

Diversity and distribution of mosquitoes transmitting malaria and rift valley fever in Baringo County, Kenya

Vector borne diseases, like malaria and Rift Valley Fever (RVF), have been linked to climate change. They are transmitted to humans and animals by pathogen-infected mosquitoes. The distribution and population dynamics of these mosquitoes are affected by climatic factors. It is, therefore, important to monitor changes in diversity and distribution of these vectors with the aim of preventing outbreaks of vector-borne diseases. The study was conducted in Baringo County of Kenya. Twenty four sampling sites spread across three sub counties were identified and sampled monthly. Standard dipper and pipette were used to sample mosquito larvae from habitats. Adult mosquitoes were collected outdoors by CDC light trap and indoors by pyrethrum spray catch method. Taxonomic keys were used to identify species morphologically under dissecting microscope. *An. gambiae*, *An. funestus* and *An. pharoensis* previously reported as vectors of malaria in Baringo were collected from different sampling sites within the study area. Three Aedes species which transmit arboviruses were represented by immature forms of *Ae. taylori*, *Ae. aegypti* and *Ae. africanus* from high and low altitude zones. Adults of *Mansonia uniformis*; vectors of RVF virus were mainly collected from low altitude zone. It can be concluded that the presence of *Anopheles* species across all study zones indicates that entire county is at risk of malaria. *Aedes* species and *Mansonia uniformis* from lowlands around L. Baringo show potential transmission of viruses in case of RVF outbreak. These vectors should, therefore, be screened for pathogens to determine their infection status and establish the danger posed to humans and livestock.

