

Supplementary material

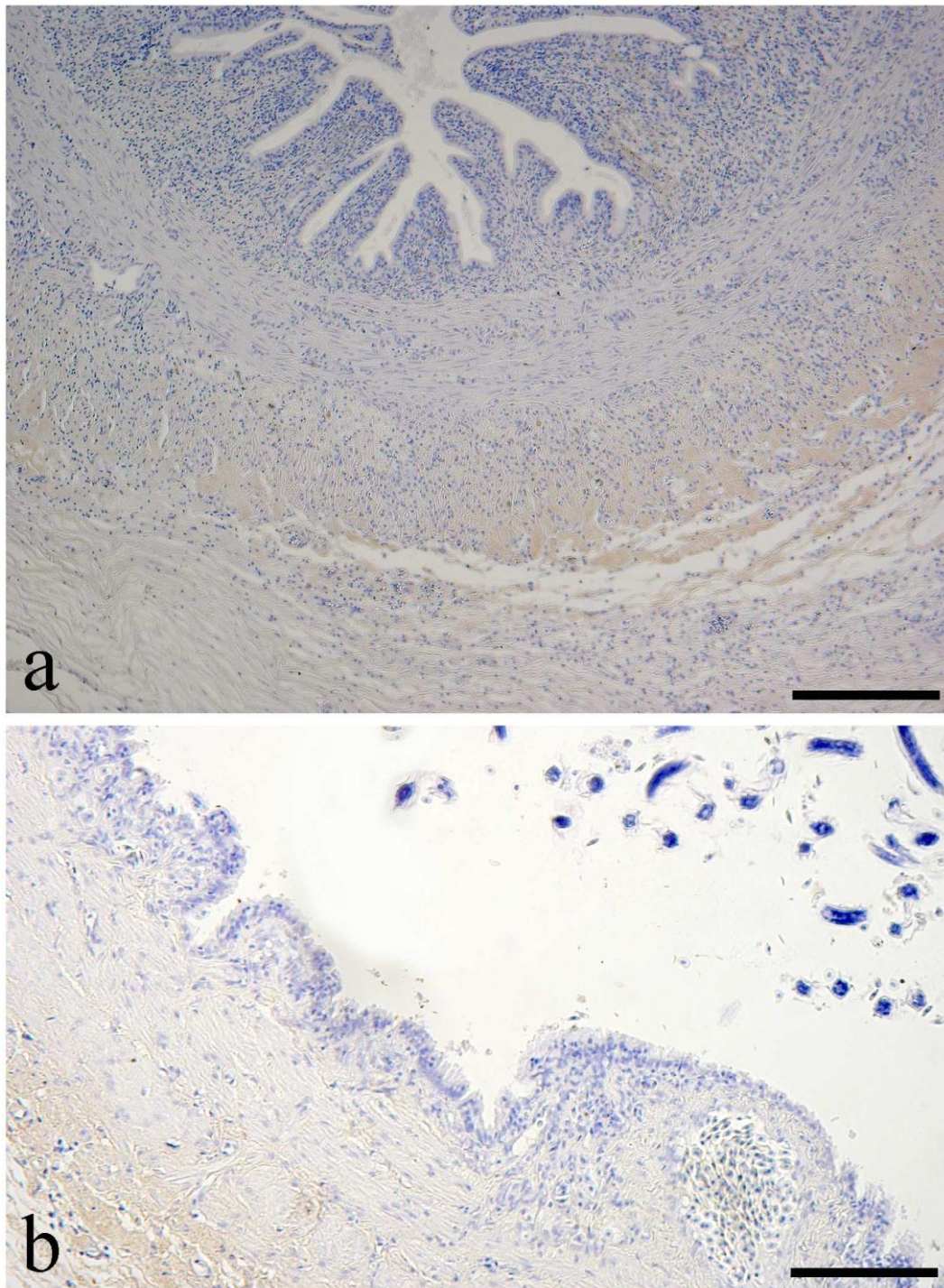


Figure S1. Negative control sections of a parasitized swimbladder of *Anguilla anguilla*. (a) The swimbladder wall is thick, and the *tunica mucosa* shows high and enlarged epithelial folds. The section was treated with PBS instead of the monoclonal mouse primary antibody, followed by incubation with the anti-mouse biotinylated immunoglobulins; scale bar: 200 μm . (b) High magnification of the *tunica mucosa* in an infected swimbladder with several *Anguilliculoides crassum* larvae in the lumen. The section was treated with PBS instead of the polyclonal rabbit primary antibody, followed by incubation with the anti-rabbit biotinylated immunoglobulins; scale bar: 100 μm .

