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RESEARCH ARTICLE

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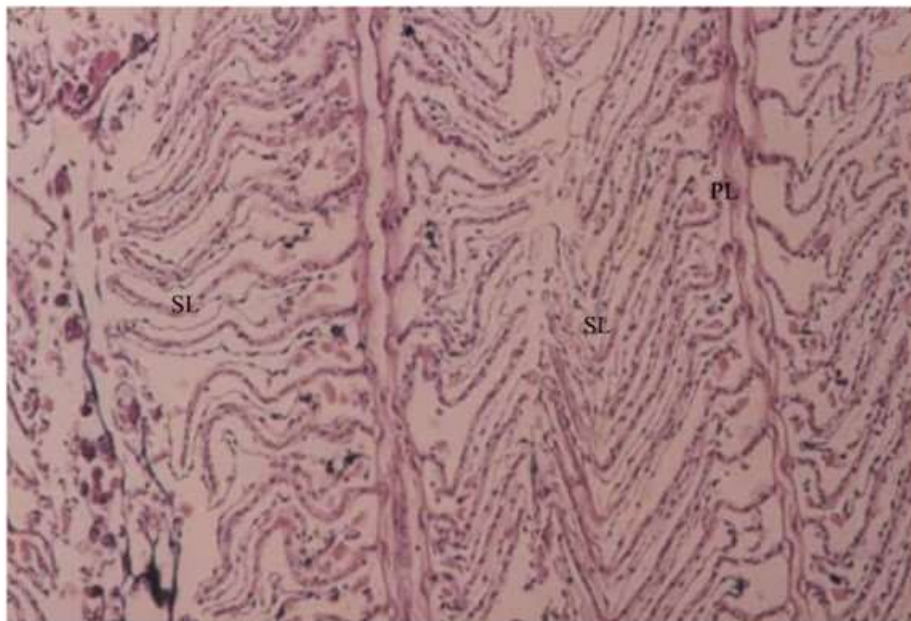
Pathological effect of water polluted with heavy metals and fish parasites on *Carangoides bajad* (Forsskål, 1775) from the Red Sea coast of Rabigh region, Saudi Arabia

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Supplementary material

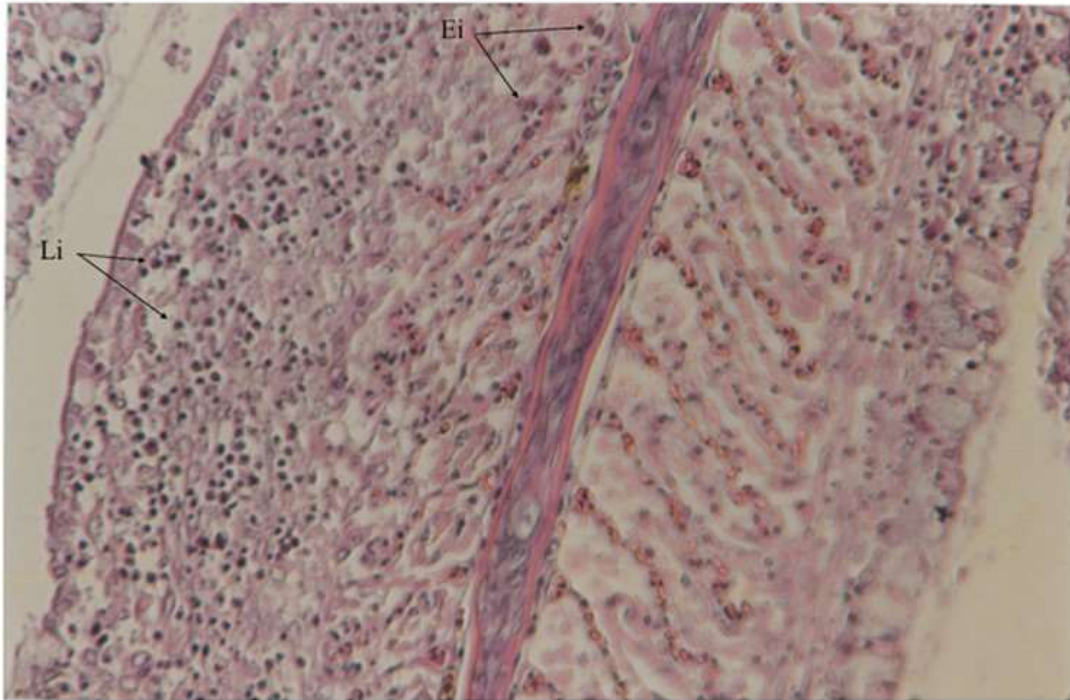
Supplementary plate (1): Primary (PL) and Secondary Lamellae (SL) and proliferation of chloride cells at basalamellar regions (H. & E. ; bar = 100 μ m).



