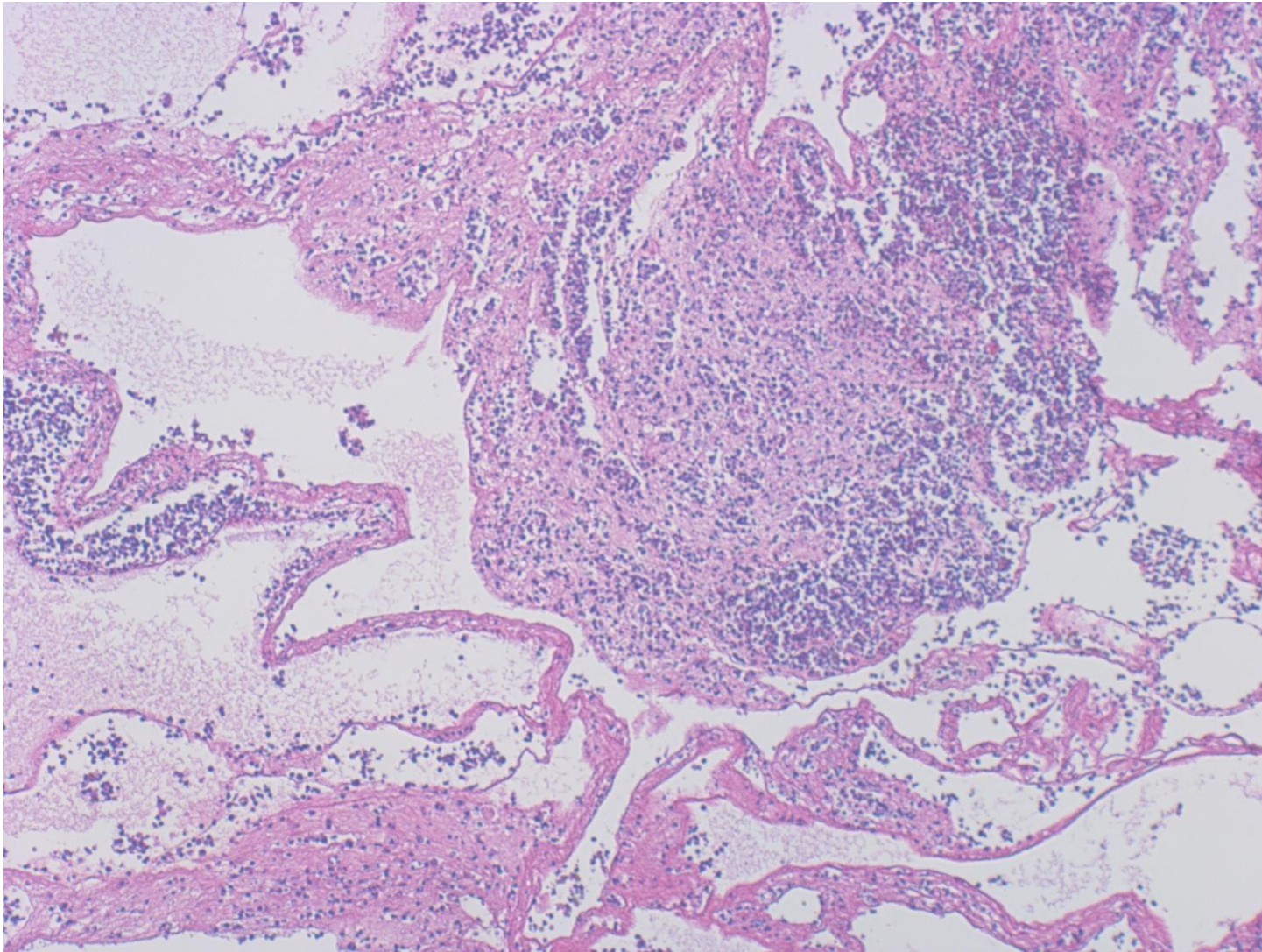


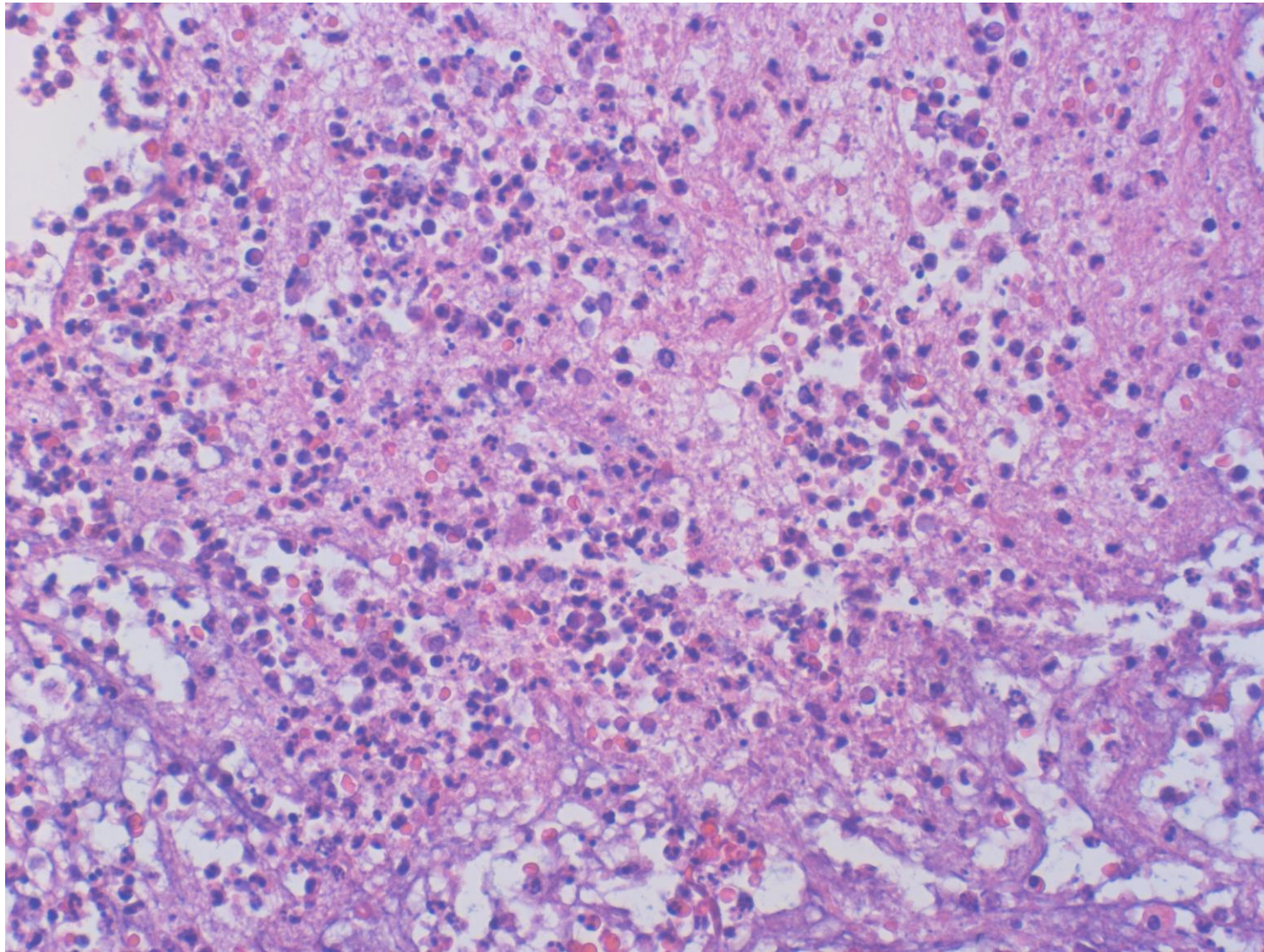
# *Mycoplasma hominis*-induced acute purulent synovitis

