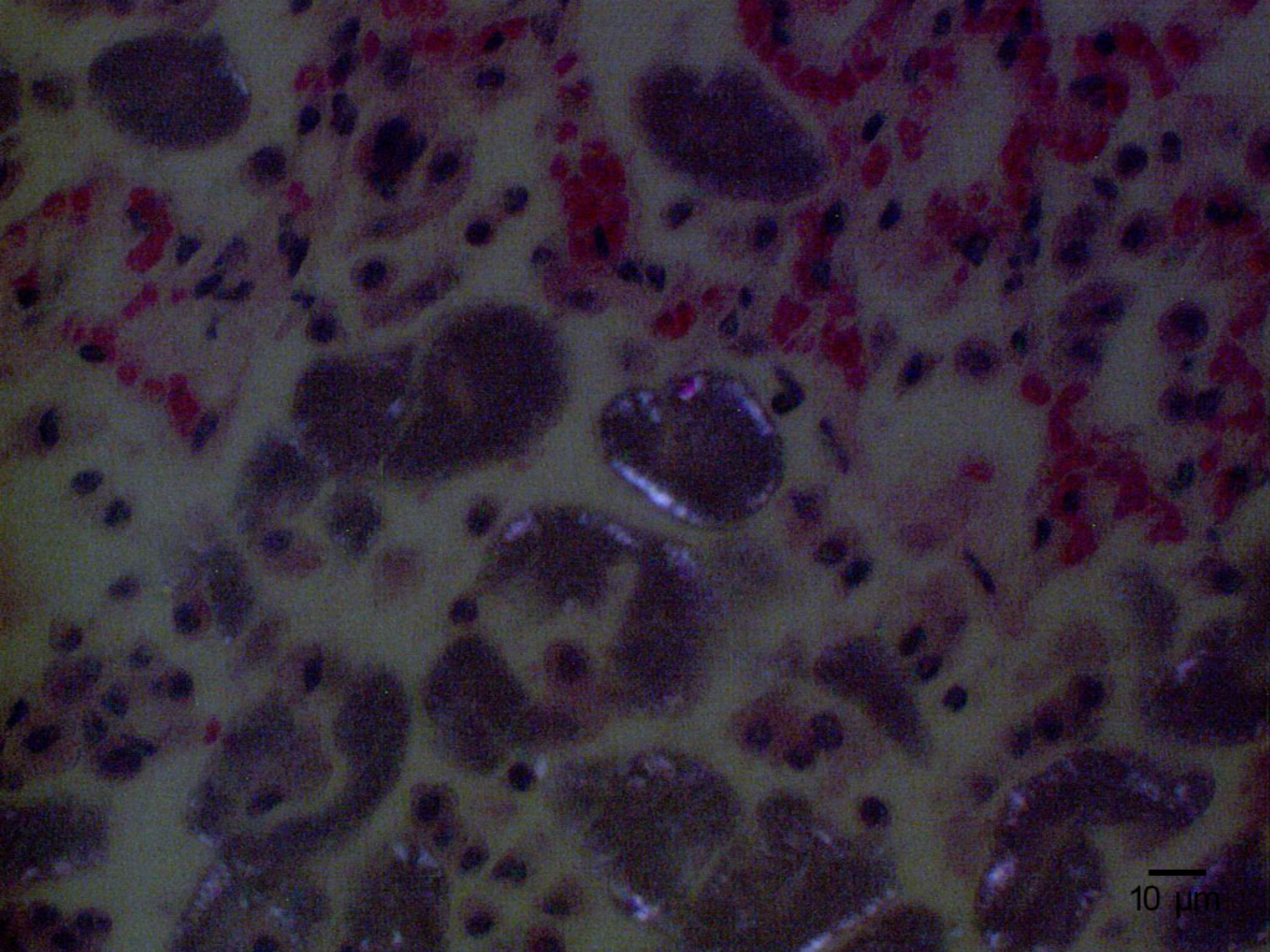
100 μ m



50 μ m



10 μ m



10 μm

- **Contributor's Morphologic Diagnosis:** Lung: Pneumonia, interstitial, Lymphoplasmacytic, histiocytic and fibrosing, multifocal, chronic, severe with intra-alveolar hyaline material (pulmonary hyalinosis).
- **Contributor's comments:** The lung lesions are characteristic of a condition known as pulmonary hyalinosis of dogs. Pulmonary hyalinosis is a type of alveolar filling disorder, which is characterized by accumulations of abnormal material in airways. Other disorders in this group include endogenous lipid pneumonia, alveolar proteinosis and alveolar phospholipidosis and alveolar microlithiasis.
The most significant findings were changes found in the lungs and kidneys and the overall poor body condition. The pulmonary lesions involved only a relatively small portion of the overall volume of lung (10%). Also a moderate, chronic, multifocal-segmental, membranoproliferative glomerulonephritis was detected microscopically.

- **JPC Diagnosis:** Lung: Pneumonia, interstitial, granulomatous, chronic, focally extensive, severe with abundant intra-alveolar hyaline material.
- **Conference comments:** Pulmonary hyalinoses may be differentiated from other conditions based upon histologic and staining features. The hyaline bodies are intracellular in macrophages and multinucleated giant cells, occasionally calcify, are birefringent, positive for periodic acid-Schiff (PAS), crystal violet and oil red O, and ultrastructurally consist of a whorled arrangement of lamellar membranes suggestive of degenerate cells.