



**Suez Canal University
Faculty of Veterinary Medicine
Department of Fish Diseases and Management**

**Impact of Water Temperature Fluctuation on
The Health Status and Reproduction In
*Oreochromis niloticus***

Thesis presented By

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English Abstract	
<p>This research was designed to monitor effect of increased water temperature on <i>O. niloticus</i> fish experimentally and survey.</p> <p>Two hundred <i>O. niloticus</i> both sexes delivered from private farm, divided into four groups: one kept at room temperature (Control) and the 3 others kept at 30 °C, 33 °C and 36 °C water temperatures respectively for 2 weeks. Survey collected from El-monib at 27 °C and 33 °C water temperatures.</p> <p>Experiment revealed nervous manifestations, suffocation, detached scales, ulcers and tail rot.</p> <p>Postmortem lesions included unsymmetrical gonads, ovaries friable with autolysis and majority of testis appeared thread - like.</p> <p>Females showed highly significant decrease in B.W., WG, WH, IG, K condition as well as relative and absolute fecundity at the three experimented groups compared to control.</p> <p>Males registered highly significant decrease in B.W., WG, WH, IG (at 36 °C only) in addition to relative fecundity F.B.W. and F.O.W. (At 33 °C only) and Sperm density at the three experimented groups compared to control.</p> <p>Concerning survey females B.L., B.W., F.B.L., F.B.W., WG and IG showed high to moderate significant increase. Oppositely, F.O.W., K condition and absolute fecundity copied highly moderate to high</p>	

significant decrease.

Whereas, survey males B.L., B.W., W.H., W.G., I.G. and relative fecundity showed highly significant increase. Sperm density highly significant decreased.

Total protein, globulin and E2 highly significant decreased in experimented male (except 36 °C), females at 36 °C and survey groups of both sexes.

Glucose and testosterone increased highly significant among both sexes experimented and survey groups. Albumin at 33 & 36 °C females groups decreased highly significant while at 30 °C females registered highly significant increase.

Ovaries showed necrosis, fragmented nucleus or cystic atretic follicles. Others collapsed and became irregular in shape.

Testis showed malformation with degenerated changes of interstitial cells and seminiferous tubules lucent free of sperms.

Liver showed swollen hepatic cells with clean cytoplasm or rupture of hepatic cell wall showing (apthae formation).

Key words	Temperature, Absolute fecundity, Relative fecundity, Total protein.
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