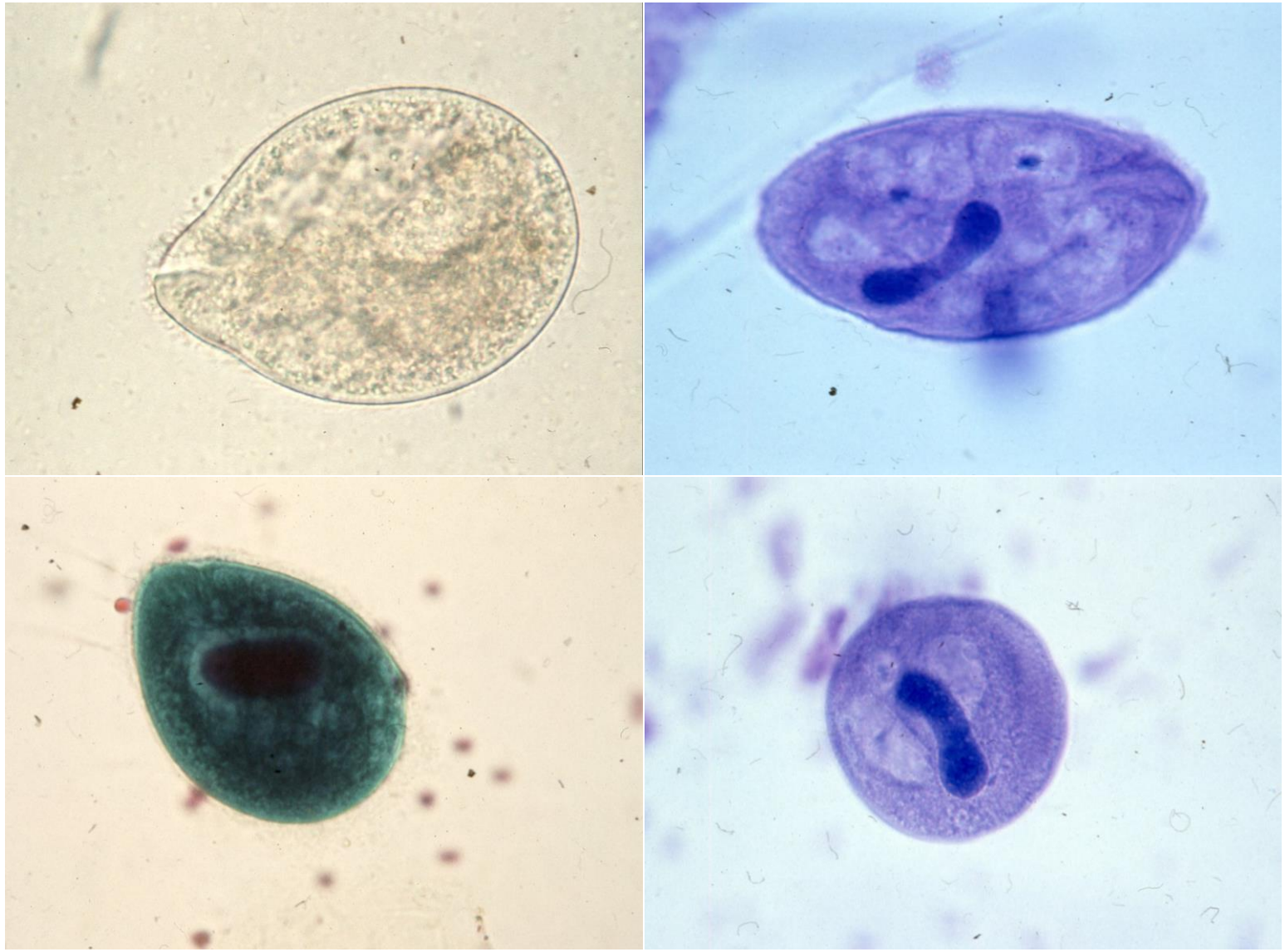
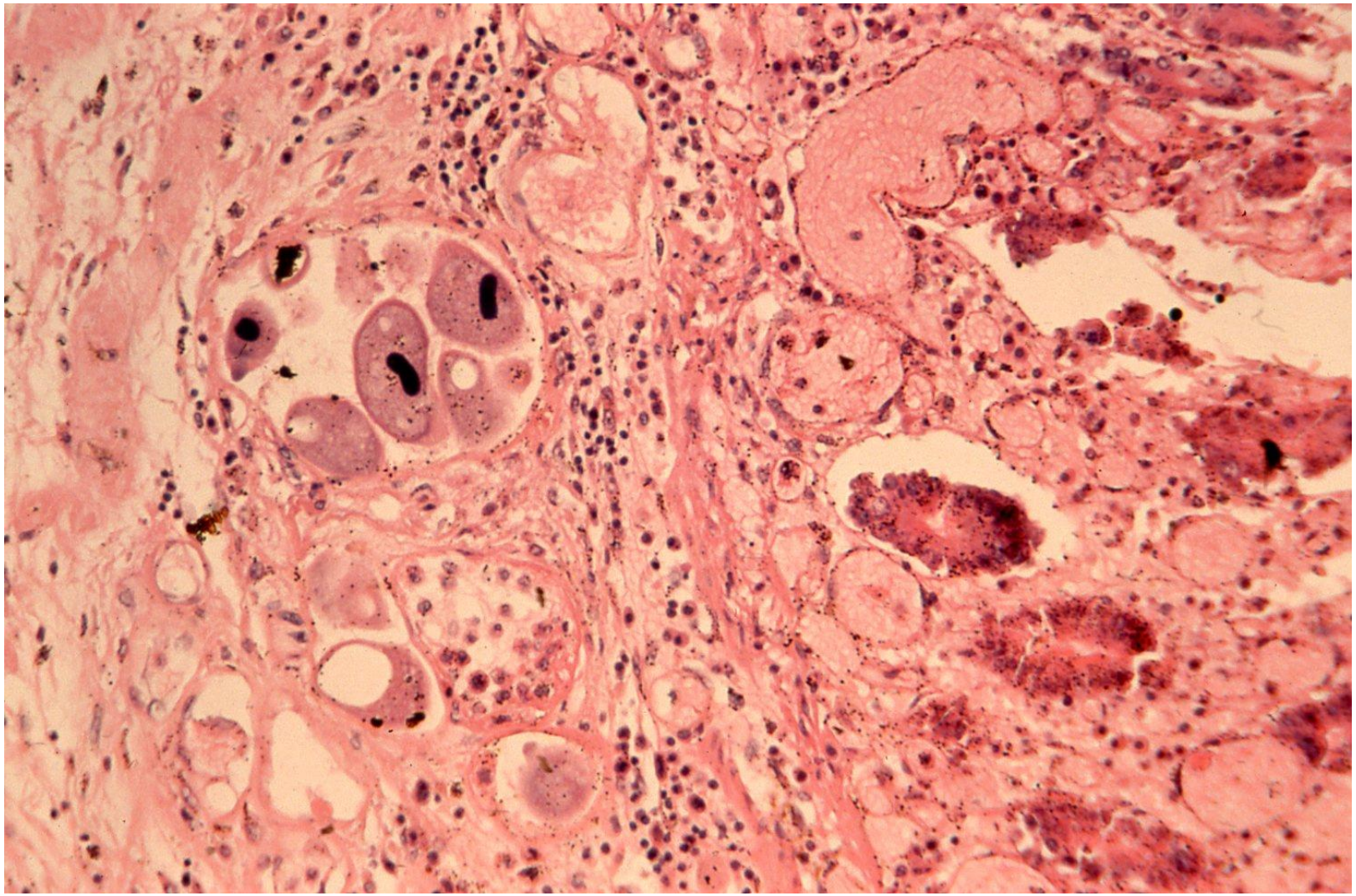
Balantidium coli infection

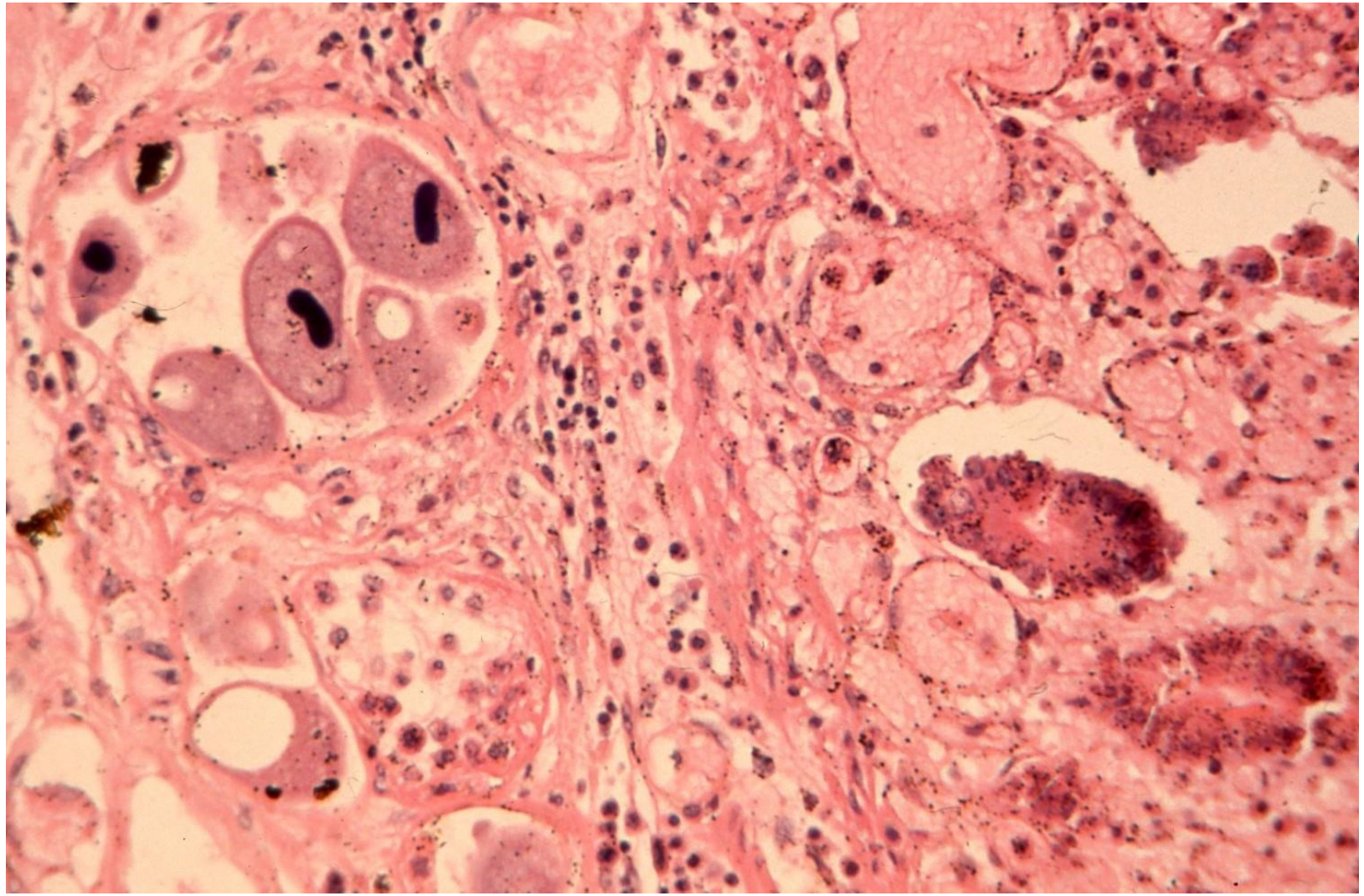
Balantidium coli is a zoonotic, ciliated protozoa causing balantidiasis. It is the only member of the ciliate phylum known to be pathogenic to the human. The normal host is a domestic pig. *Balantidium coli* lives in the cecum and colon of humans, pigs, rats, and other mammals. Trophozoites may invade the wall of the colon, causing dysentery-like symptoms in severe cases. Microscopically, the trophozoites possess two nuclei: The macronucleus is long and sausage-shaped, and the spherical micronucleus is nested next to it. Cilia and contractile vacuoles are visible. Cysts, smaller than trophozoites, are round and contain a tough, heavy cyst wall. Living trophozoites and cysts are yellowish or greenish in color. Infection occurs when the cysts are ingested through contaminated food or water.



