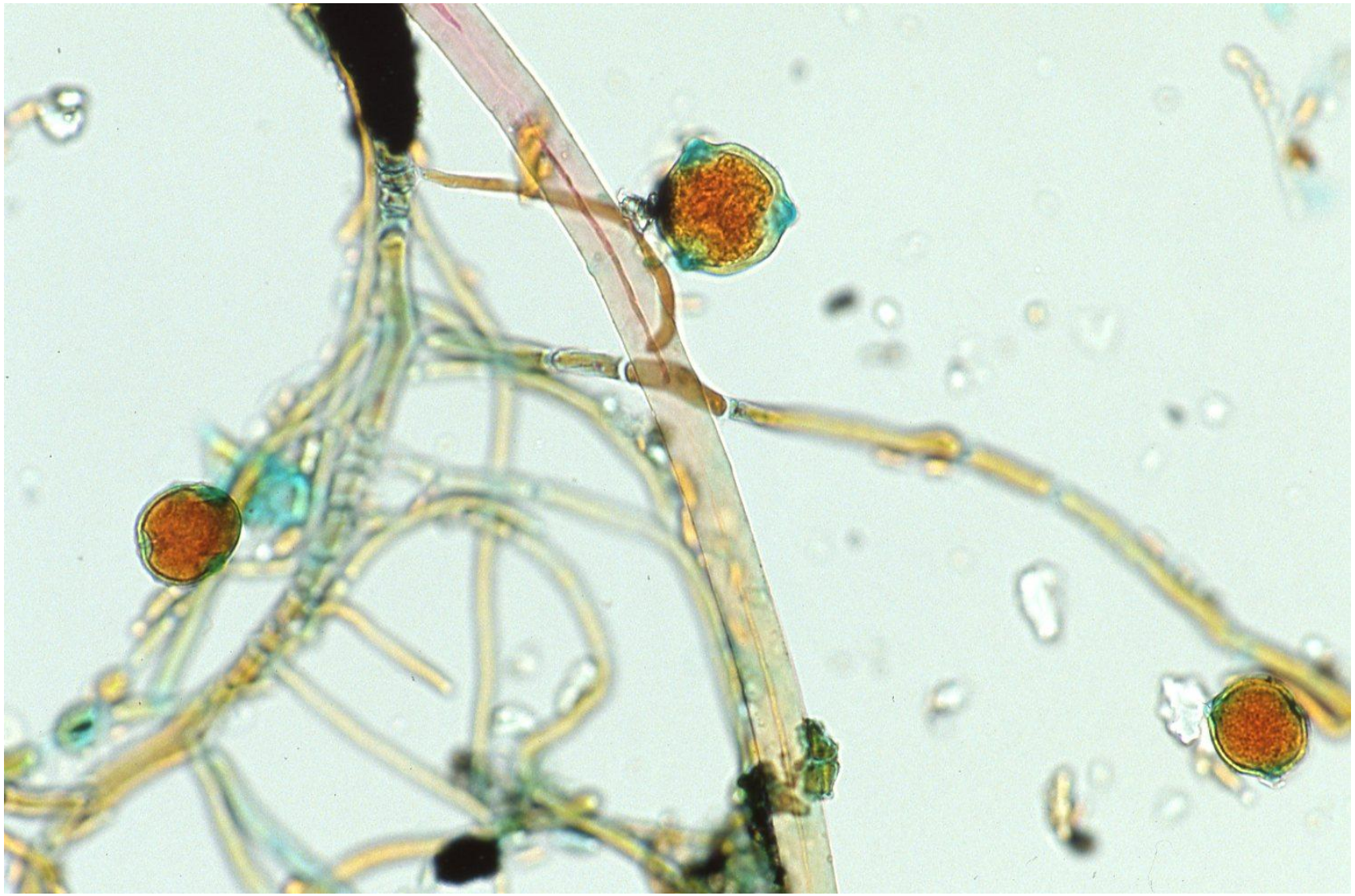
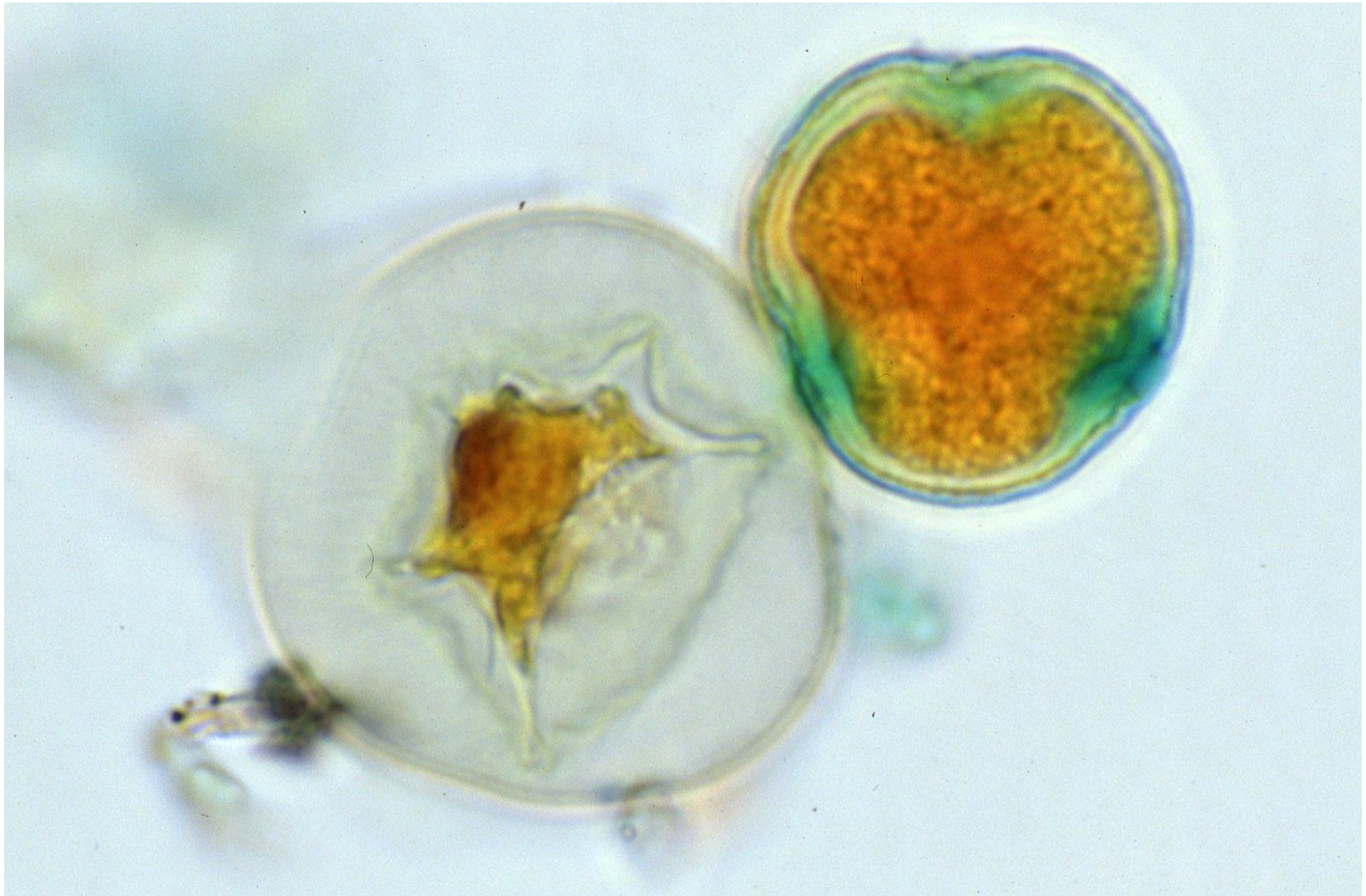
Cedar pollen allergy

