Gonadotropin (GtH) and steroid hormones in the plasma and pituitary of *Mugil capito* at various states of maturation

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Fish (*Mugil capito*) was collected from a fresh water fish farms, raised in a pond up to the age of 2 years weighing between 118 and 408 g, were brought to the laboratory and stocked in a fiber glass tanks at room temperature. The experiments were conducted through out a year.

Blood samples were taken from all fish from a caudal vein with a heparinized syring. the blood was centrifuged for 10 minutes at 6000 Rpm, at 4°C. The plasma was collected and kept frozen until use for GtH, testoterone and progesterone - RIA determination. Fish weighed and killed by decapitation. Pituitaries homogenized in 0.5 ml of Tris-Hcl buffer pH. 8.6 and stored frozen in preparation for radioim munoassay. The gonads were removed and weighed. The classification of gonads was used to assess the degree of development (ZAKI and EL-GHARABAWY, 1991). In addition, the various developmental stages were related to gonadosomatic index (GSI; gonad weight as expressed as a percentage of gutted bofy weight).

Plasma and pituitaries were extracted and assayed for gonadotropin by a radioim munoassay (RIA) procedure using (ICN Biomedicais. Inc. Diagnostic Division, Cat. no. 07 - 156102).

Plasma and pituitaries were extracted and assayed for testosterone and progesterone by a radioim munoassay (RIA) procedure using pantex immunocoat -^{125}I- Cat. n°335 for testosterone and Cat. n°337 for progesterone.

The aim of the present study is to determine gonadotropin and testosterone content in plasma and pituitary. Besides the determination of progesterone in plasma for both sexes of *Mugil capito* allover the year. To give us the changes which occur during the sexual cycle.

Plasma and pituitary gonatropin levels, testosterone and progesterone were measured using radioim munoassay during the maturation stages. The seasonal variation in plasma gonadotropin concentration for *Mugil capito* was examined in relation to sexual maturation. Plasma GtH values reached minimum in immature male and female *Mugil capito*. Sexual maturity of both sexes was related to significant increase in plasma gonadotropin with the highest values observed for males near the times of spermiation.

Pituitary GtH content was lowest in immature, mature, nearly ripe and spent stages of male and female *Mugil capito* with an increase in ripe female *Mugil capito* collected in December. During the spawning season (October-February) mature female *Mugil capito* hand plasma progesterone content higher than that found in sexually mature male *Mugil capito*. In female *Mugil capito*, a decrease in plasma testosterone levels occured around the time of ovulation which was accompanied by a sharp rise in plasma GtH levels, Seasonal increase in plasma testosterone levels occured around the time of ovulation which was accompanied by a sharp rise in plasma testosterone appeared to be involved in the ripe male *Mugil capito*. The increase in plasma testosterone levels in ripe male and in pituitary testosterone in female *Mugil capito* is highly correlated with the increase in gonadosomatic index.