A 48-year-old male patient had been treated with fingolimod for relapsing multiple sclerosis. He presented with fever and right-sided hip pain following total hip arthroplasty. *M. hominis* was isolated in the fluid percutaneously aspirated from the hip joint grew, and the same pathogen was also isolated from the blood. With diagnosis of periprosthetic joint infection, the patient underwent surgical debridement with retained prosthesis, and was treated with antimicrobial agents. Electron microscopic study of the infected exudates revealed electron-dense rounded structures seen in neutrophils, being consistent with *Mycoplasma* particles. The specimen for EM study was prepared by digging out of a formalin-fixed, paraffin-embedded block. Ultrastructural preservation is fairly good. Fingolimod, an immunomodulatory drug acting on the sphingosine-1-phosphate receptor and preventing the egress of lymphocytes from lymph nodes, might increase host susceptibility to a systemic *M. hominis* infection.

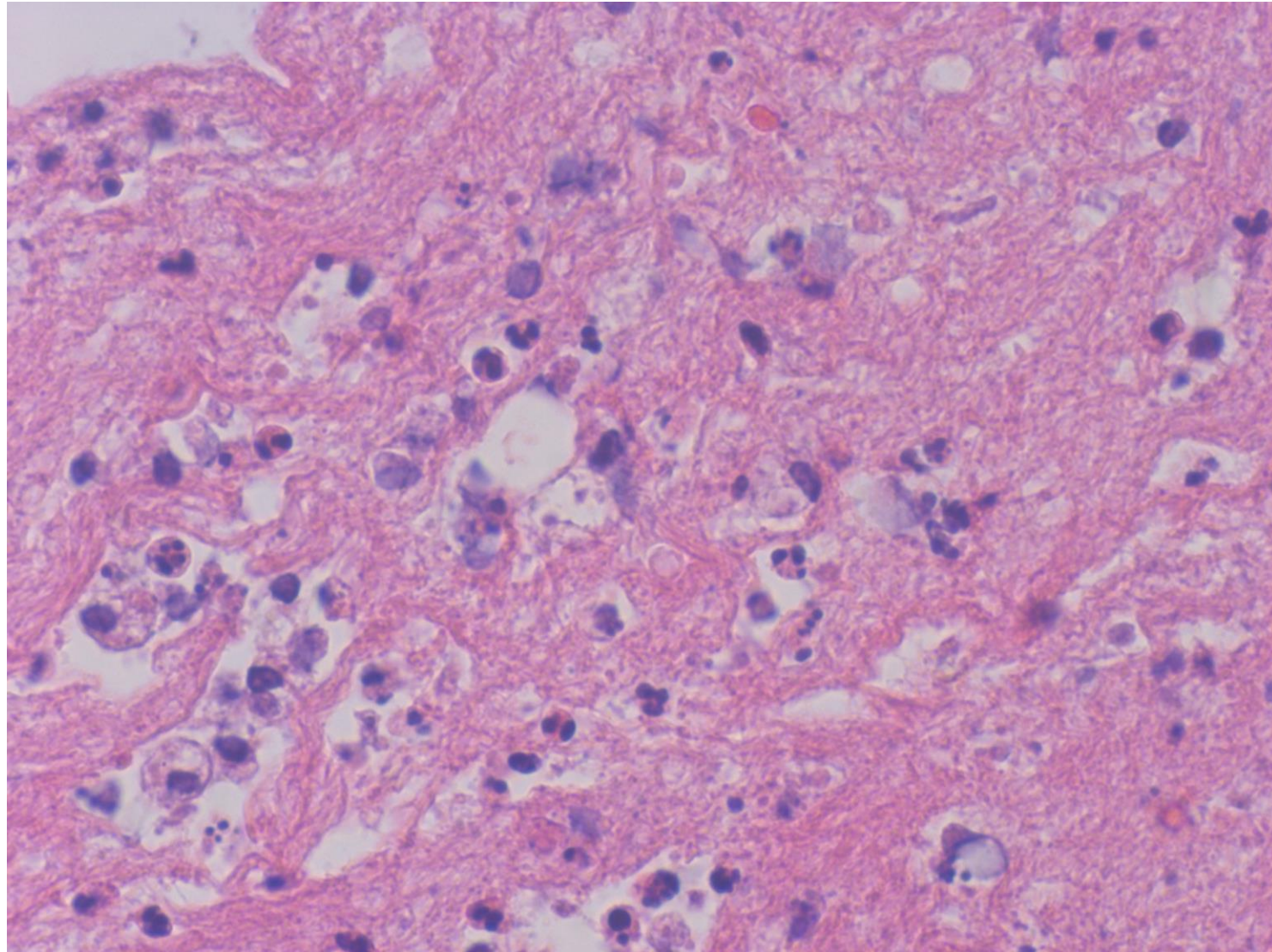
Ref.: Muramatsu E, et al. Periprosthetic joint infection due to *Mycoplasma hominis* in a multiple sclerosis patient treated with fingolimod. *J Infect Chemother* 2022; 28(12): 1672-1676. doi: 10.1016/j.jiac.2022.08.020