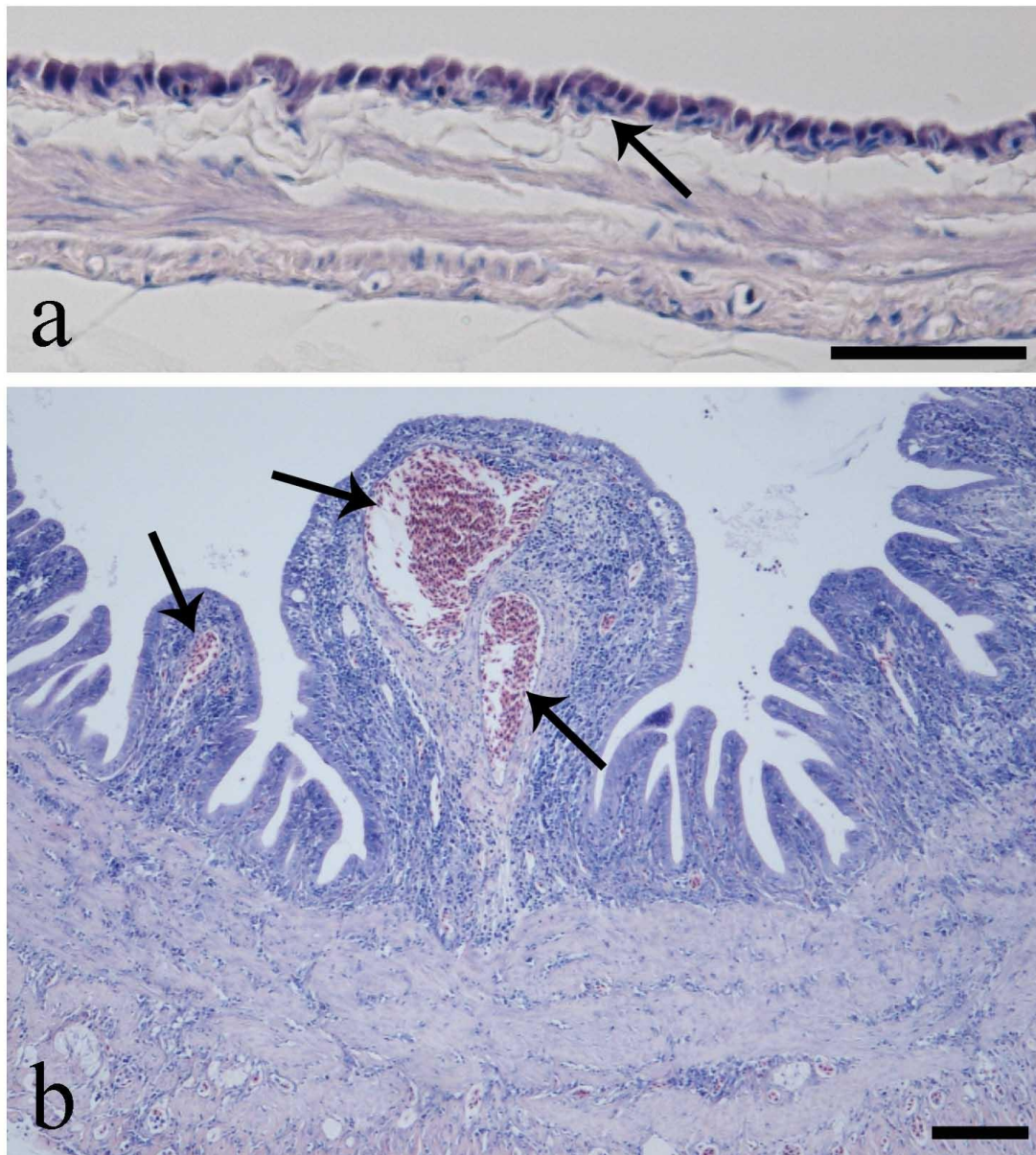


Figure S2. Histological sections of uninfected and infected swimbladders of *Anguilla anguilla*. **(a)** Uninfected SB, note short height of the epithelium (arrow), Alcian Blue/Haematoxylin and Eosin stain, scale bar = 50 μm ; **(b)** Heavily infected SB, within the epithelium papillose aspect, dilation of its blood vessels and hemorrhages are clearly visible (arrows), Alcian Blue/Haematoxylin and Eosin stain, scale bar = 100 μm .

