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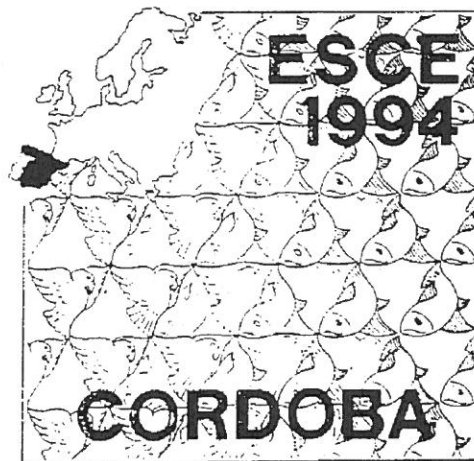
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Second and Final Announcement

RELATIONSHIP BETWEEN THYROID AND STEROID HORMONAL STATUS AND GROWTH PARAMETERS IN *OREOCHROMIS NILOTICUS* : EFFECTS OF FEEDING LEVEL AND SEX.

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This work is part of a research project on the analysis of physiological factors involved in sexual difference in growth performances of *Oreochromis niloticus*. The specific aim was to study the relationships between the variability of specific growth rate induced both by various feeding levels and sex, and the variability in plasma thyroid hormones (L-Thyroxine = T4 and 3,5,3' Triiodo-L-Thyronine = T3) and sex steroids (11-Ketotestosterone = 11-KT and Oestradiol-17 β = E2). 200 fish (b.w. = 82 \pm 10g) were marked individually (Floy-tags) and were dispatched into 4 groups (25 males and 25 females/group). These 4 groups were either starved or fed respectively at 1, 2 or 3% of biomass in order to induce various growth rates between them. Fish were individually weighed before and after the growing period (15 days). Hormones were measured in plasma using radioimmunoassays (RIA). A very significant difference ($\alpha < 0.001$) was found for T3 between males (4.25 \pm 0.18 pmole/ml) and females (2.71 \pm 0.09 pmole/ml) whatever the level of feeding. Plasma T4 was higher in females than in males but without statistical significance. No significant difference could be observed in specific growth rate (SGR) between males and females during the growing period. Differences in SGR, but not in protein synthesis rate (ARN/Protein ratio) were significantly correlated to T3 level ($r^2 = 0.12$, $n = 195$) but not to T4 plasma level. Such relationship was more significant in males ($r^2 = 0.21$, $n = 90$) than in females ($r^2 = 0.10$, $n = 105$). T3 level seemed to be related to metabolic weight in female (slope of linear regression : $b = 0.87$) but was more bound to body weight in male ($b = 1.31$). This relationship suggests that T3 should be implied in the growth, possibly in the onset of the differential growth between males and females. The relationship between growth hormone (GH) and growth rate was difficult to interpret because of the significant GH increase in fasted fish. Besides, there was a significant correlation between 11-KT and T3 levels, both in male ($r^2 = 0.12$, $n = 82$) and females ($r^2 = 0.08$, $n = 89$) but no correlation was found between E2 and T3 levels. Production and more likely transformation of T4 into T3 should be also influenced by 11-KT level in males and females.