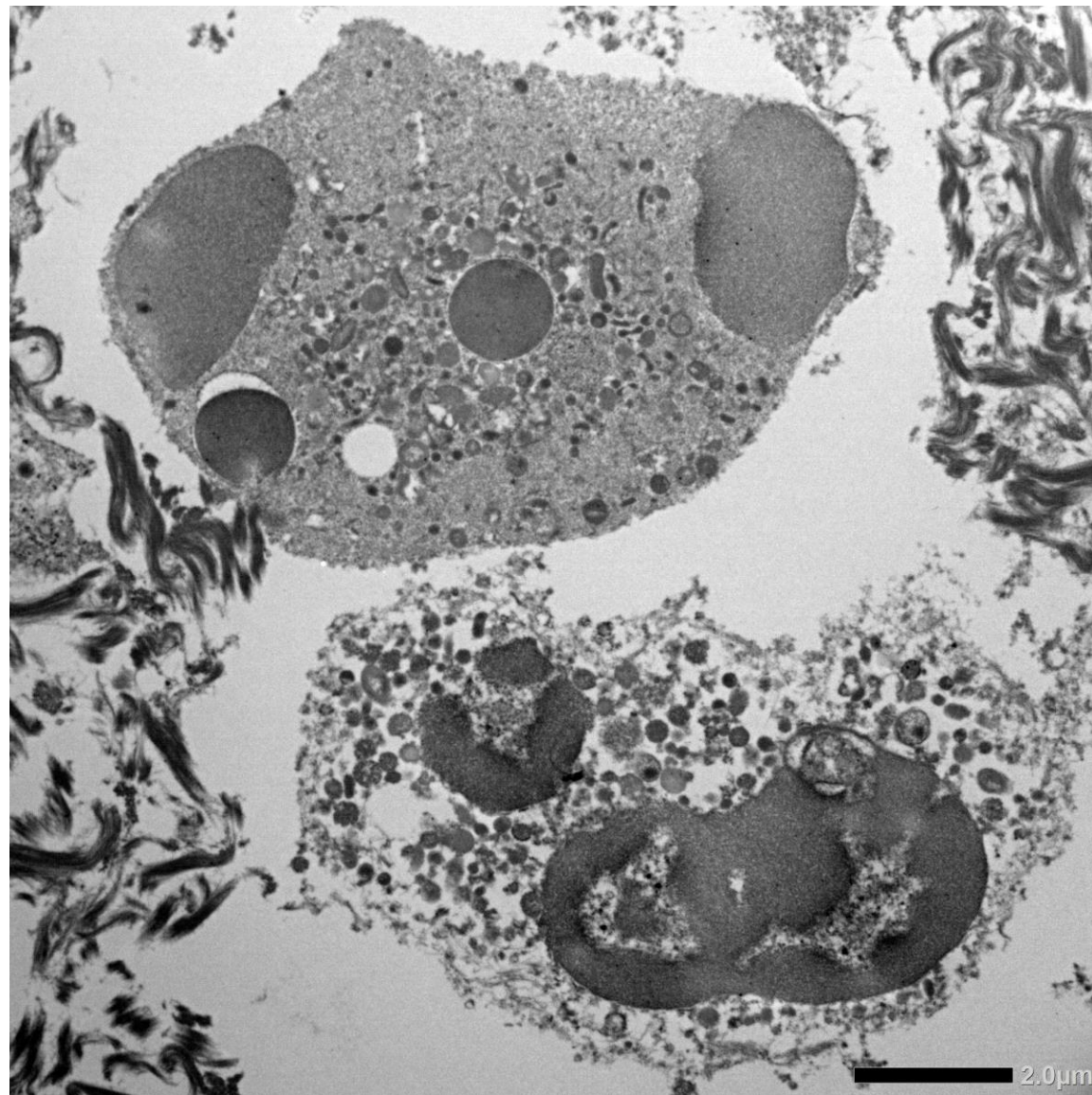
Fibrinous exudation is rich in neutrophils and macrophages.  
Microorganisms are not observed in the H&E stained section. H&E-1