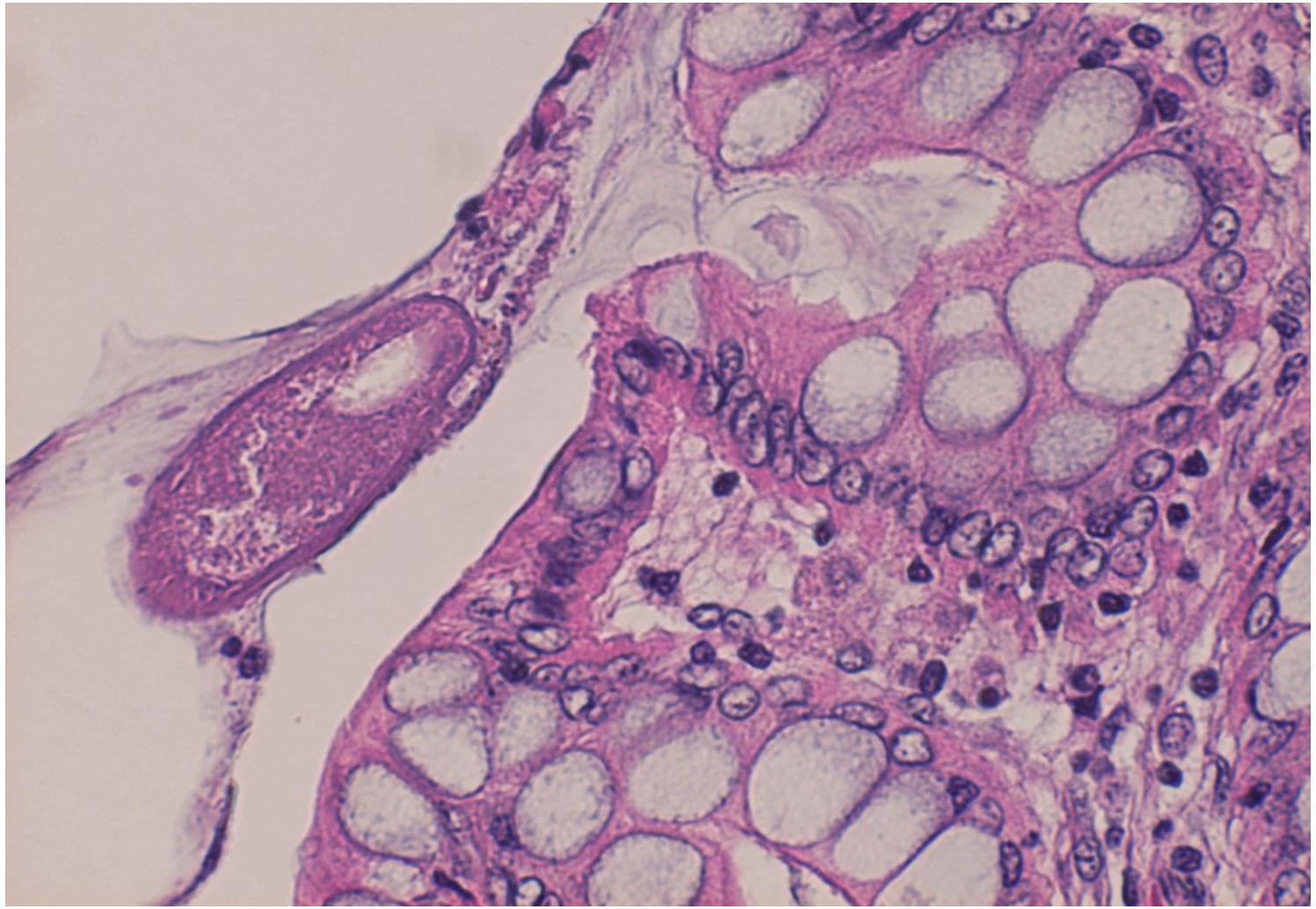
The trophozoite and cyst of cultured *Balantidium coli*. Left top: unstained, right top: Giemsa, left bottom: Gomori's trichroma, right bottom: Giemsa (cyst). Large-sized protozoa contains a characteristic macronucleus. Ciliated surface is seen in the trophozoite.



