CLIMATE CHANGE INFLUENCE ON RANGE EXPANSION OF INVASIVE AEDES ALBOPICTUS MOSQUITO IN ARMENIA

Oleg Shcherbakov, Hasmik Gevorgyan
Scientific Center of Zoology and Hydroecology, NAS RA, Yerevan, Armenia

Ae. albopictus Scuse, 1895 (syn. *Stegomyia albopicta;* Asian Tiger mosquito*)* is an invasive mosquito species native to tropical and subtropical areas of Australia and Oceania, the Mediterranean region, Africa, North America and South America. This mosquito is known vector of Dengue, Zika and Chikungunya viruses, as well as the roundworms *Dirofilara immitis* and *D. repens.* It is also conceivable for the mosquito to transmit the West Nile fever virus and a group of mosquito-borne encephalitis viruses.

In Armenia, the studies on mosquito fauna have been conducted for almost a century on a regular basis, however the medically significant *Ae. albopictus* was not detected until 2016, when it was trapped by NCDCP entomological team from a single locality in vill. Bagratashen (Armenia-Georgia border). Further recordings of *Ae. albopictus* dated 2017, 2018, 2020 are known from the same Tavush region, not far from the first registration point, and include towns Ayrum, Noyemberyan, and Ijevan (L. Paronyan et al., 2020). It could be therefore concluded that the range of this mosquito has been expanded southeastward, although in 2020 was still limited by subtropical areas of Tavush marz, at elevation range between 380 to 750 meters above sea level.

While conducting a mosquito field study in Lori Marz, in late September of 2022, our team managed to capture two adult females of *Ae. albopictus* mosquitoes by net in the daytime, in Marts River Canyon, which is situated at an elevation of 1,135 meters above sea level. The registration of *Ae. albopictus* from new locality, with a temperate climate and a higher elevation than its typical habitats, needs to be emphasized as evidence of the further areal expansion of the mosquito species, now to the southwest. This finding could possibly indicate an influence of climate change on the distribution shift of *Ae. albopictus,* a mosquito species with a large capacity for the transmission and distribution of several arboviral and parasitic infections that may now occur in Armenia.

In this context, routine field surveillance of mosquito populations, particularly those of arthropod/insect vectors should be carried out continuously and serve as a tool for early disease detection and prompt response to emerging disease.

Research has been performed within the frames of 20RF-163 Arm-Rus joint project.