

# HISTOPATHOLOGICAL ALTERATIONS OF THE GILLS, LIVER AND KIDNEYS IN *ANABAS TESTUDINEUS* (BLOCH) FISH LIVING IN AN UNUSED LIGNITE MINE, LI DISTRICT, LAMPHUN PROVINCE, THAILAND

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**Abstract.** The acidity of mine water generally makes it toxic to most organisms. The gills, kidneys and livers of *Anabas testudineus* Bloch fish inhabiting the acidic water (pH 2-4) of an unused lignite mine in Li District, Lamphun Province, Thailand were examined and compared to those of farmed fish. Tissue abnormalities were found in all investigated organs. Deterioration and telangiectasia of gill filaments were found. Liver tissue revealed hemorrhages, blood congestion and necrotic cells with mononuclear cell infiltration. In addition, hypertrophy of the epithelial cells of the renal tubules with reduced lumens, aneurisms of the renal tubules, and contractions of the glomeruli in the Bowman's capsule were observed. These histopathological findings suggest the acidic water in this habitat causes severe damage to the internal organs of fish and consequently alter their physiological status. Since the water in this pond is utilized by local people, these findings highlight the need for adequate water treatment.

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