Phenotypic variability of natural and cultivated populations of *Oreochromis niloticus* from Haut Sassandra region (Côte d'Ivoire)

*YOBOUE Ahou Nicole[1], BOUSSOU Koffi Charles[2], KONAN Kouassi Sylvain[3], KONAN Koffi Félix[4], ADEPO-GOURENE Abouo Béatrice[5]

1

[1*, 2, 4]: Department of Environment, University Jean Lorougnon Guédé, P.O Box 150 Daloa, Côte d'Ivoire.
[3] Oceanological Research Center, Department of Aquaculture, Abidjan, Côte d'Ivoire, PoBox V 18 Abidjan.
[5]Nangui Abrogoua University, Laboratory of Genetic, Abidjan, Côte d'Ivoire, 02 PoBox 801 Abidjan 02
* Corresponding authors, email: ayobouen@yahoo.fr; Tel: 225 08 04 73 14

1 ABSTRACT

The phenotypic characterization of four populations of *Oreochromis niloticus* (Linnaeus, 1758) **from the Haut-Sassandra region was carried out using 147 specimens. Among them, 39 were from the natural environment (Sassandra River) and 108 from three fish farms in the town of Daloa. The body weight, sixteen (16) metric characters and fifteen (15) meristic characters recorded on each individual made it possible to analyze the phenotypic variability of the four populations. Twenty-eight (28) on the 31 morphometric characters studied differentiated populations (*P* <0.001). Based on these 28 characters, Principal Correspondence Analysis (PCA) and Hierarchical Classification Analysis (HCA) grouped the individuals into two groups, a group consisting of Guessabo and PK 12(Kilometer 12 fish farm located at the end of the city of Daloa) specimens and the other group consisting of APDRACI and Quartier Manioc (two fish farms in the city) individuals. Six morphometric characters (PrAL. IOD. LDF. DAL. AFL and SsL) were the most relevant in the discrimination of these two groups. Discriminant factor analysis (DFA) has also classified these populations into two clusters identical to those of the PCA and the HCA. The brood stocks of PK 12 farm is morphologically identical to specimens of the natural environment (Guessabo). The waters of the PK 12 farm have similar characteristics to the natural environment. The PK 12 farm compared to the others (APDRACI and Quartier Manioc) would be better managed.**