

**Effects of GnRHa on plasma sex steroid hormones of river catfish *Hemibagrus nemurus* (Valenciennes 1840).**

**ABSTRACT**

The effect of gonadotropin releasing hormone analogue (GnRHa) on plasma sex steroid hormones of river catfish *Hemibagrus nemurus* was studied. Enzyme linked immunosorbent assay (ELISA) was used to measure the hormones. The fish were treated with saline (control) and GnRHa at various doses of 5 µg/kg, 20 µg/kg and 50 µg/kg body weight (BW) of fish. Blood samples were collected at 0, 6, 12 and 24 h post hormone administration. The results showed that GnRHa elevated the plasma sex steroid hormones even at a low dose of 5 µg/kg. Significant increase ( $p < 0.05$ ) in plasma sex steroid levels were observed with 20 µg/kg and 50 µg/kg BW GnRHa treatments and a dose of 5 µg/kg BW GnRHa produced a slow response to steroidogenesis. Treatment with 50 µg/kg BW GnRHa produced the best result. The highest level of testosterone, 11-ketotestosterone and 17β-estradiol were observed at 24 h for all treatments. The results indicated that GnRHa increased steroid production in the plasma of *H. nemurus*. Therefore, it can be used as an inducing agent for the control of reproduction in *H. nemurus*.

**Keyword:** Gonadotropin releasing hormone analogue (GnRHa); *Hemibagrus nemurus*; testosterone; 11-ketotestosterone; 17β-estradiol.