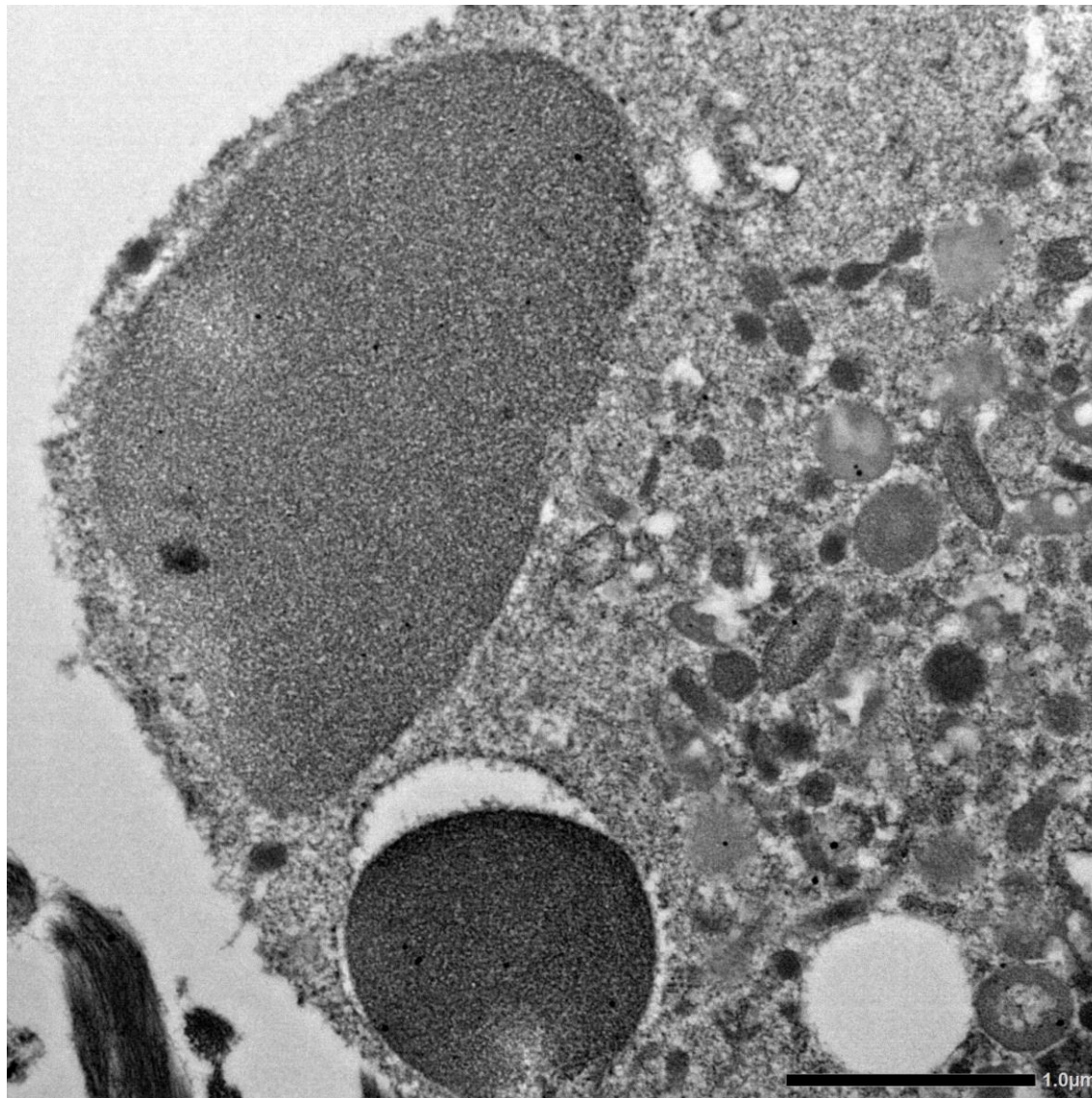
Fibrinous exudation is rich in neutrophils and macrophages.  
Microorganisms are not observed in the H&E stained section. H&E-2



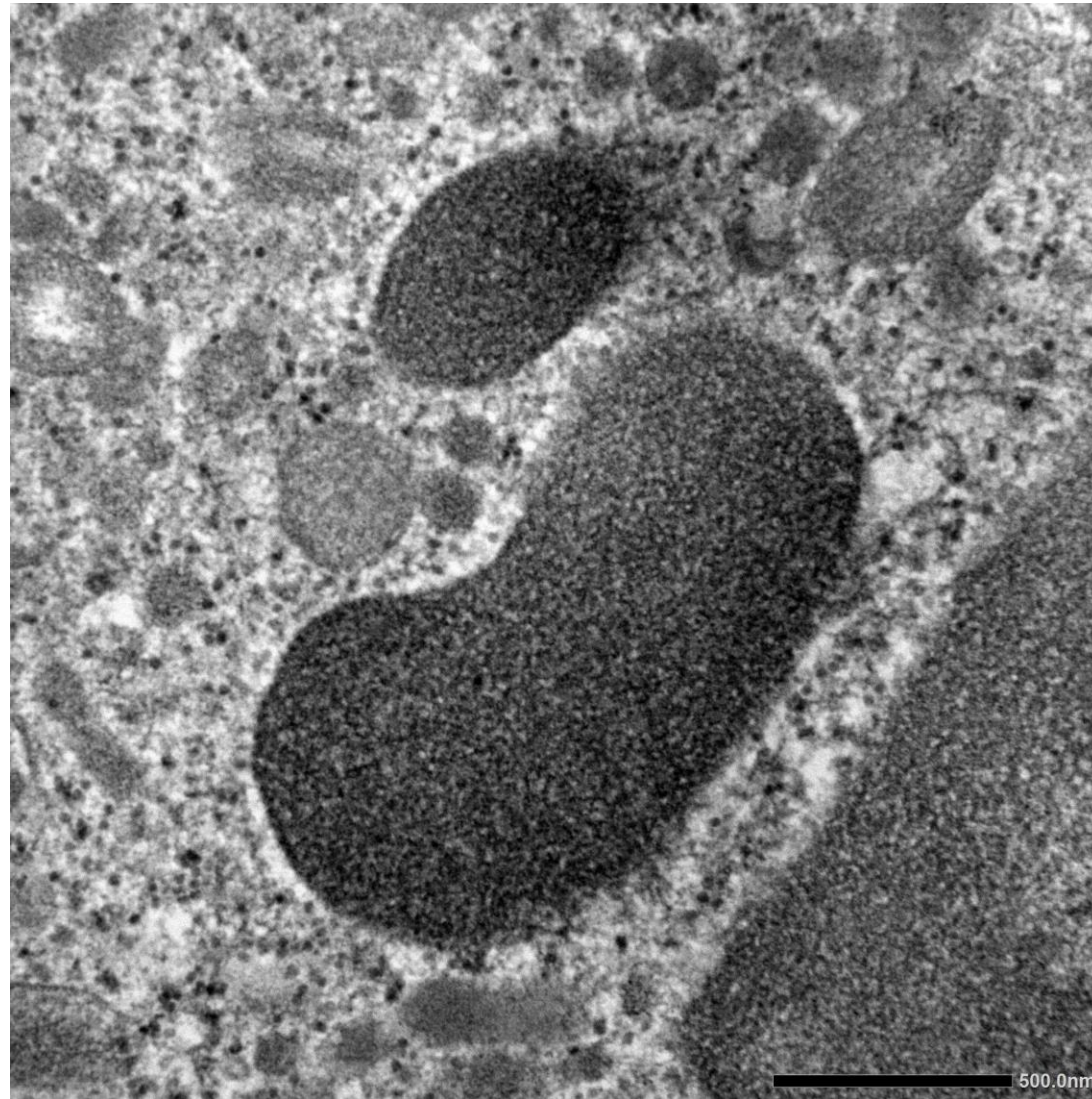
Fibrinous exudation is rich in neutrophils and macrophages.  
Microorganisms are not observed in the H&E stained section. H&E-3



