Pilot survey of the project MOSI: initiatives to monitor the effects of climate change on mosquitoes

B.A. Daniel

Mosquito Onset Surveillance Initiative (MOSI) project is a permanent international mosquito monitoring programme initiated in 2010 by the World Association of Zoos and Aquariums (WAZA) and the Institute for Zoo and Wildlife Research (ISW), in concert with the Zoological Society of London (ZSL) and Imperial College. Complete details of the project was published in Zoo's Print 26(12): 8-12.

Principle objectives of Project MOSI

1. Establish an international network of 60 permanent mosquito monitoring sites.
2. Confirm baseline species composition, abundance and activity profiles.
3. Continually monitor for changes in species composition, abundance & activity profiles.
4. Help clarify the impact of climate change on a large number of mosquito species.
5. Provide an early warning network for detecting movement of disease vector species.
6. Help efforts to evaluate and better control mosquito vector disease threats.
7. Help develop improved mosquito attractants and trapping methods.

ZOO was approached to set up one monitoring station in India. Coimbatore, which is at the foothills of the Western Ghats is a suitable place to do this as it is located on a critical ecological location. The city is the third largest city in Tamil Nadu, India (1287 km^2), located at 11° 1'6"N; 76°58'21"E at an elevation of 440 msl. It has a population of 10,50,721.

We received Biogent Mosquitaire traps from Paul Pearce-Kelly, ZSL, a standard monitoring trap used for Project MOSI. This trap was proved to be relatively suitable to monitor the mosquito at global level and hence it was used in Coimbatore survey. Student volunteers from the Kongunadu Arts and Science College, Coimbatore were employed to do the pilot survey. The objective of the survey is to do trial runs using Bioget Mosquitaire in different places with in the city limit and to identify a suitable place to set up the trap for the permanent monitoring.

Setting up Biogent Mosquitaire trap by a volunteer

The traps were set in the evening at 6 pm and monitored until 7 am. During the pilot run we could collect mosquitoes ranging from zero to 252 with the highest collection from the VOC Park zoo. A total of 2160 individuals were collected from 25 attempts and initial efforts showed presence of four species belonging to *Culex* and *Armigeres* species. The traps were used in 23 locations within the city limit and three locations namely VOC Park Zoo, Ukkadam LIC campus and Ganapathy were found to be more suitable to do the Surveillance project.

The traps will be set up in any two of the preferred areas for further studies.

We would like to thank Paul Pearce-Kelly for providing the traps and necessary equipment for the survey and for his constant encouragement. The author would also like to thank Dr. Selvaraju Raja, volunteers B. Abhinaya, R. Prakash, B. Pavithra for their time and involvement.

*Scientist, Zoo Outreach Organization.
Email: badaniel@zooreach.org