Cedar pollen allergy (hay fever in Japan), the most prevalent seasonal allergic diseases in Japan, is caused by pollen of *Cryptomeria japonica* (Japanese cedar tree or Sugi in Japanese). The pollen of Japanese cypress (Hinoki) also causes the hay fever. Sugi and Hinoki are two representative native Japanese tree species. Reportedly, 42.5% of Japanese suffer from hay fever, and 38.8% suffer from cedar pollinosis (allergic rhinitis and conjunctivitis). Most Japanese cedar and cypress trees were planted as part of a national program from the early 1950's to the early 1970's. At present, 20% of the entire Japanese land area is covered by artificial forests of Japanese cedar and cypress trees. Hay fever was relatively uncommon in Japan until the early 1960s. During the 1970s and 1980s, the Japanese economy developed, cheaper imported building materials decreased the demand for cryptomeria and Japanese cypress materials. By 2000, 85% of cryptomeria were over 20 years old, and more than 60% of trees were over 30 years old. Pollen production has continued to increase. The pollen measures 30 μm in diameter. Actually, the hay fever season typically extends from March to May, with a peak in April.

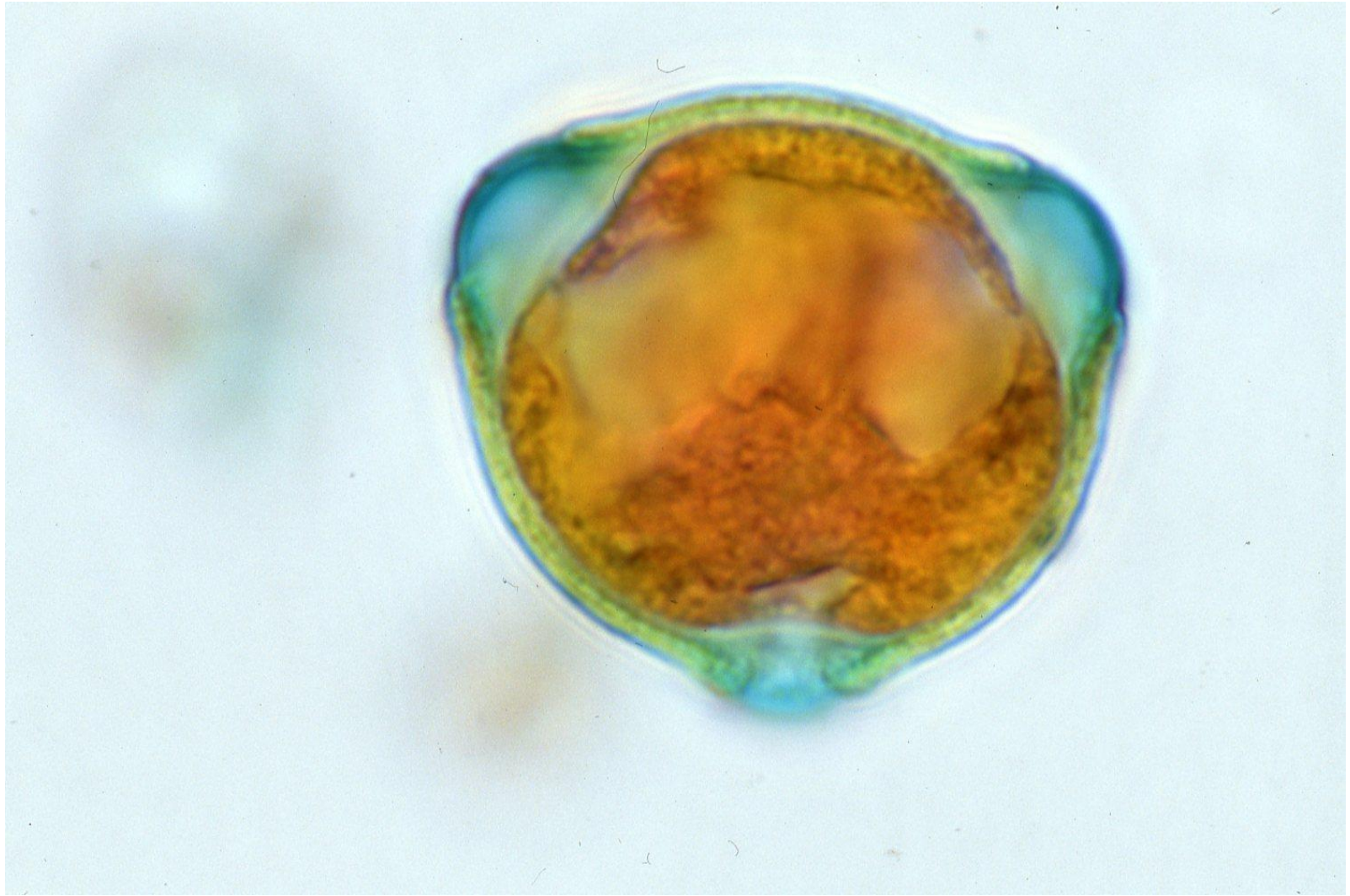
Ref.: Osada T, Okano M. Japanese cedar and cypress pollinosis updated: new allergens, cross-reactivity, and treatment. Allergol Int 2021; 70(3): 281-290. doi: 10.1016/j.alit.2021.04.002



Pollens of *Cryptomeria japonica* (Japanese cedar tree or Sugi in Japanese).
The direct tough from a male blossom of the *C. japonica* (Papanicolaou-1).