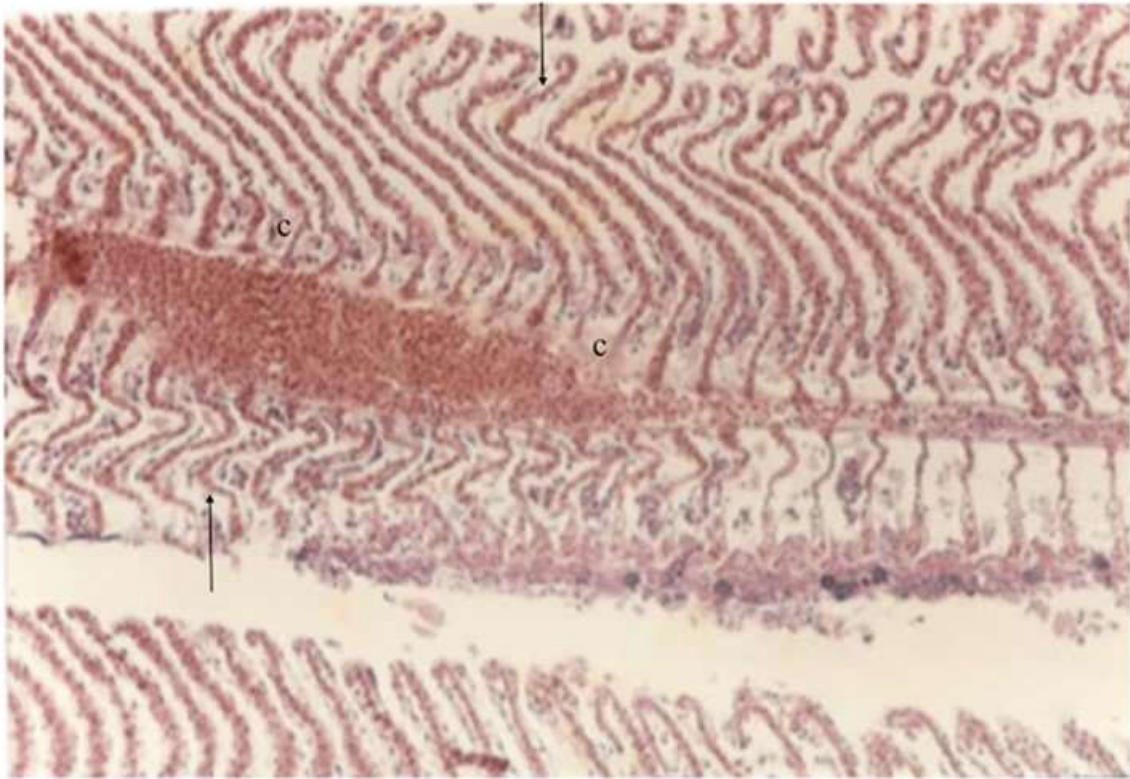
Supplementary plate (2): Gill filaments of normal appearance from fish captured showing Central Blood channels (BC) ; chloride cells (C) on Primary Lamellae (PL) and Secondary Lamellae (SL) with proliferation of chloride cells at basalamellar regions, Respiratory Epithelia (RE) and Lamellar Blood Sinus (LS) (H. & E. ; bar = 50 μ m).



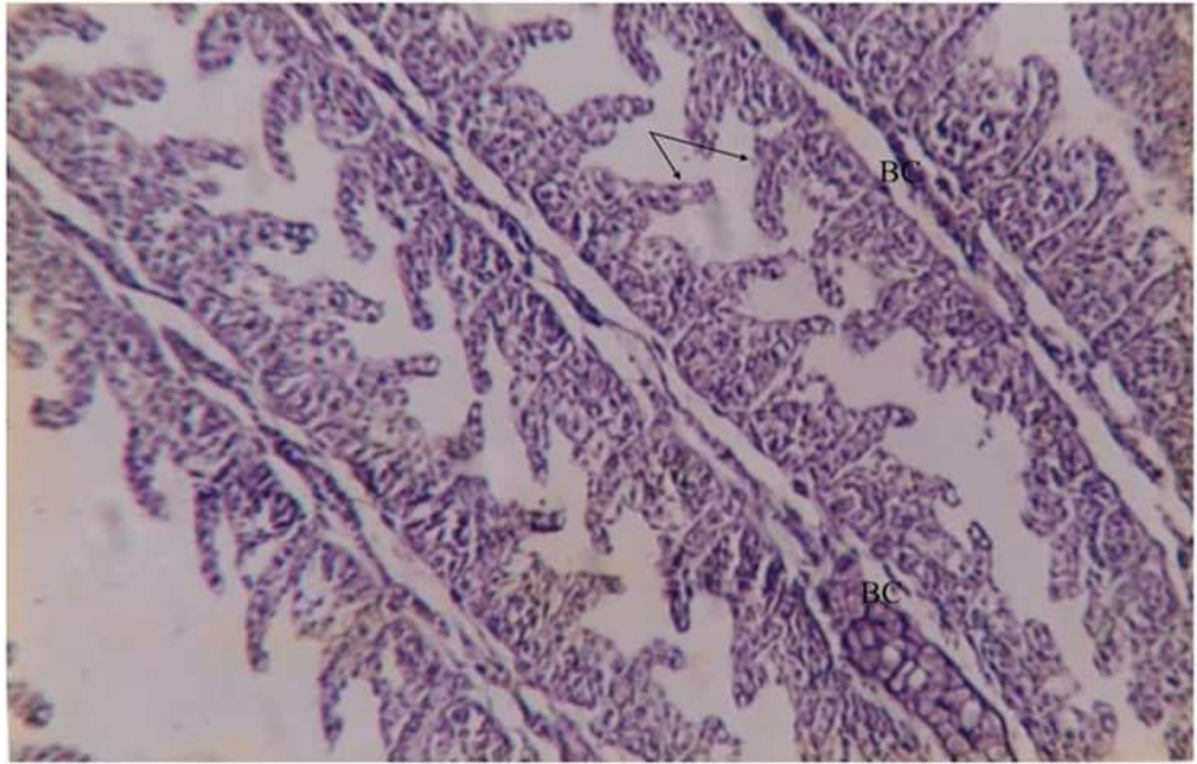
Supplementary plate (3): Parasitic infection on the gill filaments showing damage in secondary lamellae and Lymphocytic infiltration (Li) on left side and Eosinophitic infiltration (Ei) on right side (H. & E. ; bar = 50 μ m).



