

Time requirement for sexual maturity of the African catfish *Clarias gariepinus* (Burchell, 1822) in captivity

Subir Kumar Juin & Panchanan Nath*

Department of Zoology, Visva-Bharati, Santiniketan-731 235, West Bengal, India

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Fish, like other oviparous vertebrates, possesses evolutionary advantages of sexual reproduction, which occurs after the attainment of sexual maturity. To understand the time required for attaining sexual maturity by the African catfish, *Clarias gariepinus* in captivity, juvenile catfish (body wt ~3 g) of one-two months old were collected during late preparatory period (April) and maintained in laboratory tank for 15 months (April 2012-July 2013) under normal temperature, photoperiod, rainfall and food availability. Results indicate that there was a significant ($P < 0.05$) increase in body weight and gonad weight (GSI) in both male and female catfish sampled at 12th and 15th month compared to those sampled at earlier time periods (3rd, 6th and 9th month). Plasma growth hormone (GH) level was also significantly ($P < 0.05$) higher in both male and female catfish at 12th and 15th month than those of preceding months. Histological observation revealed that ovary contained mostly yolky oocytes and testis contained spermatozoa in females and males respectively sampled at 12th and 15th month. Plasma estradiol-17 β (E₂) and testosterone (T) levels were higher in female and male catfish, respectively sampled at 12th and 15th month compared to those of others. Similarly, level of plasma vitellogenin (Vg) in female catfish was also significantly higher. The above findings, thus, suggest that the catfish, *C. gariepinus* attains sexual maturity after one year of its age to facilitate competency of breeding in successive years.

Keywords: Estradiol-17 β , Gonad weight, Growth hormone, Testosterone, Vitellogenin