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Background for *Anopheles* mosquito's genomics studies in Colombia

Doris A. Rosero Garcia
Universidad de Antioquia, Colombia

In Colombia, using molecular markers has been useful in studies of *Anopheles* mosquitoes. One of the most used are the Internal Transcribed Spacer 2-ITS2 and "Barcode" COI region, which has been of great utility in molecular taxonomy. The "Lunt" COI region, a larger COI fragment has been used to evaluate the molecular taxonomy too, population genetics and genetic diversity of the Colombian main vectors, *Anopheles albimanus, Anopheles darlingi* and *Anopheles nuneztovari*. In Addition to new mtDNA COI gene lineage closely related to *Anopheles janconnae* of the albitarsis complex was proposed with specimens collected in the Caribbean region of Colombia. Recently, COI and COI+ITS2 analyzes of *Anopheles triannulatus* form NW and SE Colombia indicated to divide in two substantial genetic lineages that coincides with their geographical locations. When working with mtDNA sequences, suspect the presence of NUMTS in the following cases: presence of ghost bands in the PCR products or additional bands in restriction profiles, ambiguous sequences, phylogenies unexpected that do not correspond to the results real or presents high variability in the results. To date NUMTS there have been reported in *Anopheles gambiae* and recently reported in the genome of *Aedes aegypti*. The NUMTS study with molecular markers studies in Colombia and the great diversity of *Anopheles* species constitute fundamentals aspects for conducting studies for genomic description *Anopheles* mosquito's in Colombia.

Biography

Doris A. Rosero Garcia has completed his M.Sc. at the age of 30 years from Antioquia University and nowadays is a Doctoral Student in Antioquia University too. He has published 8 papers in reputed journals and displayed more than 20 works in national and international events, whose topic is related to *Anopheles* mosquito's studies.

roserodoris@hotmail.com