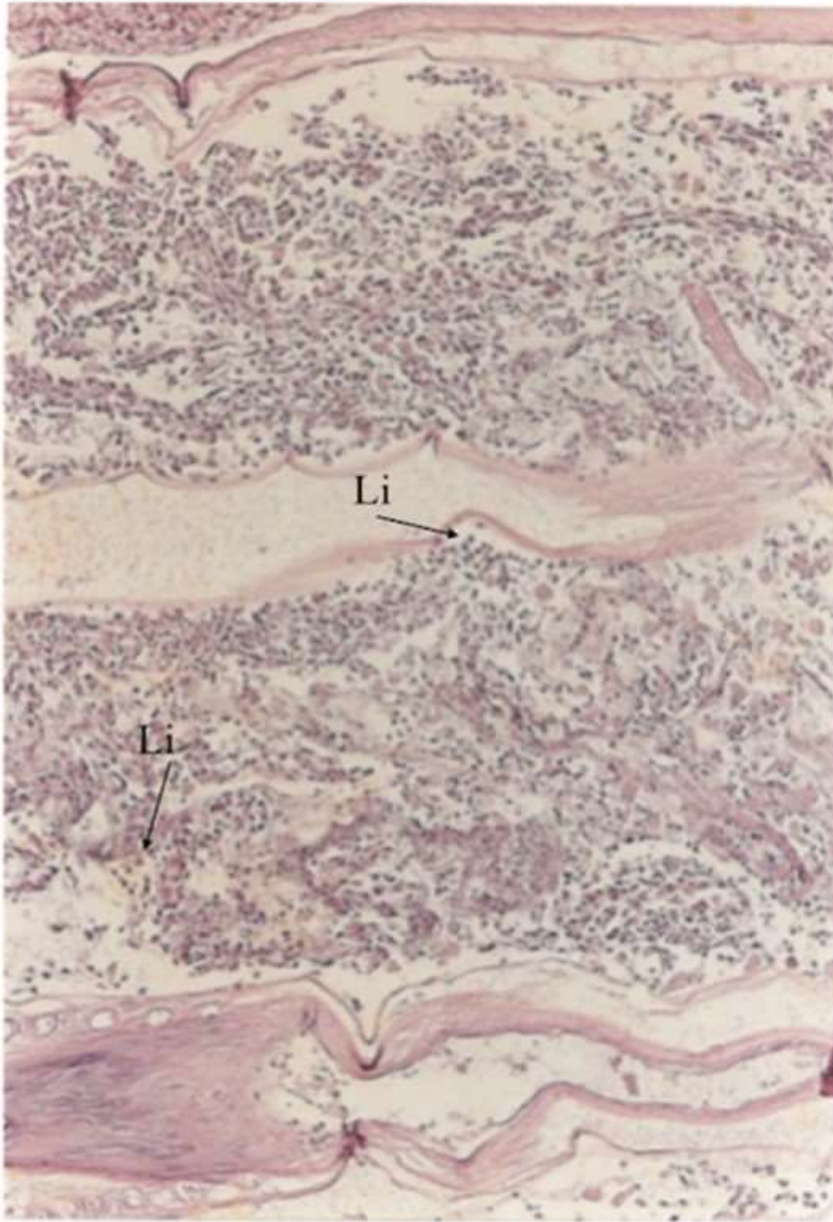
Supplementary plate (4): Gill filaments from fish lamellar curling and twisting (arrows) ; separation and spreading of Colored cells (C) and another gill filament fusion of the secondary lamellae (H. & E. ; bar = 100 μ m).



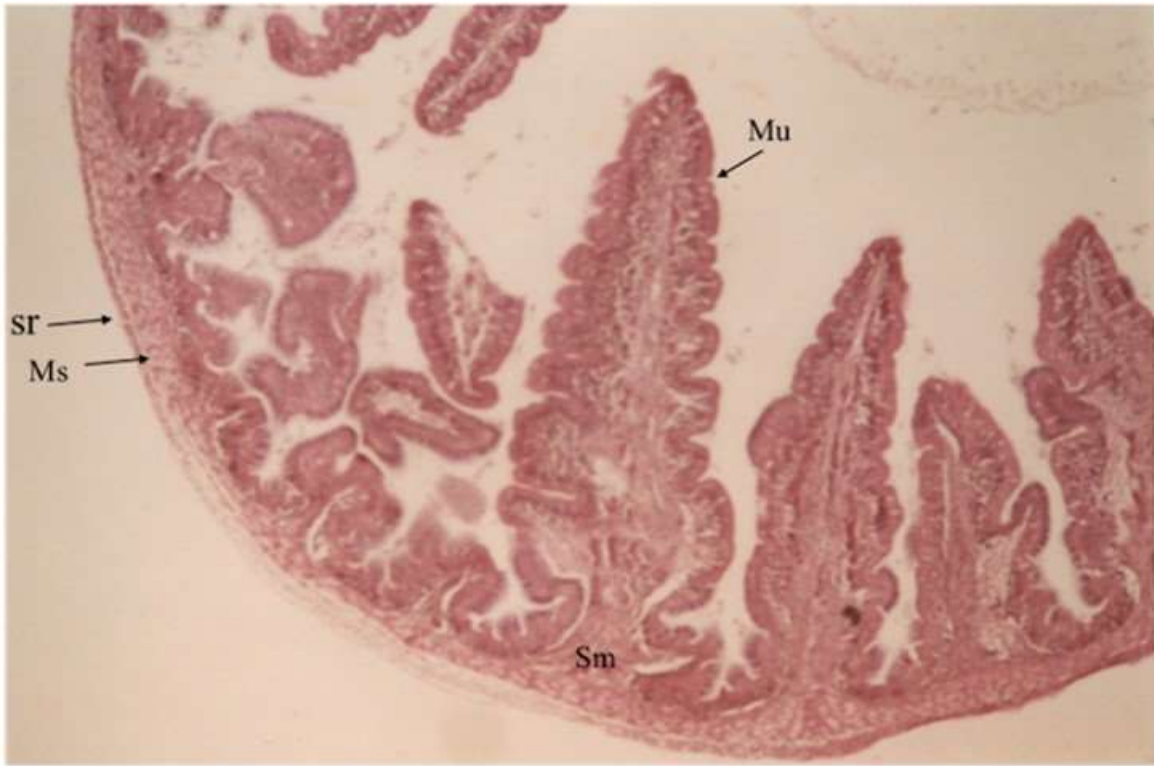
Supplementary plate (5): Atrophy of gill filaments, fusion of secondary lamellae (arrows) and congestion of the Central Blood Channels (BC) (H. & E. ; bar = 100 μ m).



