

THE ENVIRONMENTAL ROLE OF *Clarias batrachus* FISH
IN THE CATCHING, FRESHWATER FISHES AND
WATERWAYS MANAGEMENT

PROCEEDINGS OF THE CONFERENCE

THE EFFECT OF POLLUTION ON THE FISH AND FISH
WATERWAYS MANAGEMENT

1987

**GENE EXPRESSION PROFILING OF *Clarias batrachus* FED WITH
OMEGA-3 ENRICHED PELLET AND NON OMEGA-3 ENRICHED
PELLET**

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ABSTRACT

A study was done to determine the gene expression profiling in *Clarias batrachus* fed with omega-3 enriched and non omega-3 enriched pellet. This study involves several steps beginning with sample collection, followed by RNA extraction and purification, RNA quantification, gene expression profiling using (DD) RT-PCR technique, analysis of gene expression profile and isolation of expressed genes. A total of 5 samples of Asian catfish, *Clarias batrachus* fed with Omega-3 enriched pellet non omega-3 enriched pellet were collected. The results of the experiment showed that there was a difference in the gene expression profiling between *C.batrachus* fed with omega-3 enriched and non omega-3 enriched pellet when amplified using Arbitrary Primer ACP2, ACP5, ACP7, ACP11, ACP17 and ACP20. Range of DNA fragments obtained from the experiment were within 100bp to 1300bp. Overall observation found that several genes have been down-regulated in *C.batrachus* fed with omega-3 enriched pellet as it contained less DNA fragments compared to *C.batrachus* fed with non omega-3 enriched pellet. It was also found that Primer ACP 20 produced thicker DNA fragment in *Clarias batrachus* fed with omega-3 enriched pellet compared to *Clarias batrachus* fed with non omega-3 enriched pellet at 500bp suggesting that the gene was highly expressed in *Clarias batrachus* fed with omega-3 enriched pellet. The study showed that a number of genes were differentially regulated by different type of feeding nutrient. Further studies need to be done to determine the expressed gene obtained in this study.