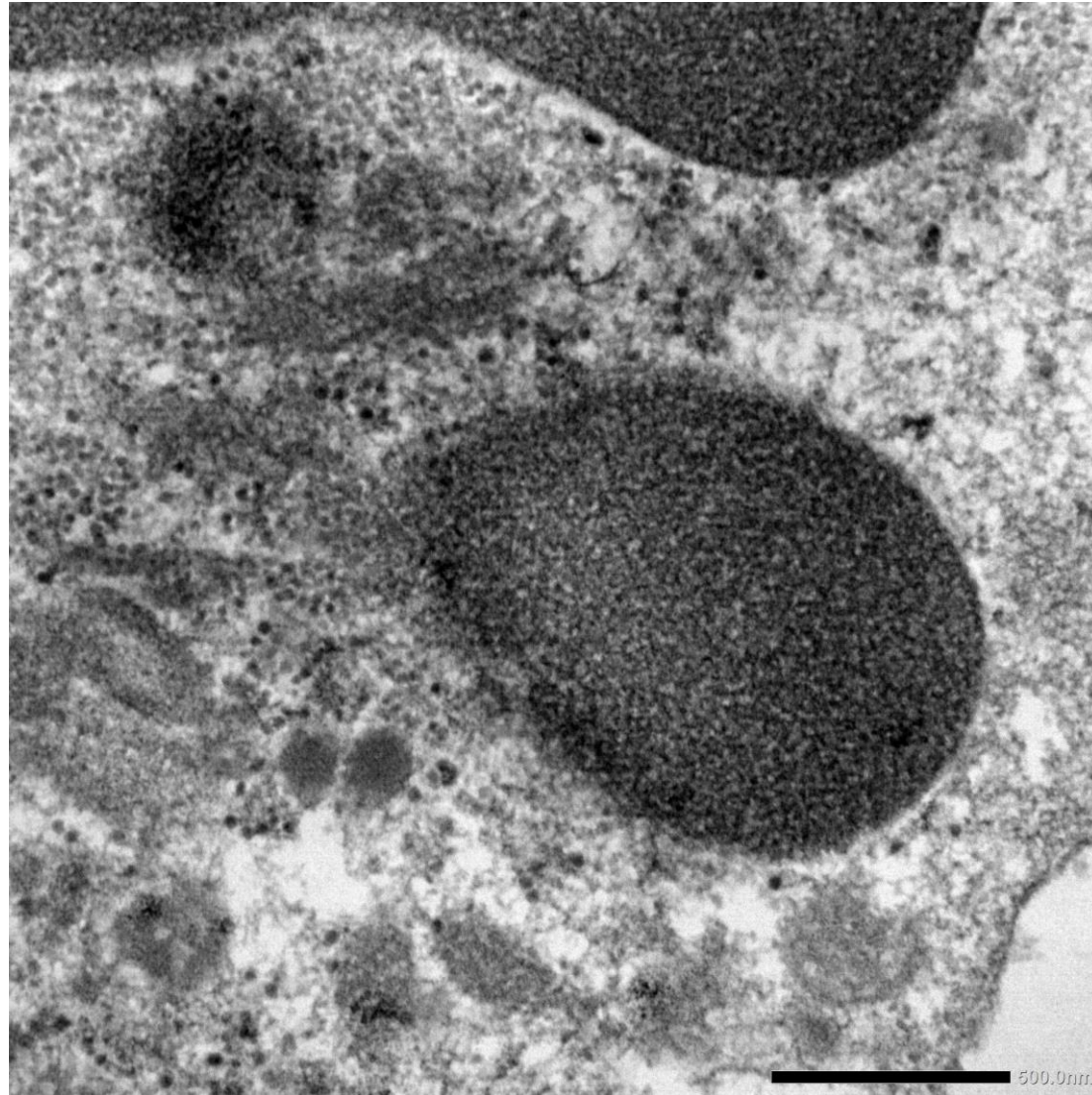
Neutrophils contain electron-dense rounded or oval-shaped structures, larger than neutrophilic granules. Their sizes range from 500 nm to 1 μm with the average of 700 nm. These inclusions are consistent with Mycoplasma particles phagocytized by the neutrophil. EM-1



Neutrophils contain electron-dense rounded or oval-shaped structures, larger than neutrophilic granules. Their sizes range from 500 nm to 1 μm with the average of 700 nm. These inclusions are consistent with Mycoplasma particles phagocytized by the neutrophil. EM-2