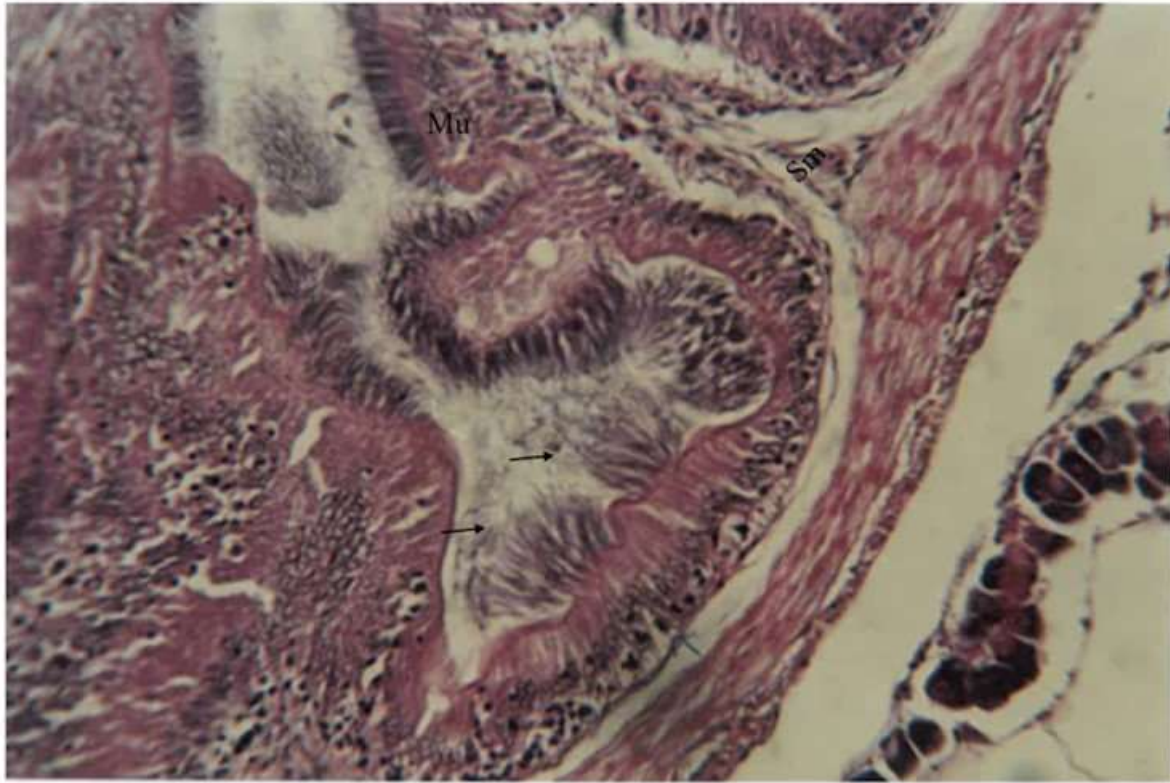
Supplementary plate (6): Sloughing of respiratory epithelia ; Lymphocytic infiltration (Li) and parasitic protozoa (H. & E. ; bar = 100 μ m).



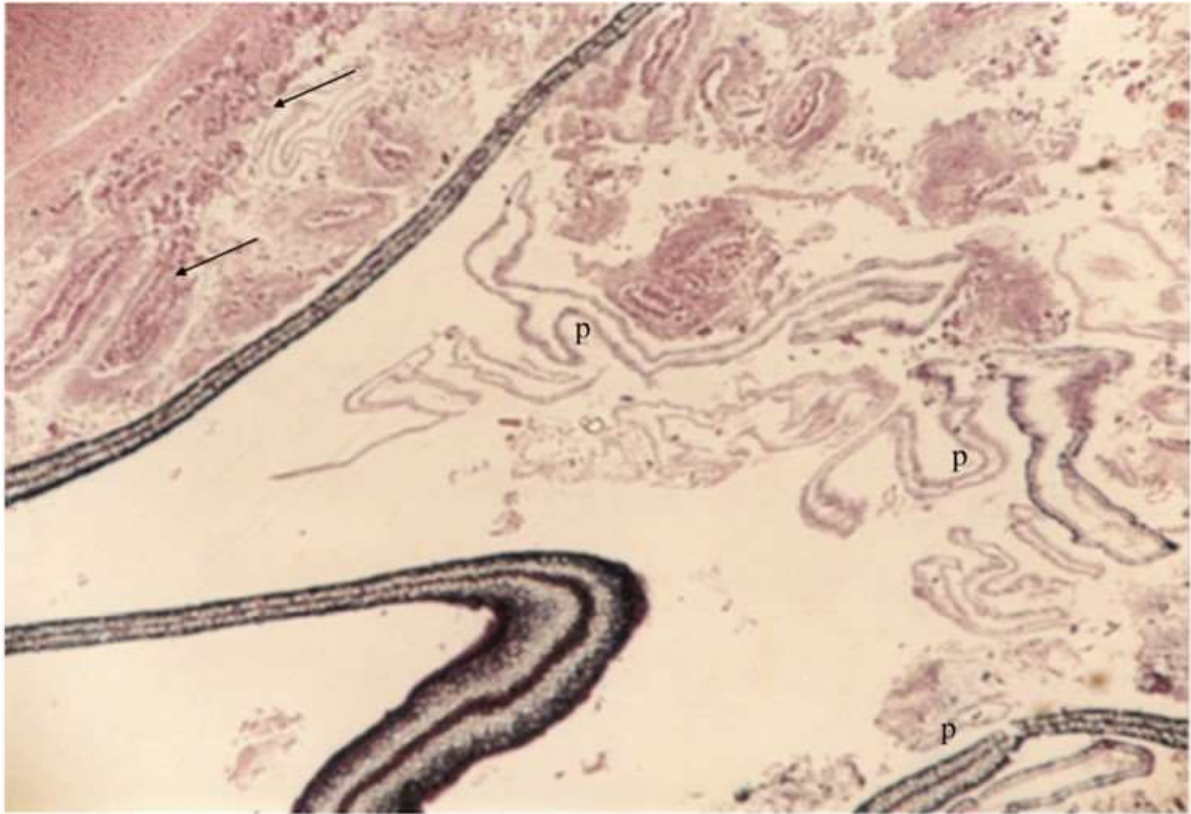
Supplementary plate (7): Intestinal wall of fish showing Serosa (Sr), Muscularis (Ms), Submucosa (Sm) and Mucosa (Mu) (H. & E. ; bar = 100 μ m).



