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Growth hormone (GH) and sex steroids involved in growth and reproductive maturation in fish (*Oreochromis mossambicus*)

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In teleost fishes, growth hormone (GH) and sex steroids appears to play an important regulatory role in several physiological events, including reproduction, growth and development. GH secretion is regulated by hypothalamic neuroendocrine factors that either act directly on the somatotrophic cells in the pituitary gland, or modulate the secretion or activity of other neuroendocrine factors. In addition, the degree of the neuroendocrine influence on GH release is influenced by the nutritional and reproductive state of the fish. Thus, the neuroendocrine control of GH secretion in fishes is complex, and still poorly understood. In this study, we clearly state that sex steroids 11-ketotestosterone (11-KT) levels peaked during the transition from spermatogenesis to spermiogenesis at 90 daf, and estradiol-17b (E2) levels increased during transition from the previtellogenic to mature vitellogenic stages at 75 daf. The maturation inducing hormone 17a-20b-dihydroxy-4-pregnen-3-one (DHP) involved final gametes maturation increased during reproductive maturation in both male and female. A consistent positive relationship between body growth, gonadal GH, sex steroids and advancement of spermatogenesis and oogenesis clearly indicate that these factors are essential in the reproductive endocrine axis to stimulate overall body growth regulation of developing juvenile fish.

Biography

Kiran Bhatta has completed his Master's and PhD from United Graduate School of Agricultural Sciences (UGAS), Ehime University, Japan with major in Bio-resource Production Sciences specialized in fisheries conservation and management since 2006 -2012 AD. Currently he works for World Vision Advocacy Forum (WVAF) at the National NGO of Nepal. His current research and working area is primarily involved in fisheries conservation and management. This program is designed to provide training in ecological principles, field research techniques, and the application of these tools for the management and conservation of fisheries resources. The program responds to the research needs of the fisheries pocket area of Nepal and research based organizations.

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