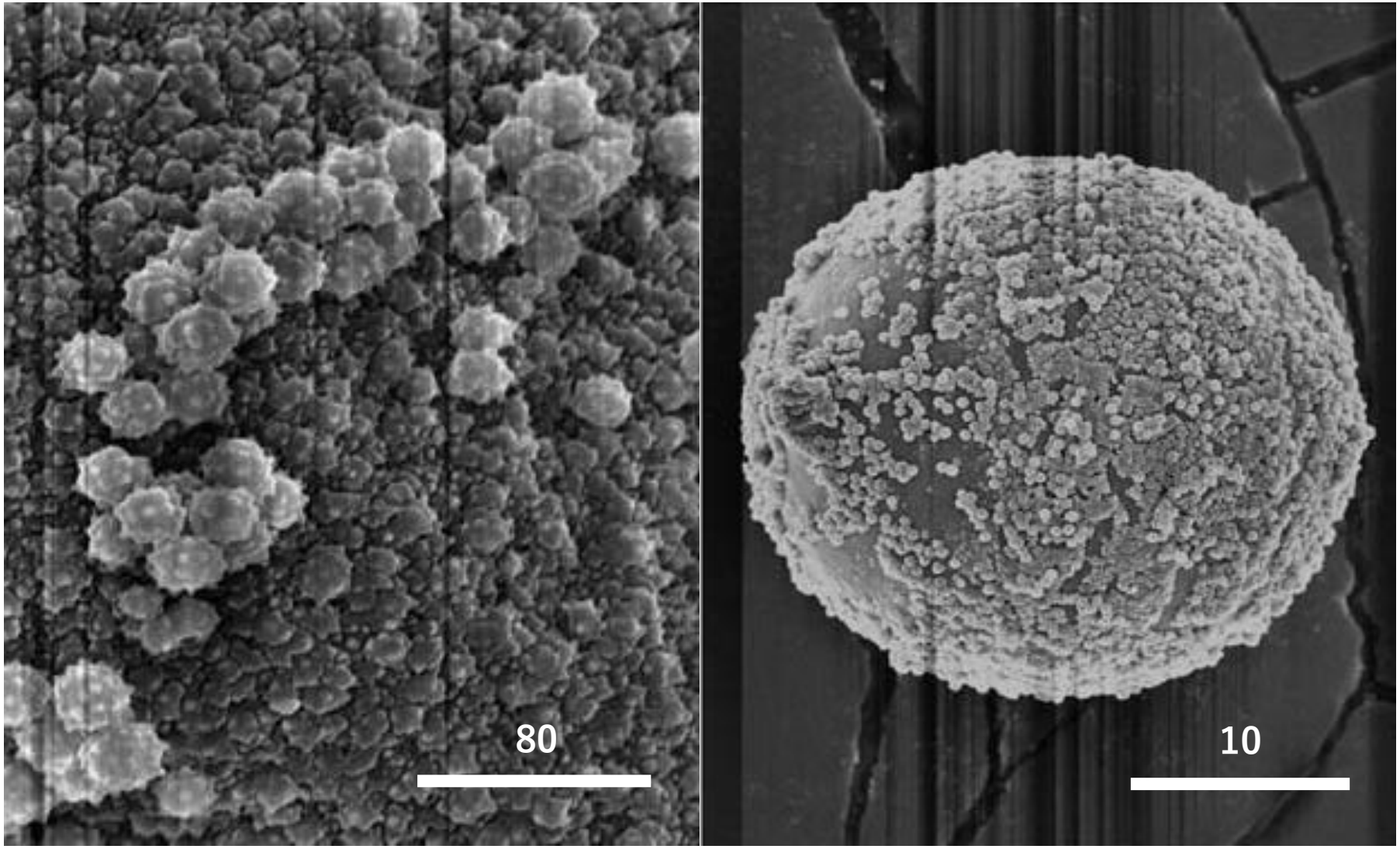


Pollens of *Cryptomeria japonica* (Japanese cedar tree or Sugi in Japanese). The direct tough from a male blossom of the *C. japonica*. The pollen consists of the intine and exine. The exine is made of physically and chemically stable sporopellenin (Papanicolaou-2).

