106/A

Blood Meal Preferences of *Aedes aegypti* (Linnaeus) and *Ae. albopictus* (Skuse) in the District of Colombo

E.H.L. Perera[1], Y.I.N.S. Gunawardene[1*], M.D. Hapugoda[1], T. Ranathunge[2], L. Udayanga[3]

[1]Molecular Medicine Unit, Faculty of Medicine, University of Kelaniya, Sri Lanka.
[2]Department of Zoology, Faculty of Science, Eastern University, Sri Lanka
[3]Department of Biosystems Engineering, Faculty of Agriculture and Plantation Management, Wayamba University of Sri Lanka, Sri Lanka

Dengue has become a major health burden in Sri Lanka. Dengue is renowned as the fastest spreading mosquito borne viral infection, which is transmitted by *Aedes aegypti* and *Aedes albopictus.* These mosquitoes show varied behavioral patterns in the environment. Feeding preference is an important parameter of their behavior, which influence the vectorial capacity of them. In general, *Aedes* mosquitoes feed on a range of hosts for their blood meal including humans, cats, dogs, cattle, goats, rats and chicken etc. Despite the essential nature of this knowledge for vector control, the existing knowledge on the host preference is limited. Therefore, a comprehensive study was conducted in three selected dengue high risk MOH areas in the district of Colombo, namely Padukka, Kolonnawa and Maharagama. Female adult mosquitoes were collected from 25 households in each MOH area at a monthly interval for 11 months. Then, *Aedes* mosquitoes were identified, and the blood-fed female mosquitoes were used for the DNA extraction. The multiplex PCR method was used to identify the hosts of the blood fed mosquitoes. According to results, the preference of dengue mosquitoes on different blood sources represented significant variations ($P<0.05$). *Aedes aegypti* reported the highest preference for human blood, followed by dogs and cats. In the case of *Aedes albopictus* also, human blood accounted for the highest preference, and followed by the cow and cat. However, the least preference was for the dogs. A cluster analysis also revealed that the human blood is the most preferable blood meal for both dengue mosquito species, and blood meal from cow was preferred only by *Aedes albopictus.* In conclusion, this study has shown that the most preferrable host for the blood meals of the two *Aedes* species is human blood, while dog, cat and bovine hosts contributed less as hosts in the Colombo District of Sri Lanka.

*nilminisg@kln.ac.lk