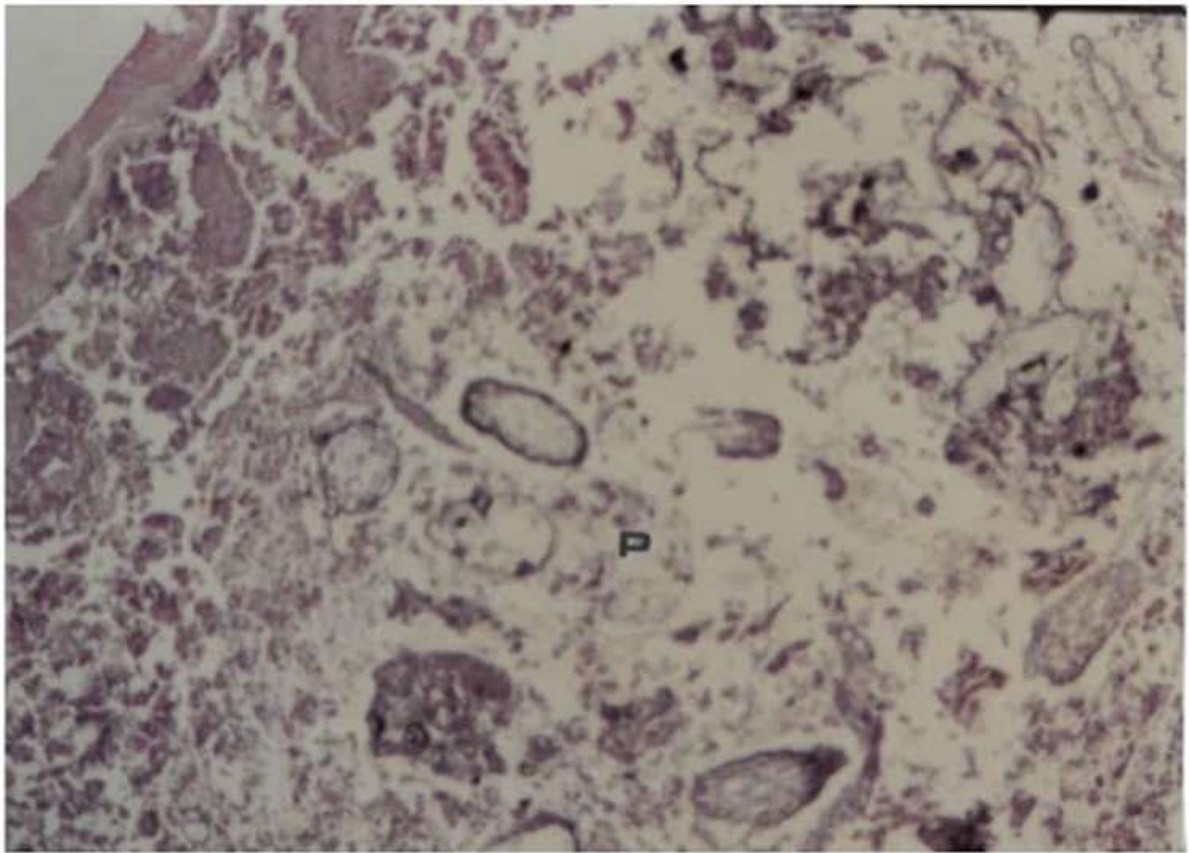
Supplementary plate (8): Intestines of fish showing separation of Mucosa (Mu) from Submucosa (Sm), abnormal long microvilli of mucosal epithelial cells (arrow) (H. & E. ; bar = 20 μ m).



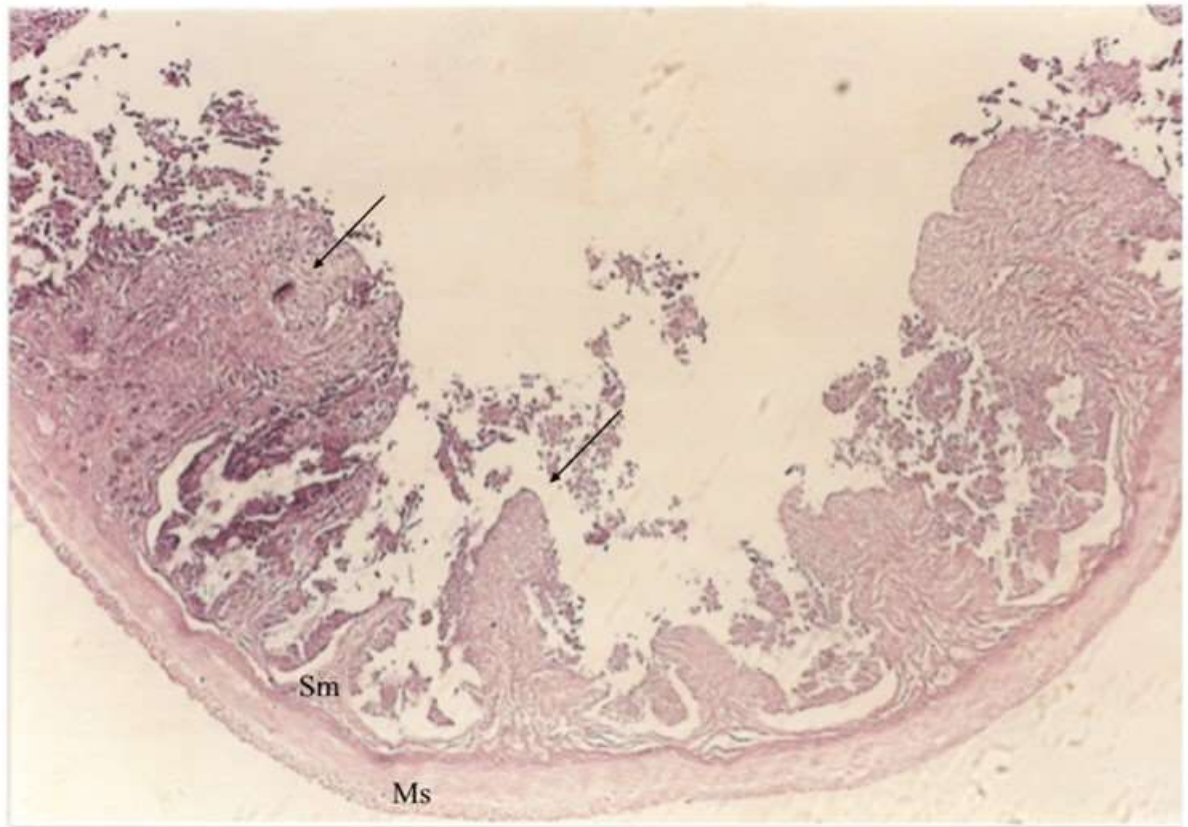
Supplementary plate (9): Parasitic infection in the intestines of fish showing damage and hemorrhage of the intestinal villi (arrow), dead tissues and Parasites (P) in lumen (H. & E. ; bar = 200 μ m).