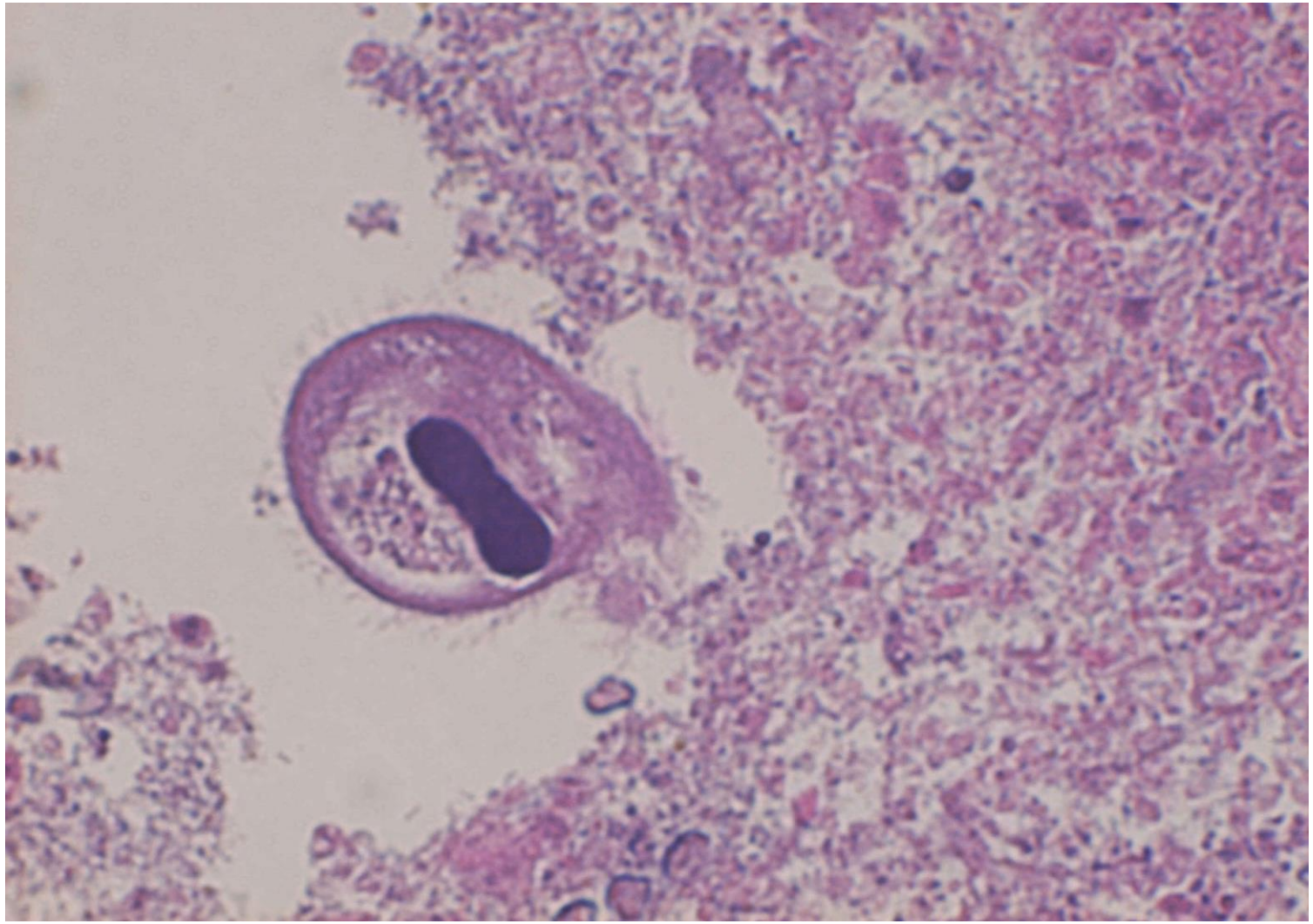
Human balantidiasis. Trophozoites invade the submucosa of the colon. H&E-1



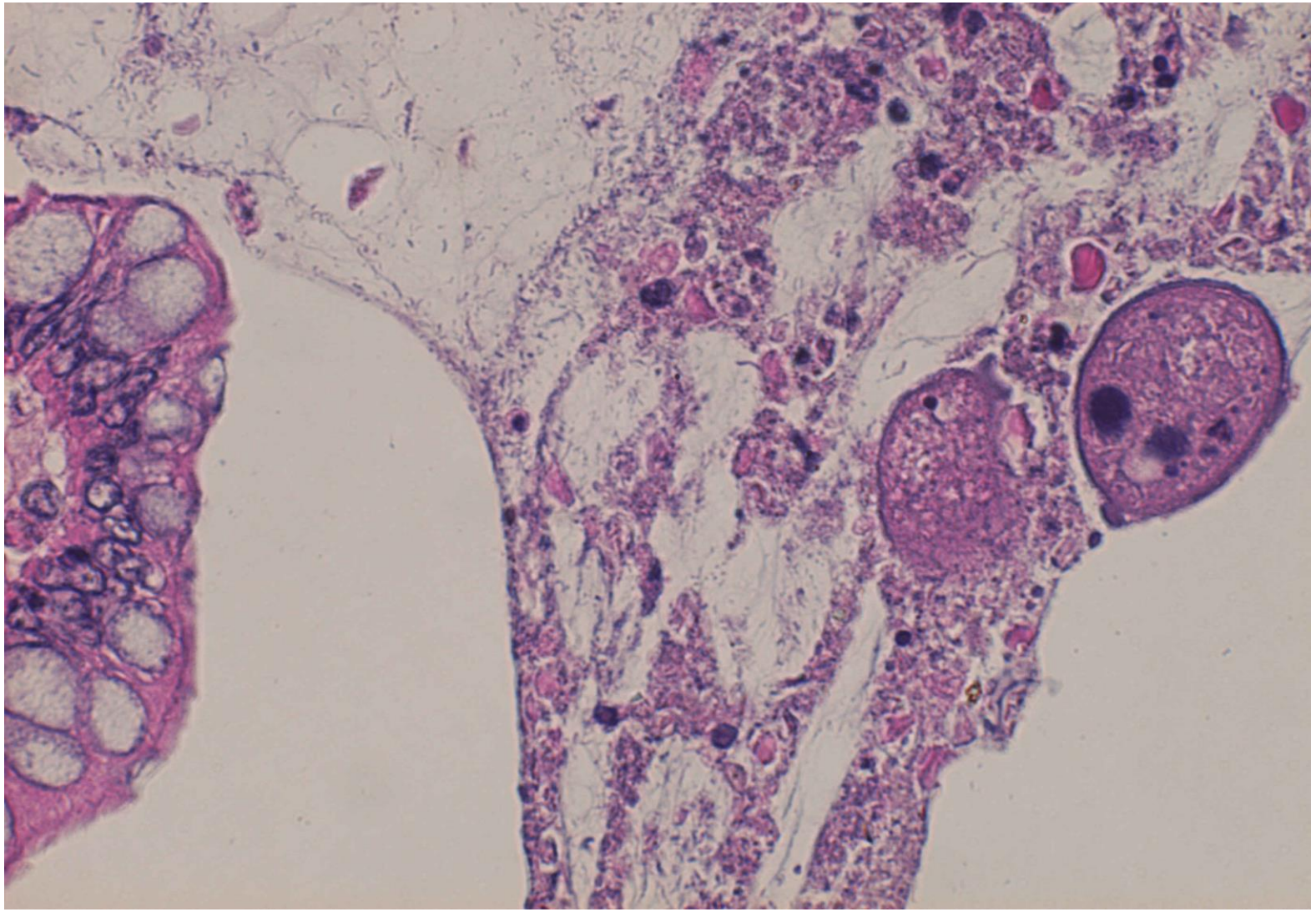
Human balantidiasis. Trophozoites invade the submucosa of the colon. H&E-2