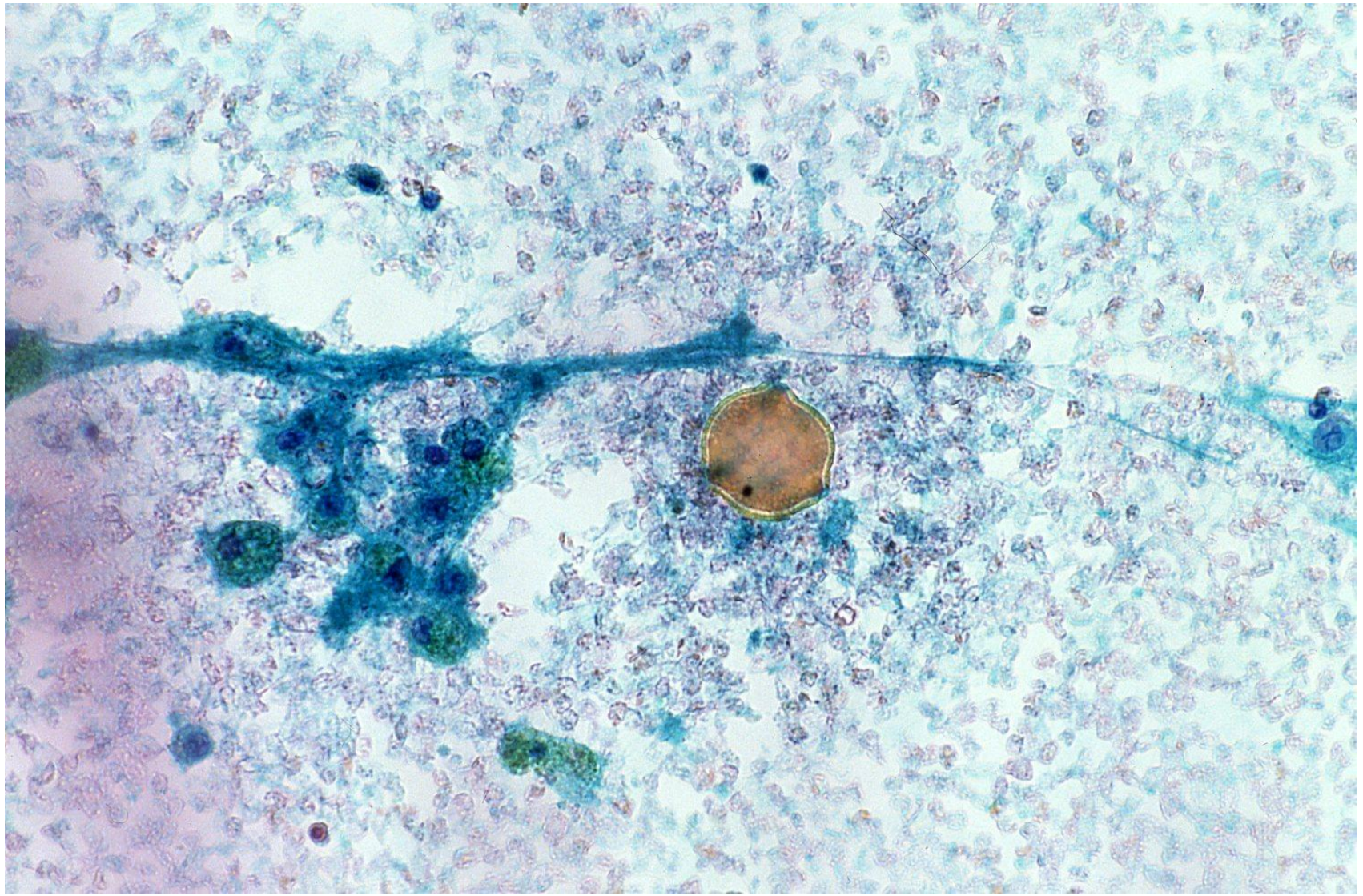


The pollen of *Cryptomeria japonica* (Japanese cedar tree or Sugi in Japanese). The direct tough from a male blossom of the *C. japonica*. The orange-stained tube cell is covered by the intine (the deposition of callose). The intine has germ pores (Papanicolaou-3).

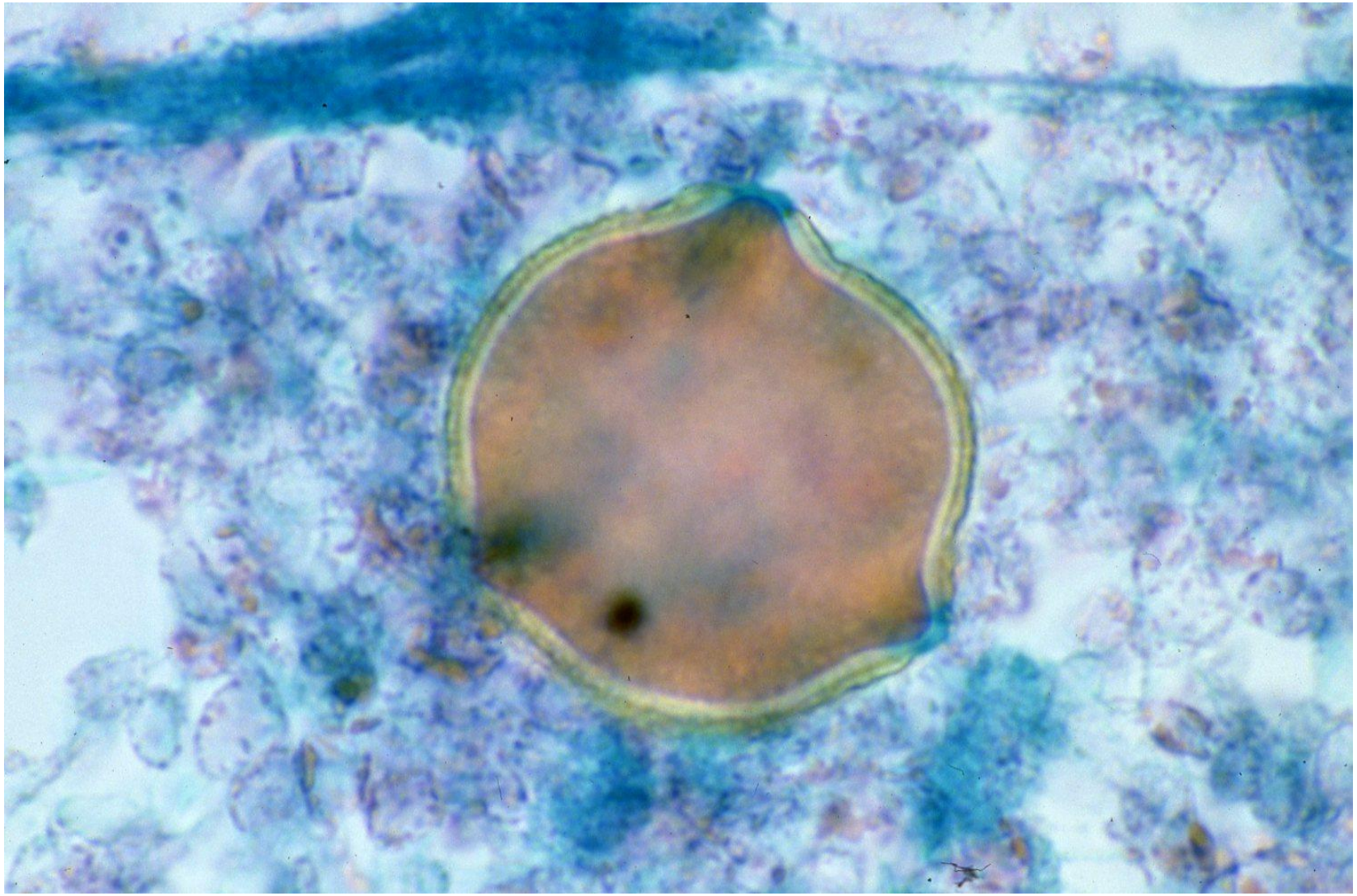
A cedar pollen found in the urine. The intine-covered pollen cell protrudes out of the exine (Papanicolaou-4).