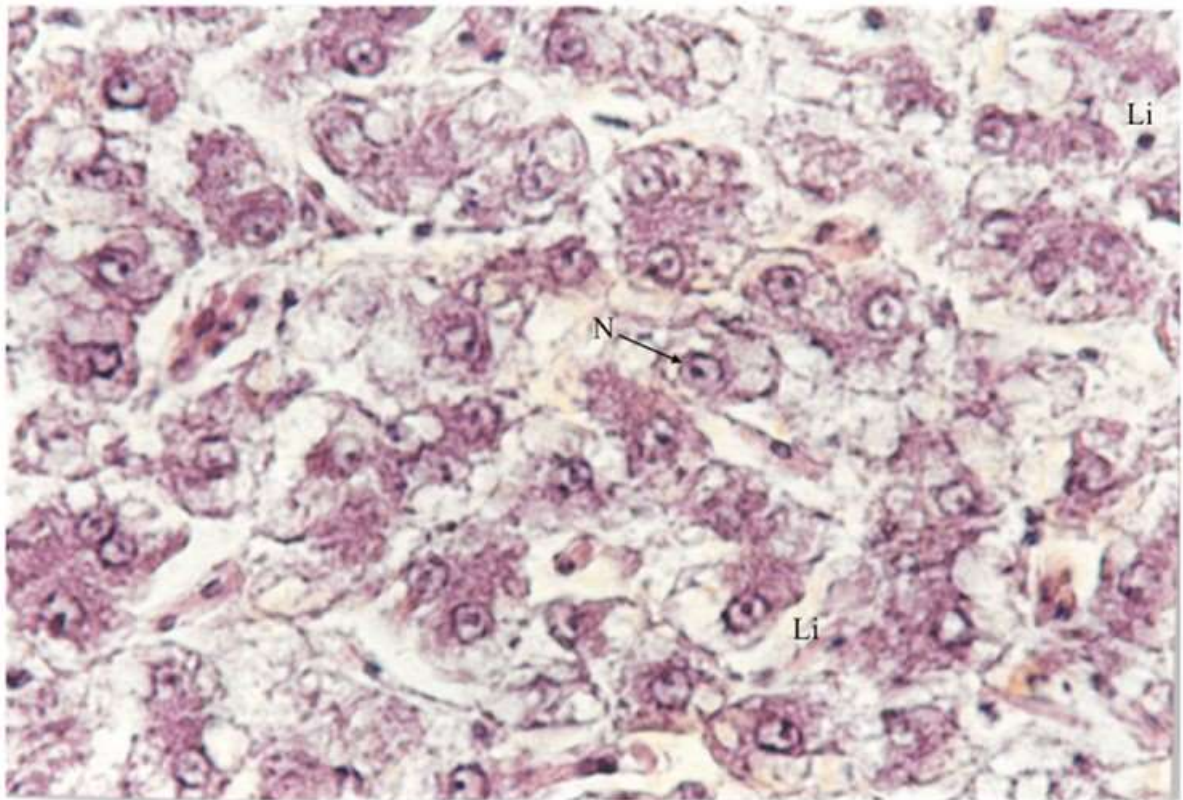
Supplementary plate (10): Damage and sloughing of the intestinal villi and Parasitic infection (P) (H. & E. ; bar = 140 μ m).



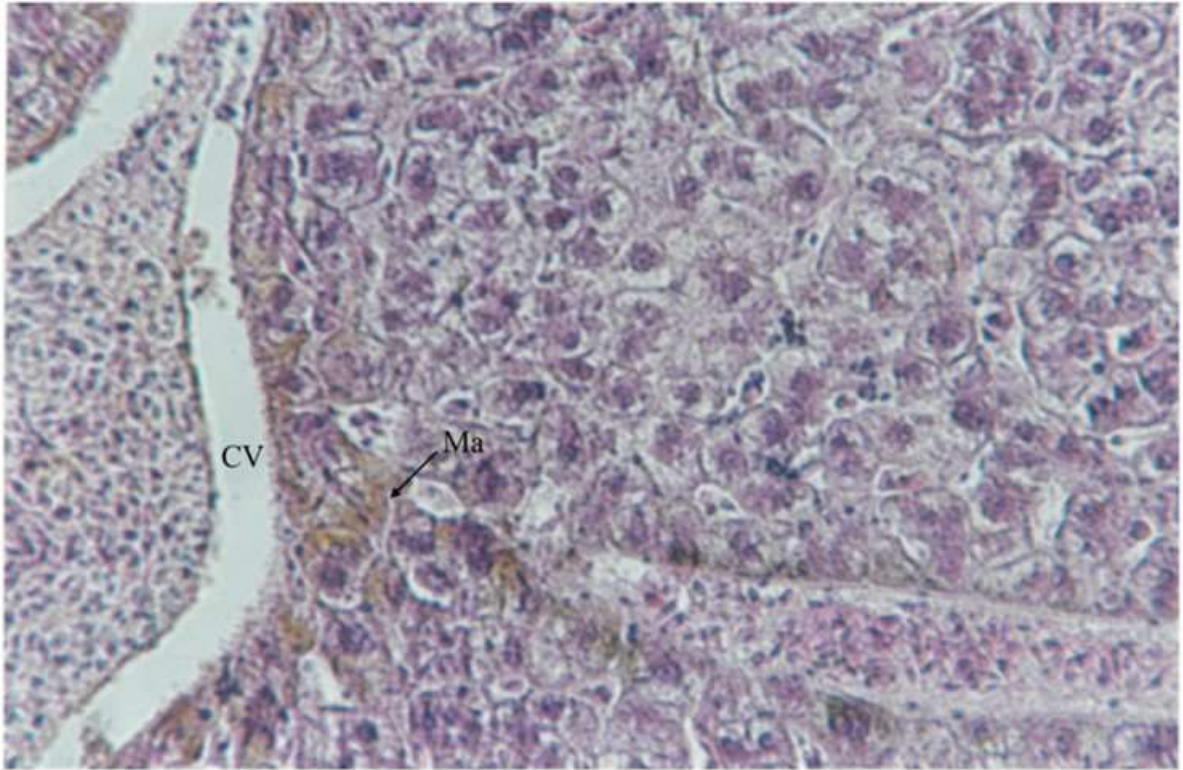
Supplementary plate (11): Separation of Muscularis (Ms) from Submucosa (Sm) and damage villi (arrow) (H. & E. ; bar = 140 μ m).



