

Kamonpom Masawang 2006: Pathogenesis of Striped Catfish *Pangasius sutchi* Fowler Exposed to Acenaphthene. Master of Science (Biology), Major Field: Biology, Department of Zoology.

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The total of 90 striped catfish, *Pangasius sutchi* Fowler were carried out to investigated the effects of acenaphthene. Two groups of 30 fish each were dietary exposed to two concentrations of the acenaphthene diet, 10 and 150 mg/kg body weight and the other 30 fish fed non acenaphthene mixed diet was a control group. After 4 and 8 weeks of the experiment, fifteen fish were randomly collected from each group for histological and some hematological parameters investigation. There was no fish mortality for any groups during the experiment. By comparing with the control group, histopathological alterations were noticed on liver, kidney, spleen and blood. Four weeks after exposure to both concentrations, liver revealed hydropic and necrotic hepatocytes, granuloma formation, a large number of melanomacrophage and melanomacrophage center accumulation, together with necrosis of the bile duct and the central vein epithelium. Macrophage and lymphocyte aggragation in the damage tissue were also included. Angiogenesis occured at 8 weeks after the exposure, apparently as result of chronic inflammation and repair. Lesions observed in the kidney of the exposed fish were characterized by dilation of glomeruli, glomerular degeneration and necrosis of the tubule epithelium. The spleen of the experimental fish at 4 weeks of exposure showed remarkable increase inside of red pulp. A lot of large hemorrhagic areas and dark brown melanomacrophage centers were obviously noticed. After 8 weeks of the experiment, the number and size of hemorrhagic areas decreased, including macrophage accumulation in the red pulps. Blood cell alterations were noticed as the damage of erythrocyte nuclear envelop, lymphocyte vacuolization in the fish exposed to 150 mg/kg body weight diet. From the results, the high concentration (150 mg/kg body weight) exposure fish produced greater histopathological effects than the lower concentration (10 mg/kg body weight). With comparable responses of fish observed at 4 and 8 weeks after exposure of both concentrations, histopathological findings revealed more severe relating on the concentration of acenaphthene and duration of exposure. In addition, acenaphthene did not cause any change in the percentage of hematocrit and the hemoglobin concentration. Significantly, the high percentage of lymphocyte was observed whereas the percentage of neutrophil and basophil decreased in the high concentration group, by comparing with those of the control.

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