



**THE ROLE OF HCG HORMONE IN ARTIFICIAL
PROPAGATION OF AFRICAN CATFISH (*Clarias
gariepinus*) AND ITS EFFECT ON REPRODUCTIVE
PERFORMANCE AND HORMONAL PROFILE**

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ABSTRACT

This study was conducted to investigate the effect of different doses injection of HCG hormone on fecundity, stripping response, reproductive performance, serum sex hormones and biochemical parameters of African catfish (*Clarias gariepinus*). African catfish spawners were intermuscularly injected with different doses of HCG (500 (T₁), 1500 (T₂), 3000 (T₃) and 6000 (T₄) IU/kg female), and group is not injected as a control; males were injected at half the female dose. The results showed that, fish group injected by 6000 IU/ kg female had the highest ovaries weight, gonadosomatic index, absolute fecundity and relative fecundity, but, recorded the lowest value of ovulated egg diameter. The lower latency period was recorded with 6000 IU/ kg female (12 h). The highest numbers of fertilized eggs/ female and fertilization rate, number of larvae/ female and hatching rate were observed with 6000 IU/ kg female. While the incubation egg with 500 IU/ kg female don't showed any hatching larvae. In females, T₄ reflected the lowest level of FSH and the highest level of LH and progesterone compared to other treatments. The control group reflected the highest level of FSH and estrogen. In males, serum FSH, LH, progesterone and estrogen in male groups injected with HCG were relatively higher than those recorded in the control group. The highest level of testosterone was recorded in treatment injected with the highest dose of HCG and decreased in other treatments. Hormonal injection of HCG in male and female leaded to disturbance in all biochemical parameters such as serum total protein, glucose level, (AST and ALT activates), cholesterol, cortisol and (creatinine and urea) concentrations. It was observed, HCG hormone has successfully and accelerate induced spawning in African catfish (*Clarias gariepinus*) and increased in reproductive performance with the increase in HCG dosage.

Keywords: African catfish, HCG hormone, induced spawning, fecundity, latency period, reproductive performance, serum sex hormones and biochemical parameters.