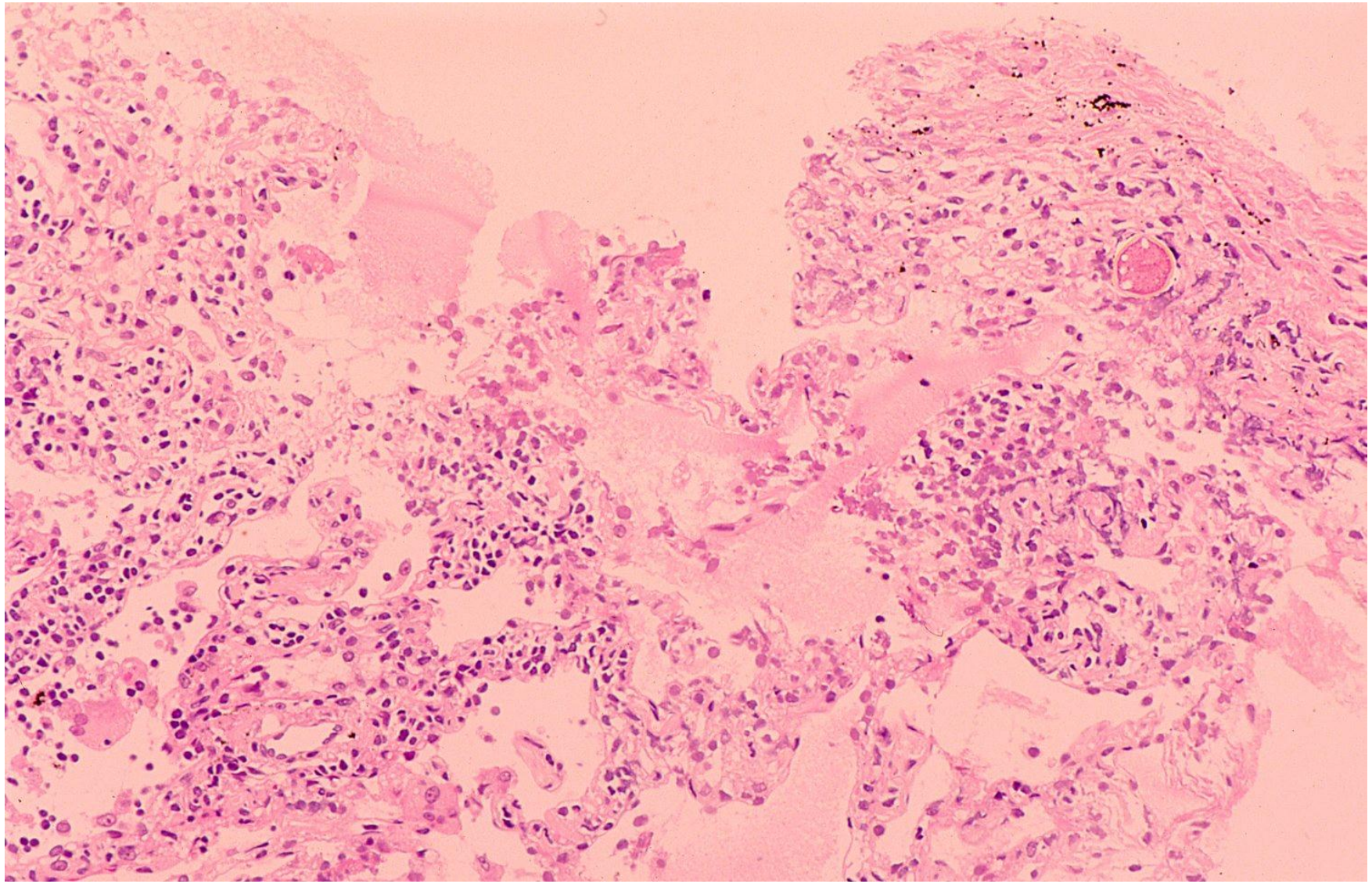
Scanning electron microscopy of cedar pollens. The granulated surfaces are observed (SEM).



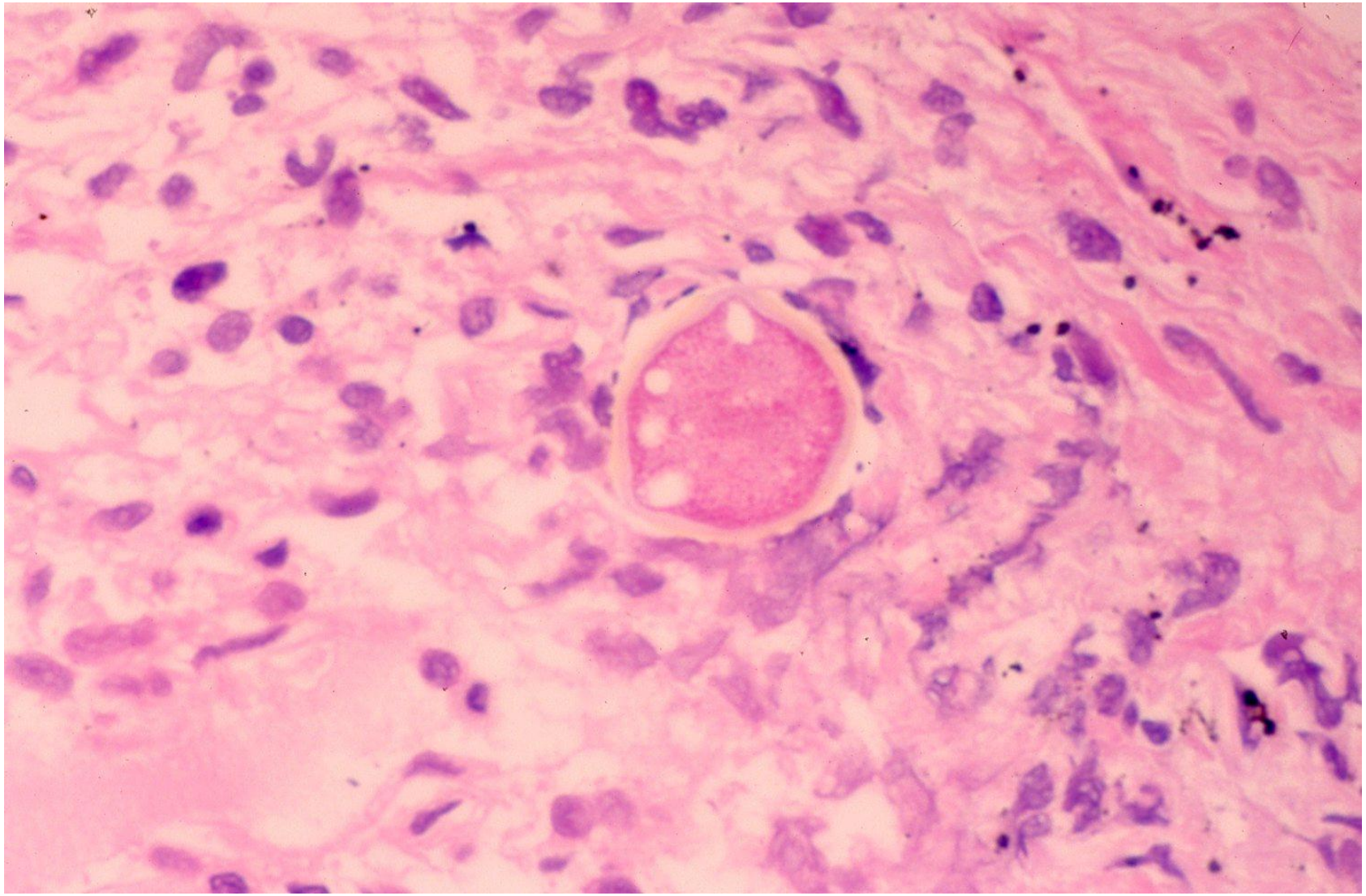
A cedar pollen found in the cytology specimen of the cervical smear. The pollen is contaminated during the specimen preparation. The pollen cell is covered with the intine (Papanicolaou-5).



