

EDITORIAL

ZOOLOGISTS' ROLE AS GAME CHANGERS IN PREVENTION OF MOSQUITOES AND MOSQUITO-BORNE DISEASES OF BANGLADESH

Mosquitoes and mosquito-borne diseases continue to be the major public health threat in the globe. Each year more than 700,000 deaths reported worldwide (WHO, 2023) from the vector-borne diseases. So far, 123 species of mosquitoes are found in Bangladesh, of which some specific mosquitoes act as vector for several diseases like dengue, malaria, chikungunya, zika, and lymphatic filariasis, etc.

Bangladesh being tropical deltaic country with dominant hot weather, prolonged rainfall and cold seasons, creating ecological supports for specific mosquitoes and thereof their abundances. The *Anopheles* species of mosquitoes, the vector for malarial parasites are abundant at the hill tracts areas and so that of the diseases. The malaria caused by the protozoan sporozoites, *Plasmodium falciparum* and *P. vivax* in Bangladesh. The former is the cause of 90% malarial infection. The *Culex* or *Anopheles* mosquitoes are the vector for a nematode parasite causing lymphatic filariasis. This disease was normally distributed at the northern districts of Bangladesh. There are used to be a chance of spread of this disease with infected migrant workers, as *Culex* species is abundant in major cities of Bangladesh. Fortunately, Bangladesh was the 18th country, officially eliminated the disease in May 2023. The *Dengue* virus is common in major cities and primarily transmitted by the *Aedes* species of mosquitoes. The same mosquito species is the vector for Chikungunya and Zika virus in Bangladesh. In most of the cities *Aedes albopictus* is common in occurrence, while outskirts of the cities like peri-urban and/or forested area *A. aegypti* is dominant. They both are the vectors for the mentioned viral diseases.

The Zoological Society of Bangladesh (ZSB) has arranged several important seminars on mosquitoes and mosquito-borne diseases. At least three of the conferences had focused on the zoonotic diseases and public health issues in recent past. In addition, several seminars on the mosquitoes and mosquito control had been delivered by notable zoologists of Bangladesh at various public and academia premises, viz., Bangladesh Atomic Energy Commission, Press club, University of Dhaka, Jahangirnagar University, etc. Zoologists from Dhaka, Jahangirnagar, Chittagong and Rajshahi University as well as Institute of Food and Radiation Biology (IFRB) of Bangladesh Atomic Energy commission, Savar, Dhaka; and Institute of Epidemiology Disease Control and Research (IEDCR), Dhaka have led to the updated research on the mosquitoes and mosquito-borne diseases in the field of medical entomology of Bangladesh.

Bangladesh with its diverse ecological differences exposed to climate change disasters. The distribution of the mosquito species, their changing habitat as well as their role as vector of various diseases is important for public health concerns. For achieving the eradication of vector borne diseases in

Bangladesh, good monitoring and public awareness round the year is mandatory. Besides, research on human-mosquitoes interactions, mosquitoes relationships with other blood hosts like amphibians, reptiles, birds and mammals in nature need to be studied simultaneously. As emerging diseases we propose research on the mosquito-borne Japanese encephalitis virus and Yellow fever virus though not officially recorded from Bangladesh.

Thus a coordinated academic, research and development (R&D) based efforts of various fields of zoology is important. Public awareness, education, effective policy and ample research grant should lead the future eradication challenges of the vector borne diseases in changing environment of Bangladesh.

Md Niamul Naser PhD

Editor in Chief, Bangladesh Journal of Zoology

And

Professor, Department of Zoology, University of Dhaka, Dhaka
Bangladesh. Email: mnnaser@du.ac.bd

©2024 Zoological Society of Bangladesh DOI: <https://doi.org/10.3329/bjz.v52i1.74712>