LENGTH-WEIGHT RELATIONSHIP, CONDITION FACTOR AND SOME REPRODUCTIVE ASPECTS OF NILE TILAPIA, *OREOCHROMIS NILOTICUS*, IN LAKE HAYQ, ETHIOPIA

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ABSTRACT

Reproduction, length-weight relationship, and condition factor, of *O. niloticus* in Lake Hayq, Ethiopia were studied with the objective of generating life history traits important for sustainable exploitation, management and conservation of the species. 931 samples were collected by beach seine and gillnets of various mesh sizes (3, 5, 6, 8 and 10 cm) from August 2008 to March 2009. Females predominated over males in the total samples (sex ratio=1.25:1, $\chi^2$= 11.84). Length at first maturity was 14.5 cm for females and 15.5 cm for males. Fecundity ranged from 290 to 1287 eggs for fish of 11.5 and 27 cm total length (TL). The relationship between fecundity (F) and total length (TL) and total weight (TW) were described by the equations: Log $F$= 0.22+1.91 Log $TL$ and $F$= 113 + 2.60 $TW$. The average sizes of both sexes were 16.03 cm (± 0.14 SE) TL and 72.2 (± 2.14 SE) gram in weight. The slope $b$ of the length-weight relationship was 2.92 for males and 2.97 for females. Growth was isometric in both cases and was not significantly different from the expected value of 3 (t-test, $p>0.05$). Furthermore, the relationship was highly significant (ANOVA, $P< 0.001$). The corresponding equations were represented by: Log $TW$= 2.92 Log$TL$-1.62 (males) and Log $TW$= 2.97 Log$TL$-1.72 (Females). The overall mean FCF obtained for *O. niloticus* in this study is within the range of 1.57-1.93 with a total mean of 1.81. The mean FCF of males and females was 1.84 and 1.78, respectively.

KEYWORDS: FCF: Fecundity, Gondal Stages, Isometric Growth, Maturity Length