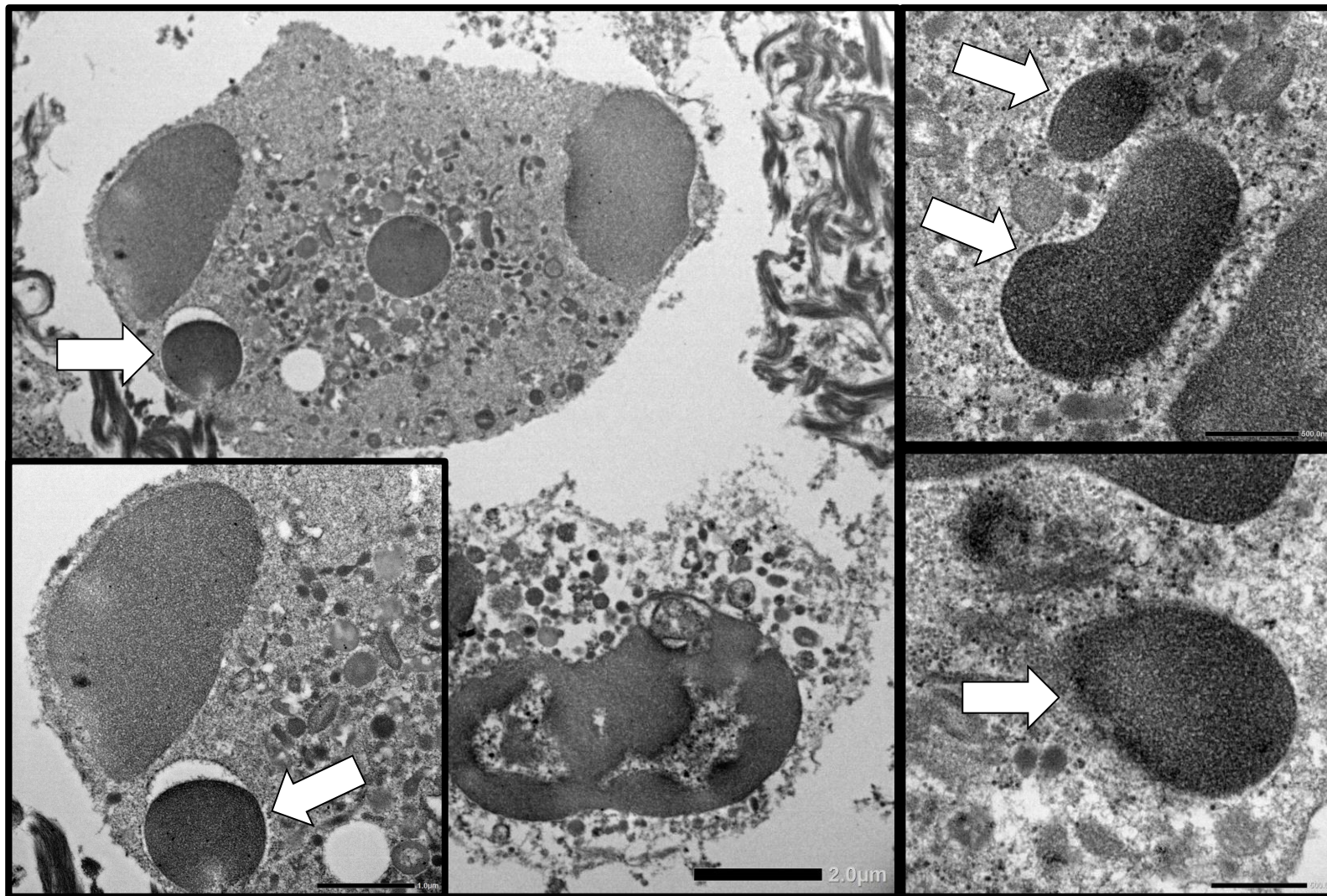


Neutrophils contain electron-dense rounded or oval-shaped structures, larger than neutrophilic granules. Their sizes range from 500 nm to 1  $\mu\text{m}$  with the average of 700 nm. These inclusions are consistent with Mycoplasma particles phagocytized by the neutrophil. EM-3

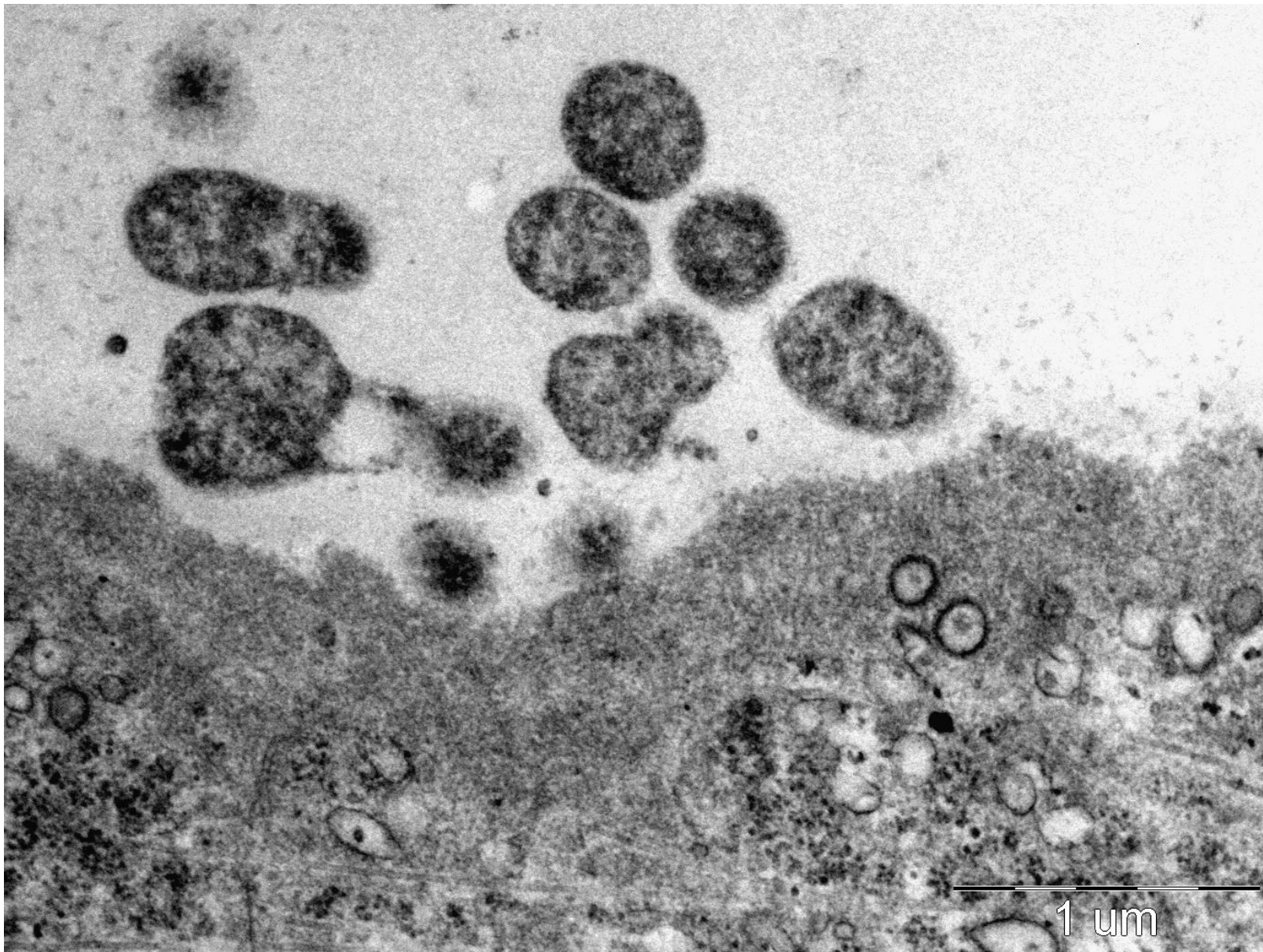


Neutrophils contain electron-dense rounded or oval-shaped structures, larger than neutrophilic granules. Their sizes range from 500 nm to 1  $\mu\text{m}$  with the average of 700 nm. These inclusions are consistent with Mycoplasma particles phagocytized by the neutrophil. EM-4