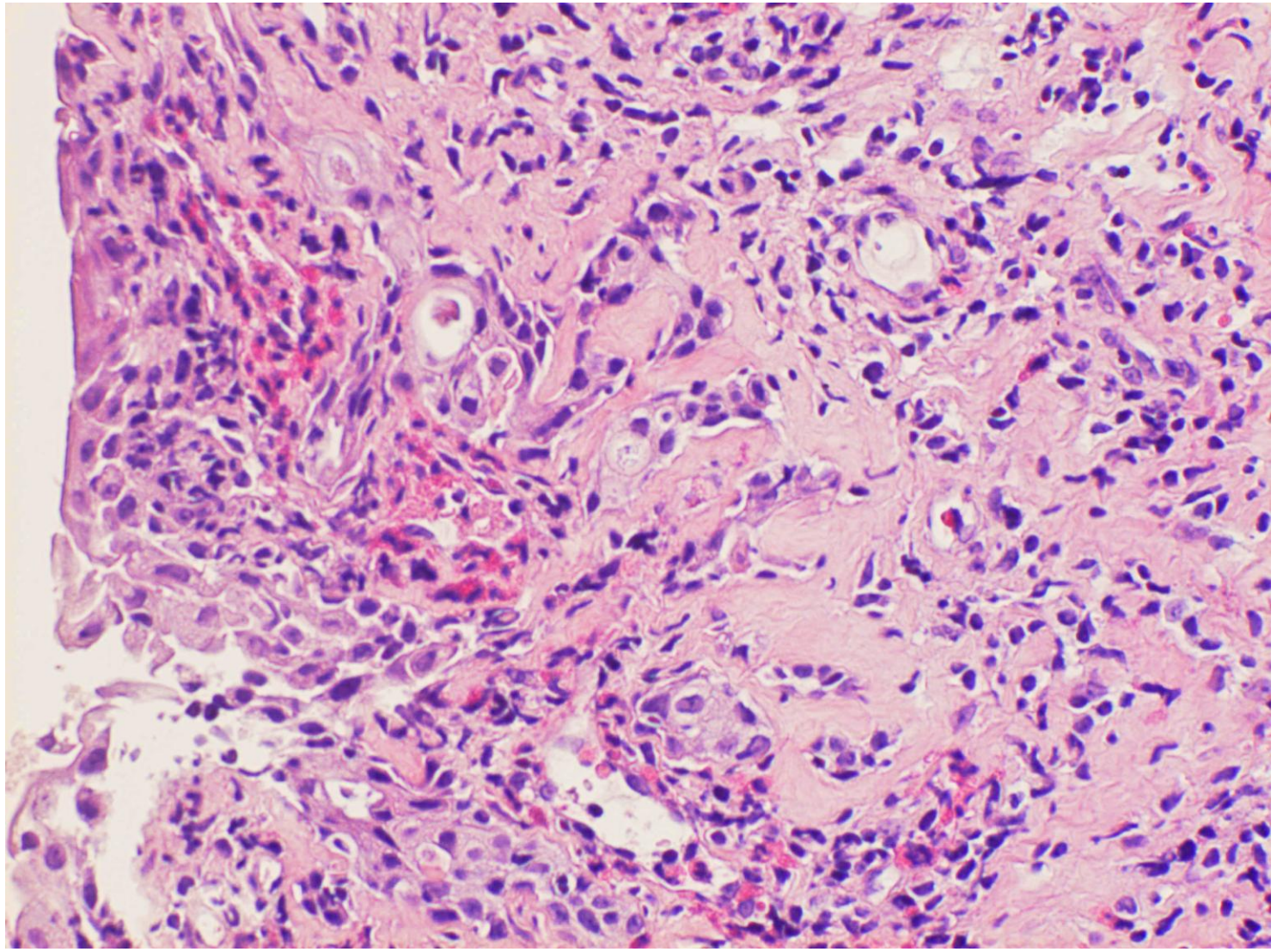
A cedar pollen found in the cytology specimen of the cervical smear. The pollen is contaminated during the specimen preparation. The pollen cell is covered with the intine. Germ pores are observed (Papanicolaou-6).



A cedar pollen is incidentally contaminated in the transbronchial lung biopsy (TBLB) specimen (H&E-1).

