

Estudos de heavy metal e diversidade genética em três populações de Snail (*Achatina achatina* Linnaeus, 1758) do sudoeste da Nigéria

Environmental pollutants may often alter the genetic components of natural populations. In this study, heavy metals and genetic diversity in land snail (*Achatina achatina*) from three populations of south-western Nigeria were investigated, using the Atomic Absorption Spectrometry and DNA Sequencing technology respectively. Metal analysis revealed that the snails accumulated lead (Pb) and nickel (Ni) in high concentrations in two of the three states, while cadmium (Cd) was the least detected. Editing and alignment of the sequences of all snail accessions generated a range of 384bp to 419 bp. Analysis of Molecular Variance (AMOVA) in all 18 accessions was low at only 16%. The query coverage (QC) ranged between 96% and 100%, with 14 (77.8%) of the 18 accessions showing 100% identity. Pairwise comparison of the accessions studied also showed a high genetic similarity. The unweighted pair group method with arithmetic mean (UPGMA) generated two main clusters. Cluster I was unique and contain one sample (AaOy06) while the other cluster are very closely related and can be further sub-divided into sub-clusters. The similarity index of between the clusters is 0.5357. The close similarity among the accessions may be due to the geographical proximity of the three states. The uniqueness of accession AaOy06 in comparison to other accessions might be due to the negative influence of heavy metal, particularly lead. The determination of evolutionary relationships among snail populations may be useful towards the breeding efforts of the species in Nigeria.