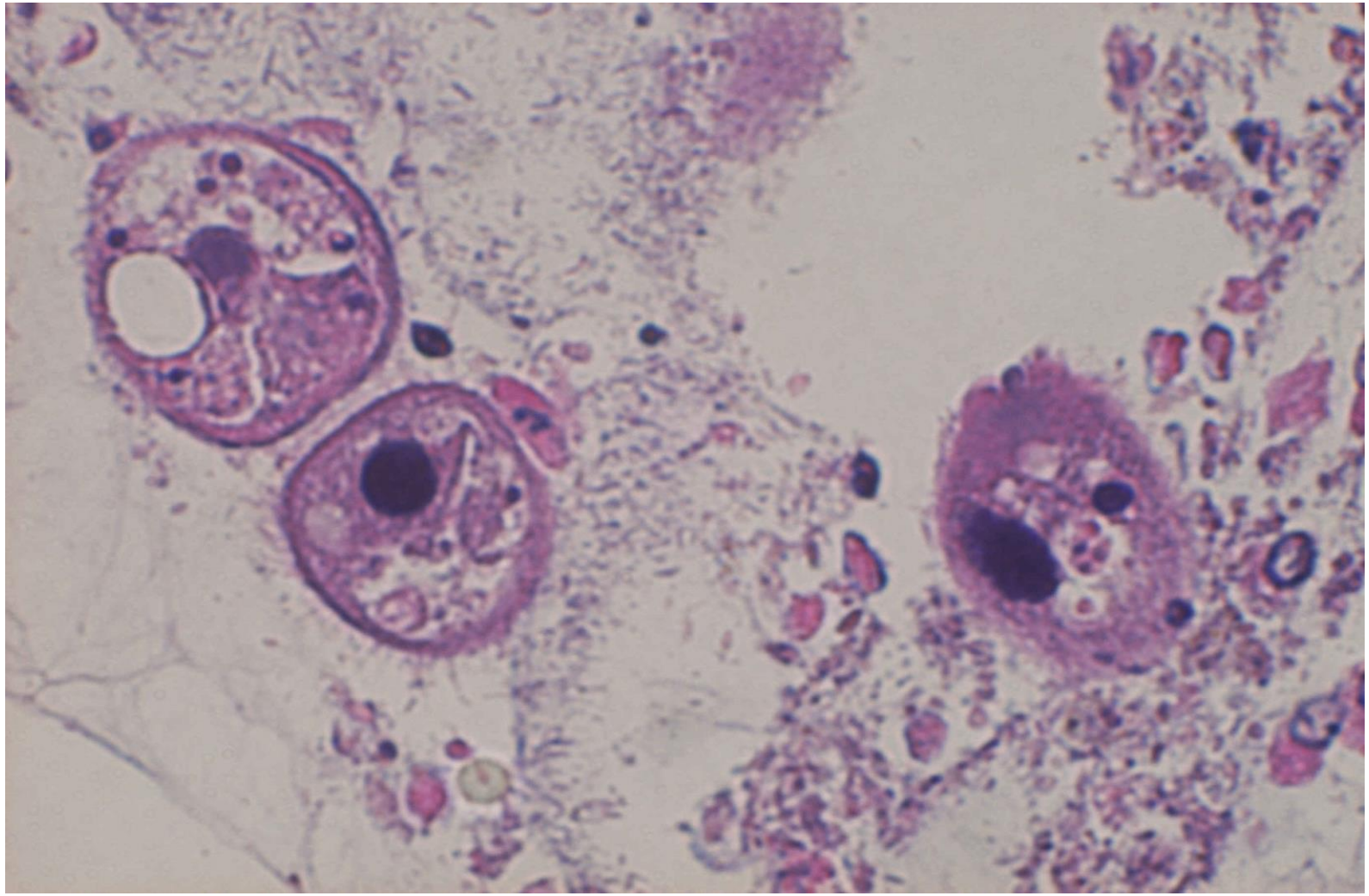
Swine balantidiasis. A trophozoite is seen on the surface of the swine colonic mucosa. H&E-a



Swine balantidiasis. A trophozoite with a peculiar macronucleus invades the ulcerated colonic wall. H&E-b



Swine balantidiasis. Trophozoites are seen in the necrotic debris on the ulcerated colon. H&E-c



Swine balantidiasis. Trophozoites with a peculiar macronucleus are seen in the necrotic debris on the ulcerated colon. H&E-d