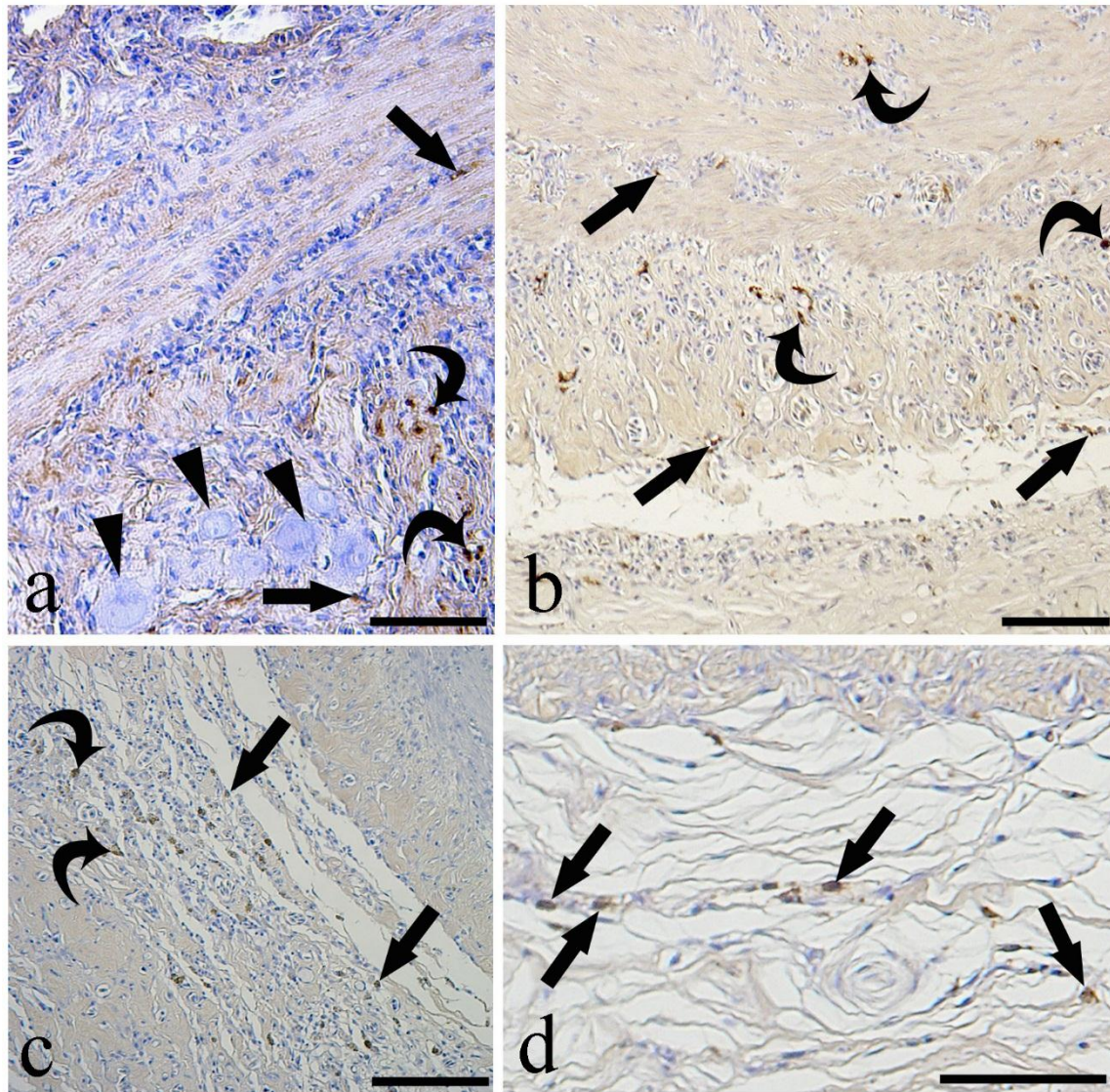


Figure S3. Immunohistochemical reactions on uninfected sections of the *Anguilla anguilla* swimbladder. (a) A low number of mast cells (arrows) and presumable macrophages (curved arrows) immunoreactive to anti-histamine are observed in the *tunica submucosa*. Arrowheads show the neurons in a nervous ganglion; scale bar: 50 μm . (b) The antibody anti-serotonin detected few mast cells (arrows) and presumable macrophages (curved arrows) in the *tunica submucosa*; scale bar: 100 μm . (c) In the *tunica submucosa*, few mast cells (arrows) and presumable macrophages (curved arrows) immunoreactive to anti-inducible-NOS are detected; scale bar: 100 μm . (d) Anti-Tryptase ϵ identifies a low number of mast cells (arrows) in the *tunica submucosa*; scale bar: 50 μm .