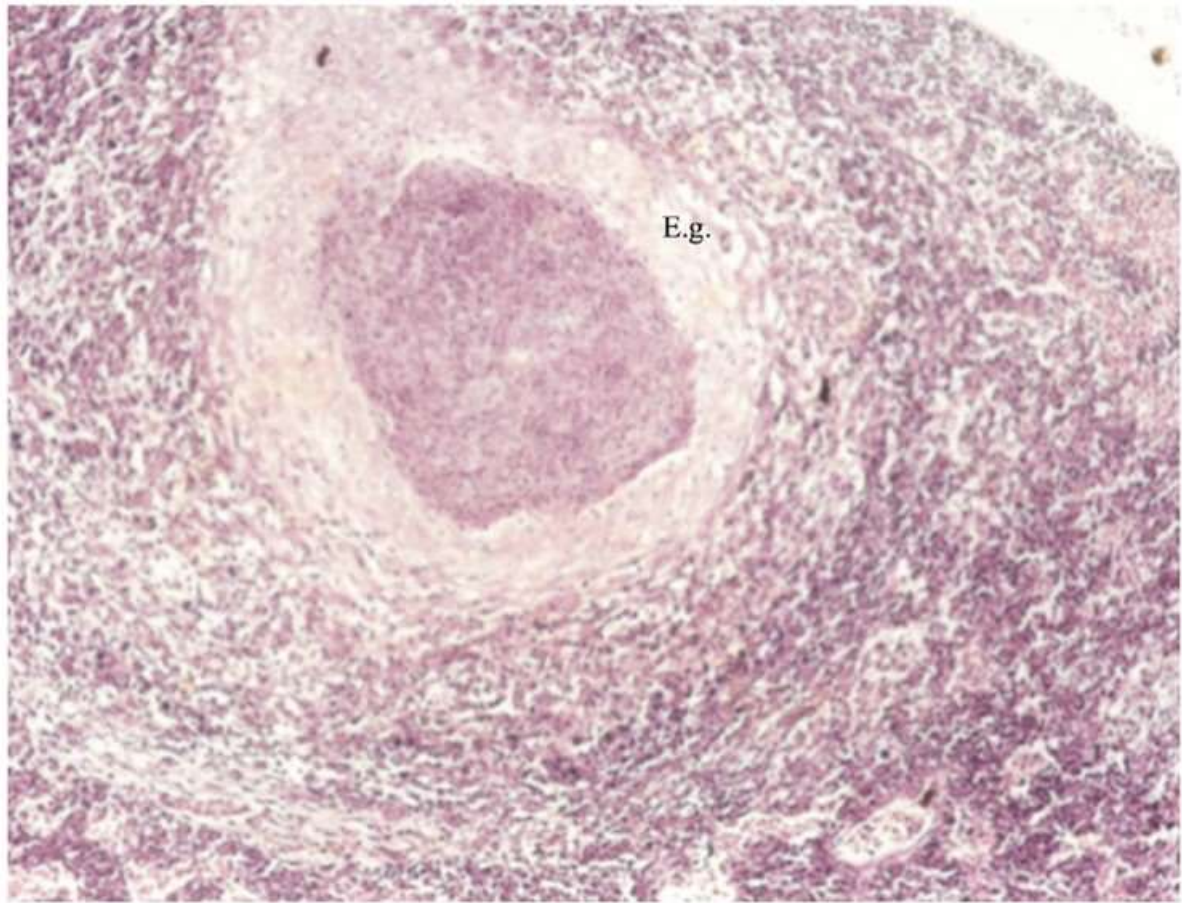
Supplementary plate (12): Central Nuclei (N) of a vacuolated hepatocytes shown and Lymphocytic infiltration (Li) (H. & E. ; bar = 20 μ m).