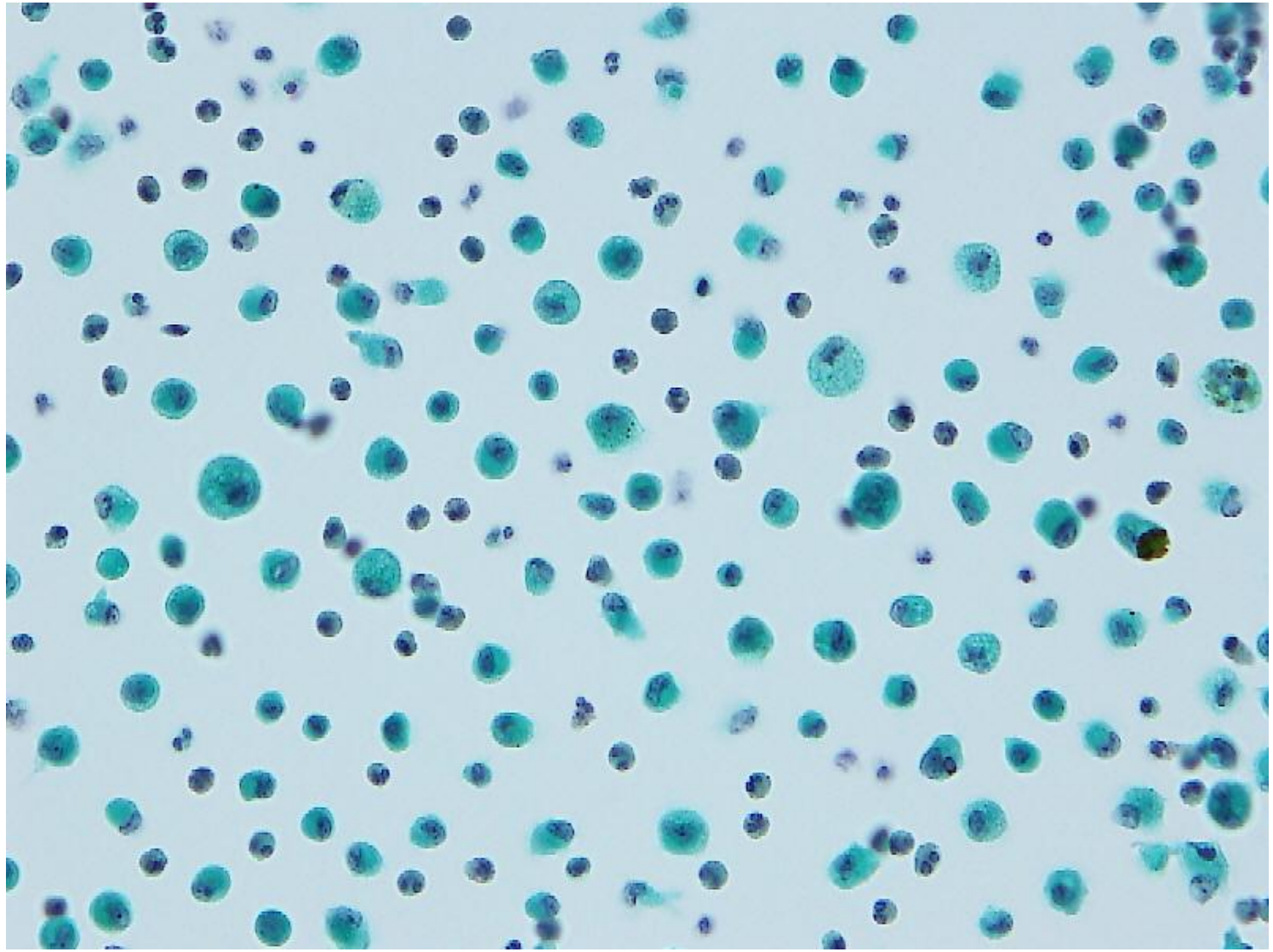


A cedar pollen is incidentally contaminated in the transbronchial lung biopsy (TBLB) specimen (H&E-2).

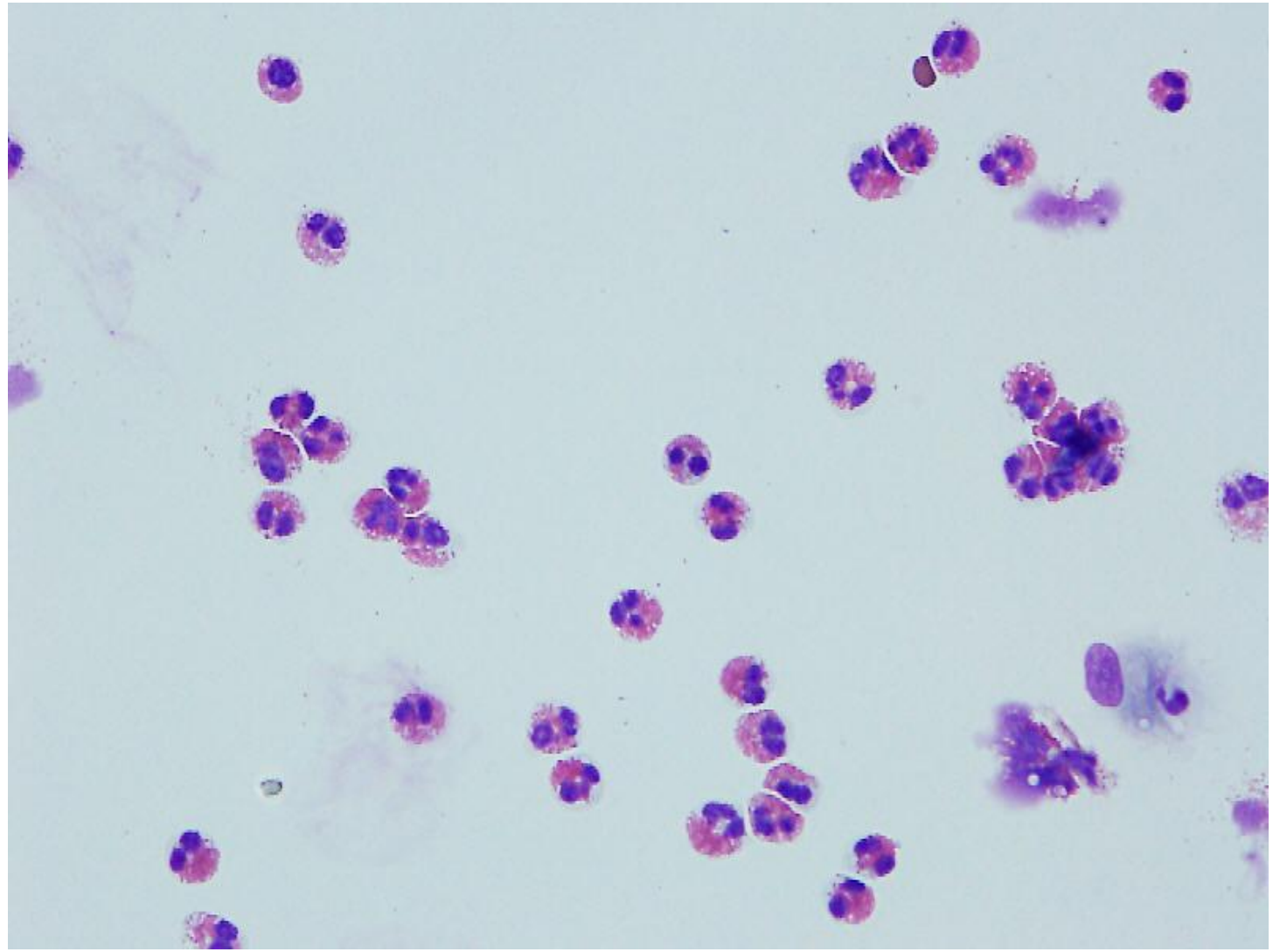


Vernal catarrh (vernal keratoconjunctivitis) associated with pollen allergy. Numbers of eosinophils are seen in the biopsied edematous conjunctival mucosa (H&E-3).