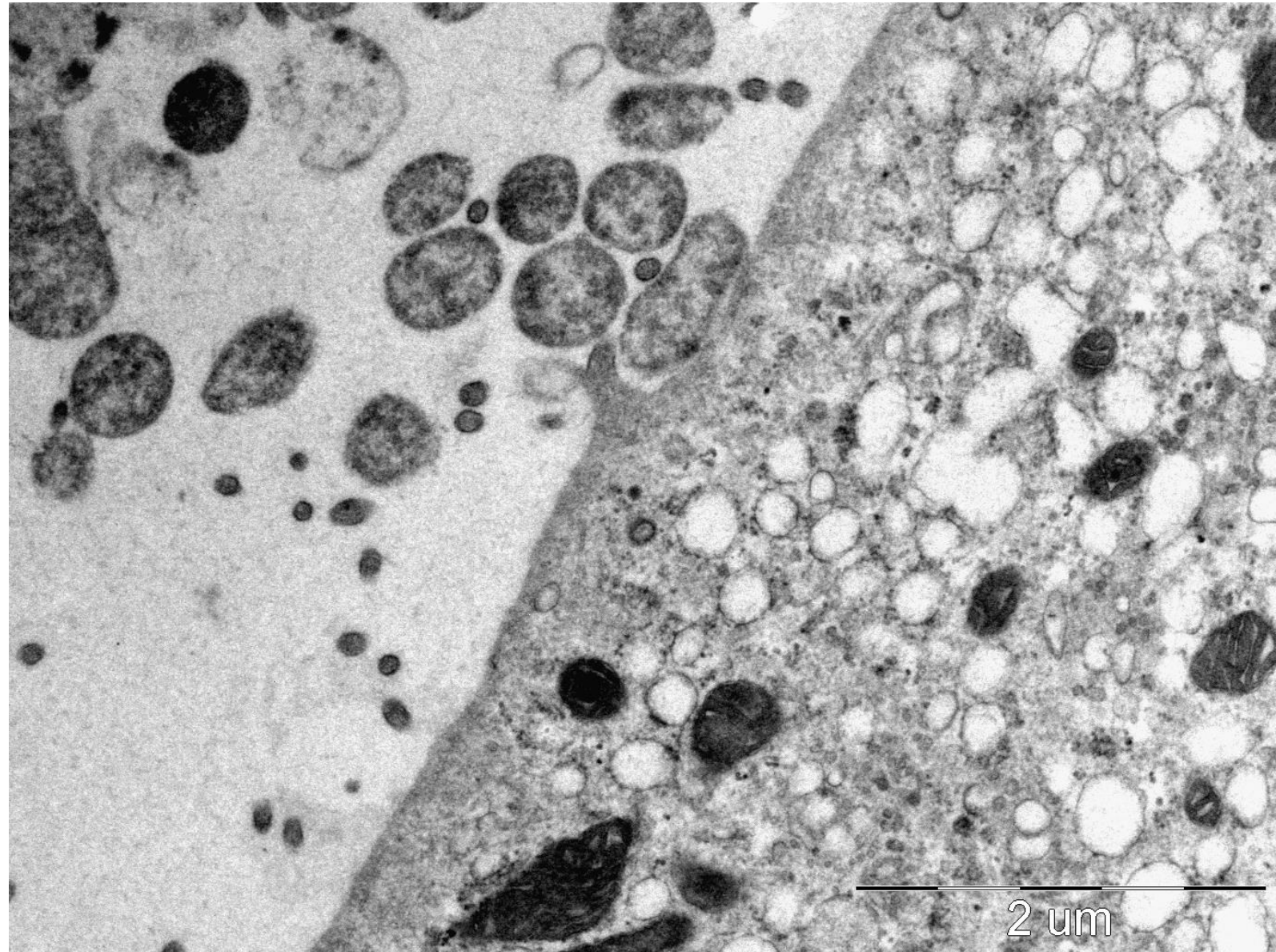




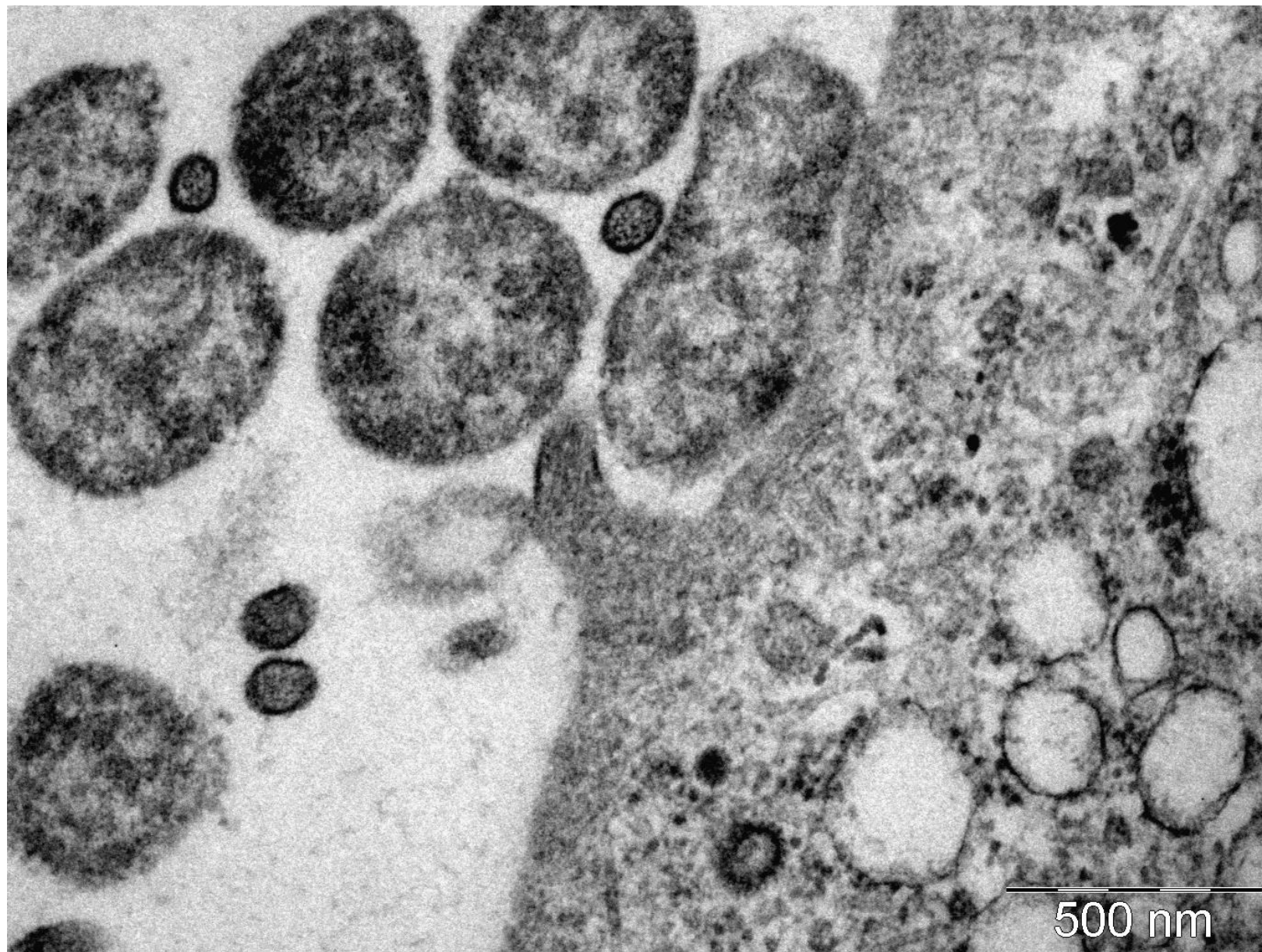
Neutrophils are scattered among fibrinous material. As indicated by white arrows, some neutrophils contain electron-dense rounded or oval-shaped structures, larger than neutrophilic granules. Their sizes range from 500 nm to 1  $\mu$ m with the average of 700 nm. These inclusions are consistent with *Mycoplasma* particles phagocytized by the neutrophil. Bars = 2  $\mu$ m (left), 1  $\mu$ m (left inset), and 500 nm (right)