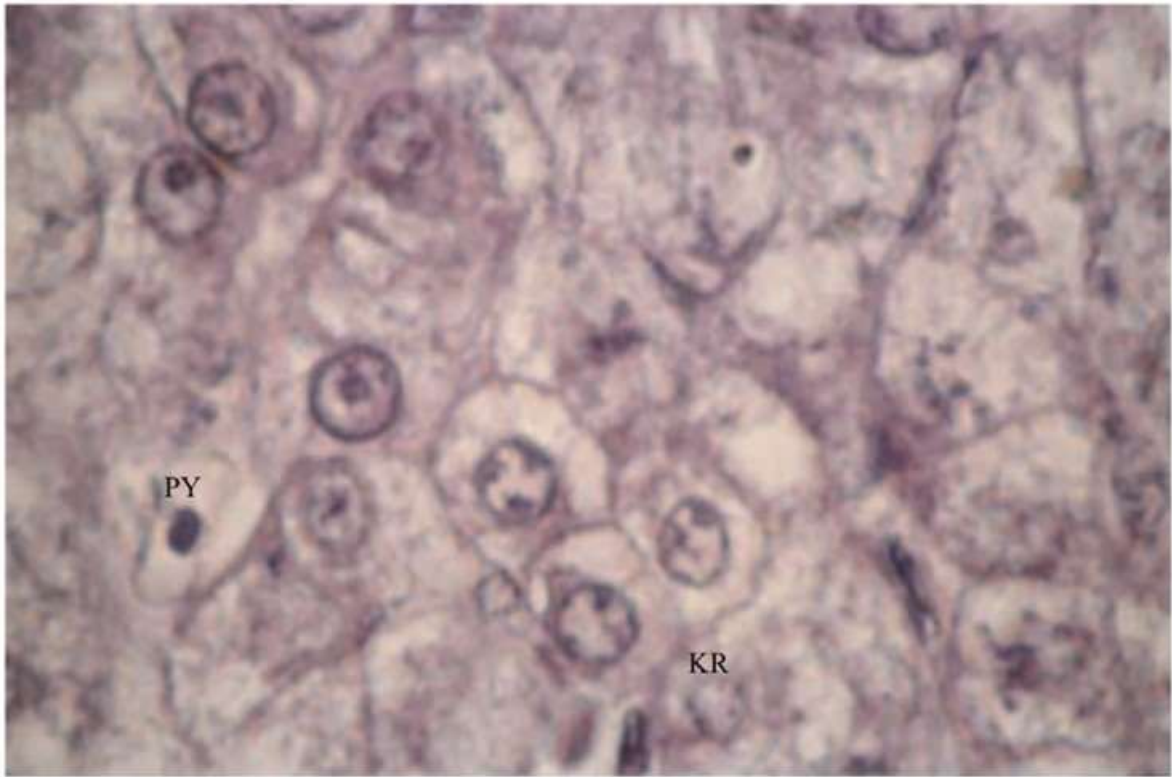
Supplementary plate (13): Vacuolar degeneration of hepatocytes, dilation and stasis of Central Vein (CV) with a noticeable accumulation of Macrophages (Ma) around Central vein (H. & E. ; bar = 35 μ m).



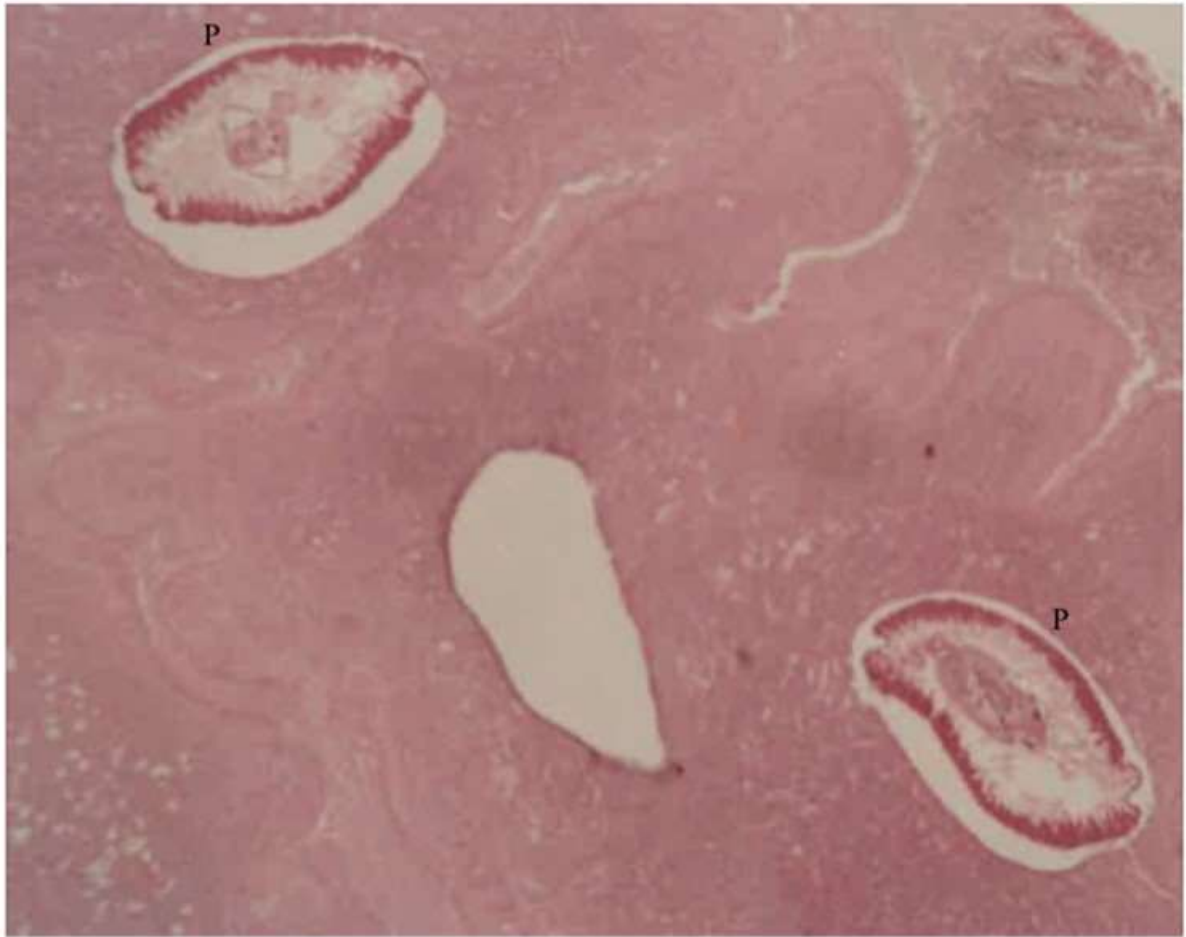
Supplementary plate (14): Encapsulated granuloma (E.g.) (H. & E. ; bar = 100 μ m).



Supplementary plate (15): Cellular swelling (ballooning degeneration) and Pyknosis (PY), Karyolysis (KR) of nuclei ; and sinusoidal collapse (H. & E. ; bar = 30 μ m).



Supplementary plate (16): Parasitic infected liver with a Parasitic worm (P) in hepatic tissue and damage in the hepatic tissue around infected zone (H. & E. ; bar = 100 μ m).



Supplementary plate (17): Parasitic worm (P) in hepatic tissue causing damage of hepatic tissue around infected zone (H. & E. ; bar = 50 μ m).