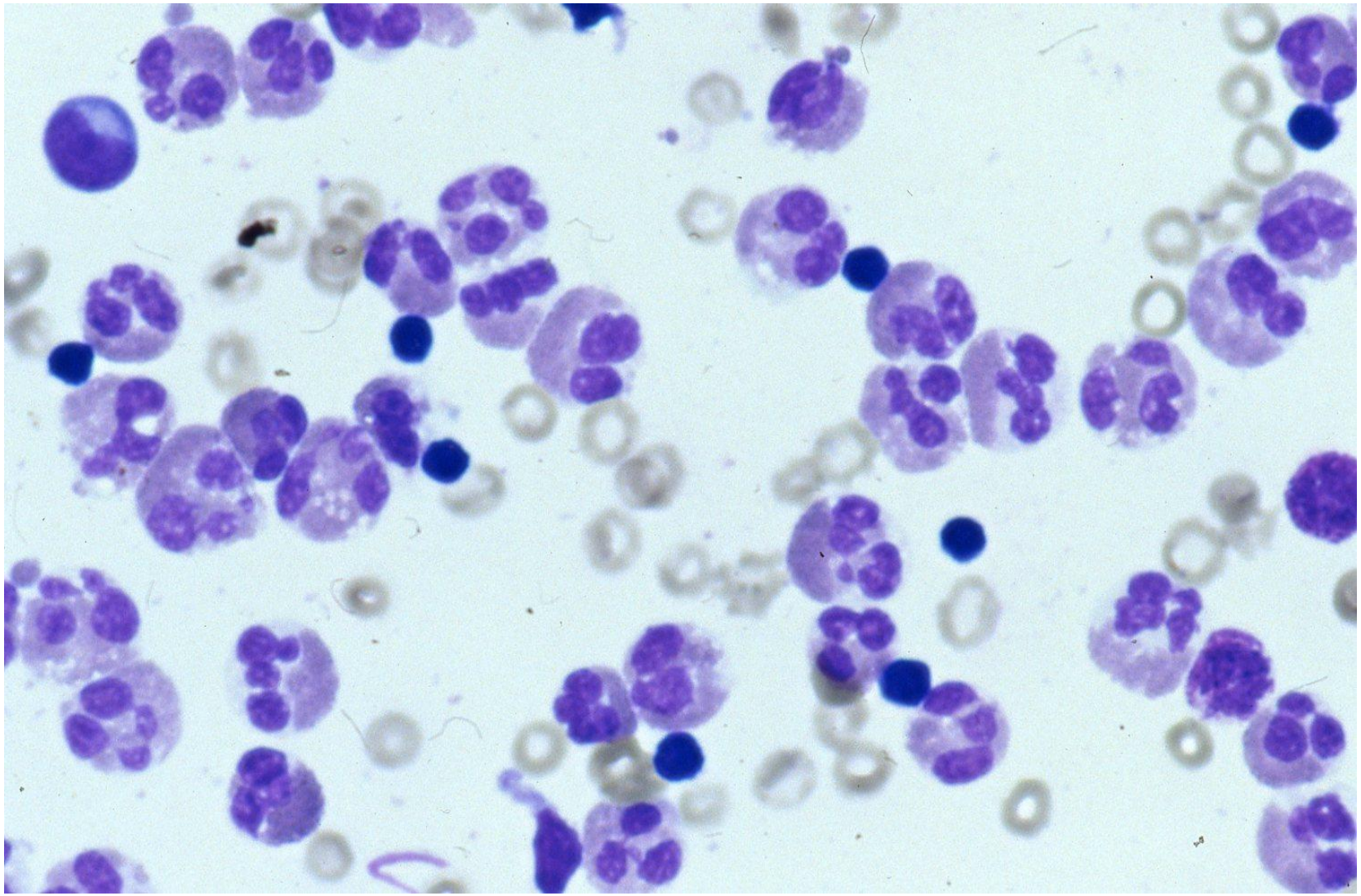
Allergic (eosinophilic) rhinitis caused by pollen allergy. Numbers of eosinophils are seen in the biopsied edematous nasal mucosa (H&E-4).



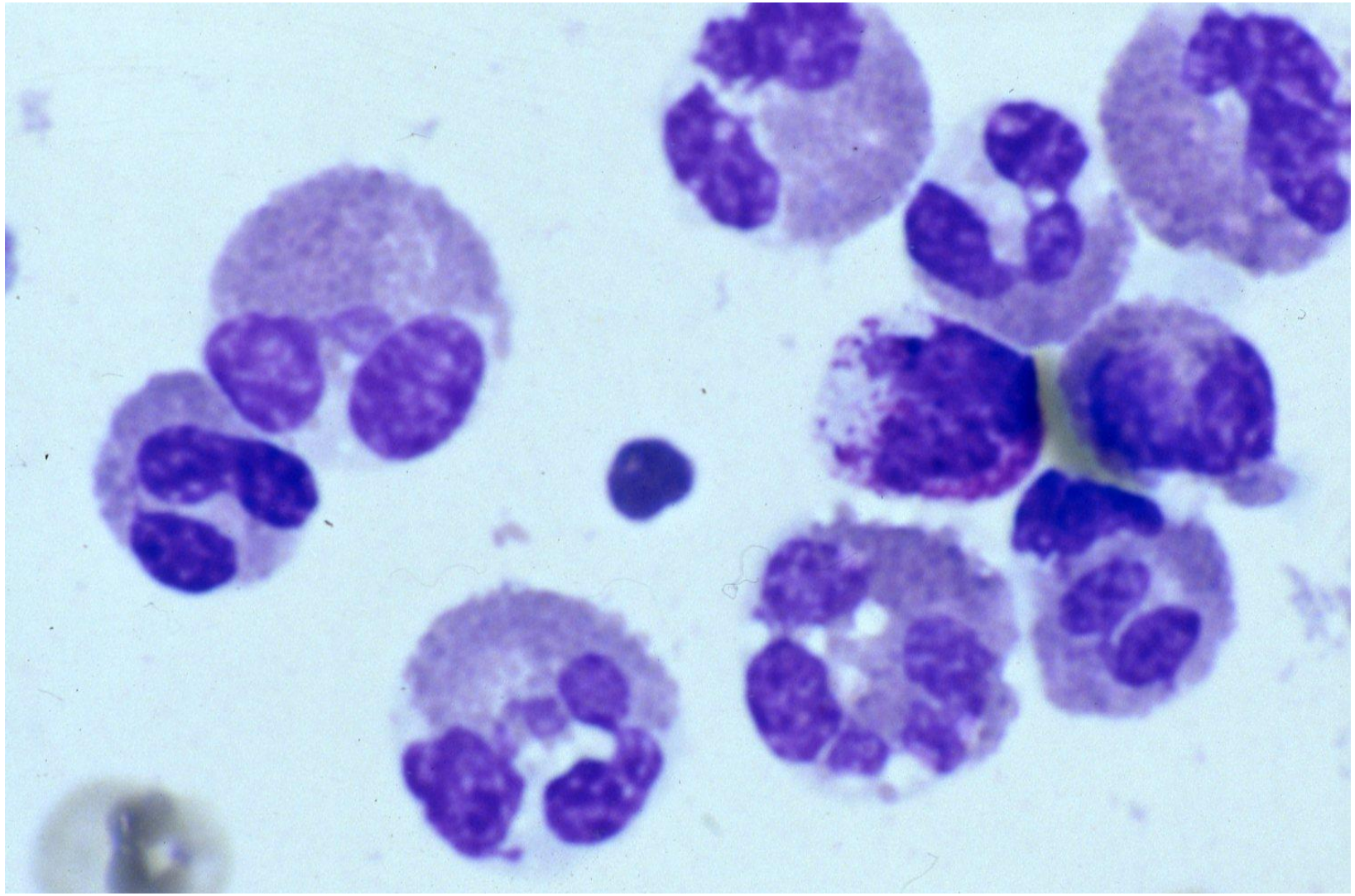
Cytology of watery discharge in allergic rhinitis. Numbers of eosinophils are identified (Papanicolaou).



Cytology of watery discharge in allergic rhinitis. Numbers of eosinophils are identified (Giemsa).



Microscopic morphology of eosinophils seen in pleural effusion (Giemsa-a).



Microscopic morphology of eosinophils seen in pleural effusion (Giemsa-b).