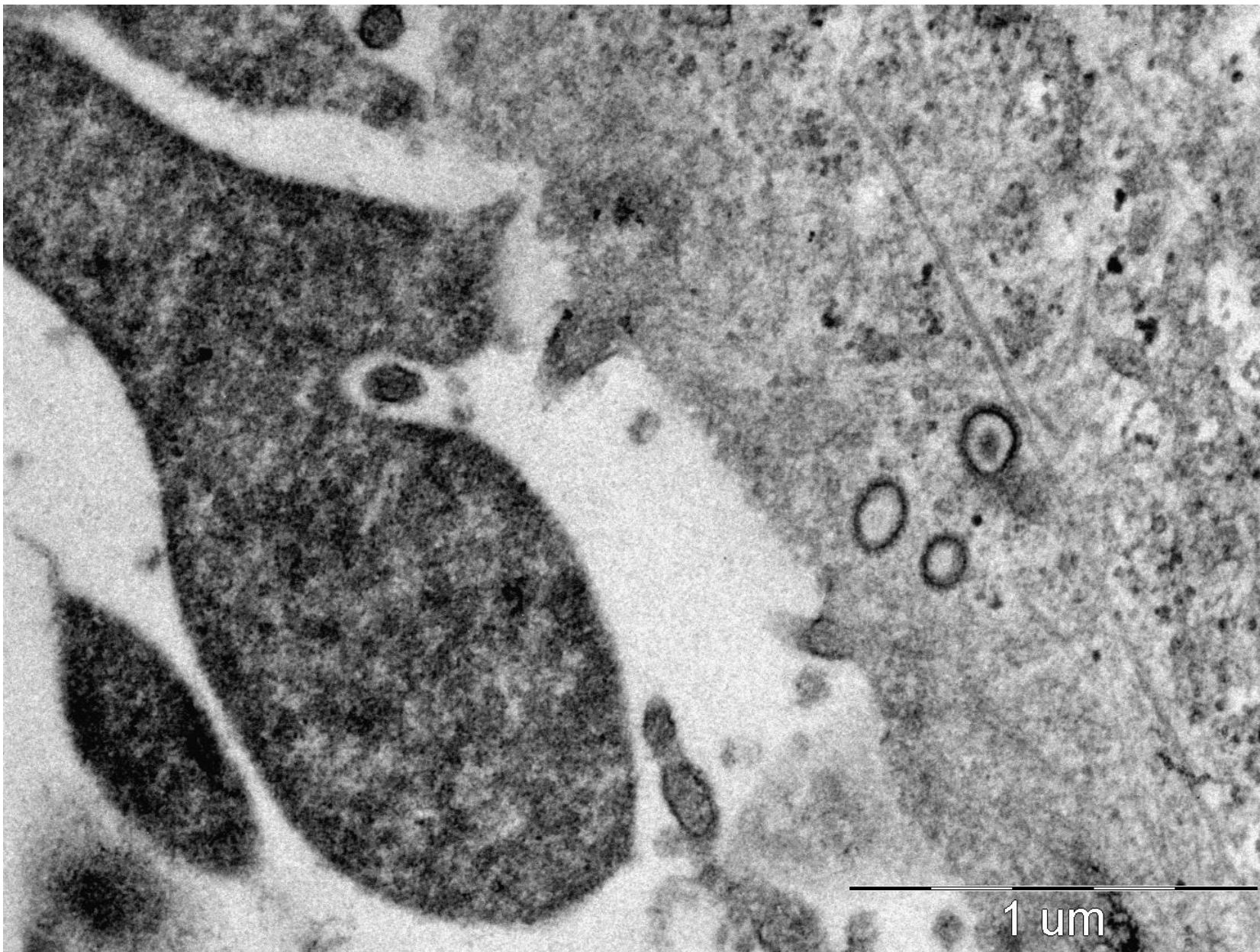
For reference, ultrastructural features of Mycoplasma particles unexpectedly infected in the cultured cells are shown. EM-a



For reference, ultrastructural features of Mycoplasma particles unexpectedly infected in the cultured cells are shown. EM-b



For reference, ultrastructural features of Mycoplasma particles unexpectedly infected in the cultured cells are shown. EM-c



For reference, ultrastructural features of Mycoplasma particles unexpectedly infected in the cultured cells are shown. EM-d