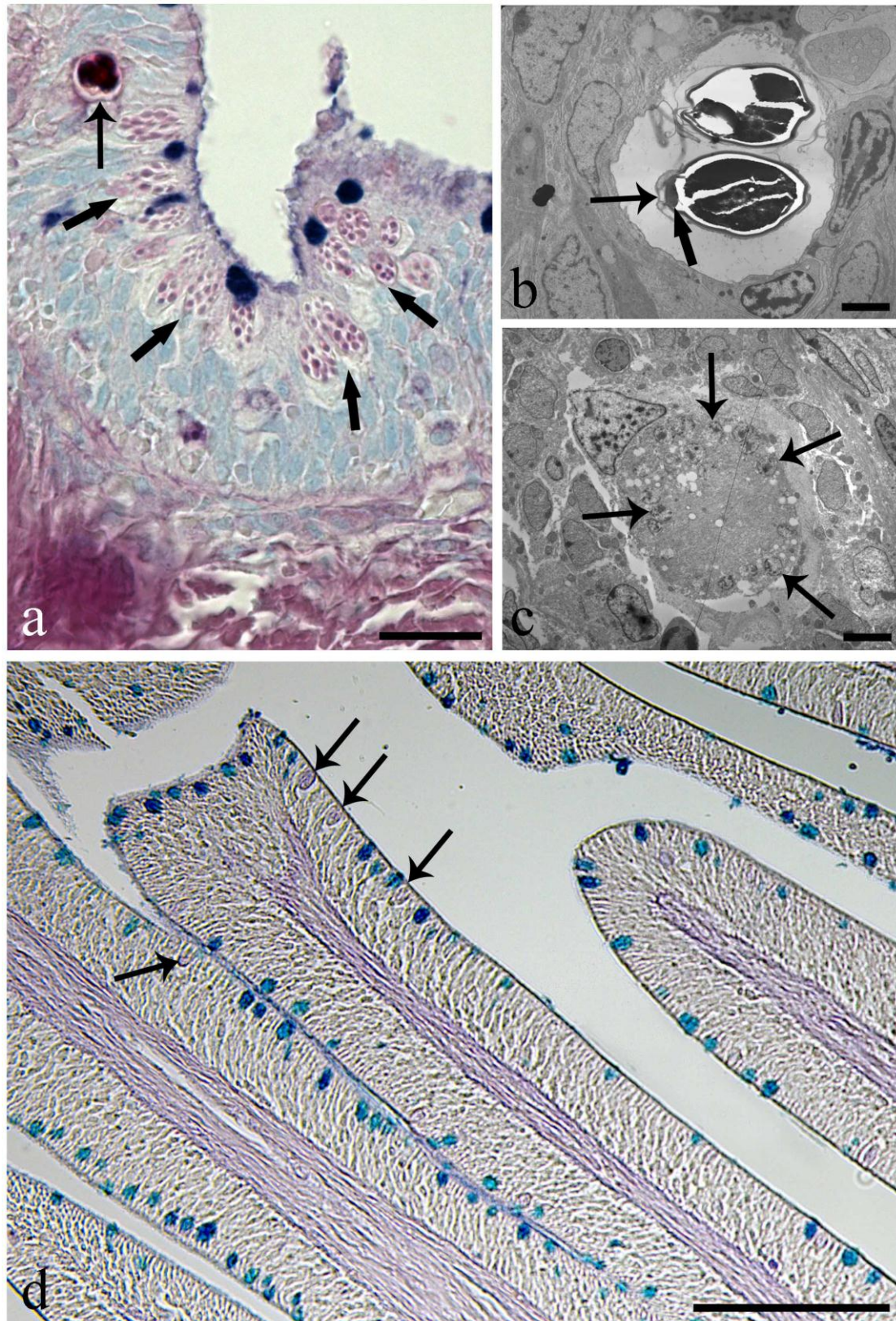


Figure S4. Light and electron microscopic figures of intestine of *Anguilla anguilla* infected with coccidian. **(a)** Note the presence of oocyst with sporocysts inside (arrow) near a cluster of the rodlet cells (thick arrows), Alcian Blue/Haematoxylin and Eosin stain, scale bar = 20 μ m; **(b)** In sporocyst Stieda body (arrow) and sub-Stieda (thick arrow) are evident, bar = 2.5 μ m; **(c)** Meront of coccidian, in its periphery nuclei in differentiation (arrows) are notable, bar = 2.8 μ m; **(d)** In the uninfected intestine of *A. anguilla*, low number of the rodlet cells are visible (arrows), Alcian Blue/Periodic Acid Schiff stain, scale bar = 100 μ m.