

EXPOSURE TO DENGUE VIRUS INFECTION IN SRI LANKAN TORQUE MONKEYS (*Macaca sinica*)

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Dengue is one of the main arboviral diseases, which affects most tropical and subtropical regions of the world. Dengue viruses (DENV) are transmitted to humans by the bite of infected mosquito vectors, *Aedes aegypti* and *Aedes albopictus*. There are four well established serotypes of DENV named as DENV-1, DENV-2, DENV-3 and DENV-4. Infection with any DENV serotype may lead to a wide range of clinical outcomes including a mild dengue fever (DF) to a life threatening dengue haemorrhagic fever (DHF). There are no vaccines or antiviral drugs currently available against DENV at present. DF / DHF have become the major mosquito borne diseases in Sri Lanka in the recent past. Nevertheless, DENV also circulate through the non human primates. Therefore, the main objective of this study was to identify the evidence for exposure to DENV in the Sri Lankan Torque monkeys in Peradeniya university premises, Dangolla, Katugasthota and Mapanawathura areas located around the Kandy city.

Monkeys were trapped by using a metal wire cage using food as the bait. Then, the captured monkeys were anaesthetized for collecting the blood samples. Then the blood was collected into separate serum (plain) tubes and samples were centrifuged and the supernatant of each tube was transferred into an eppendorf tube separately and stored in the freezer at -20°C . Finally, NS1 immuno-chromatography (ICT) assay, MAC ELISA (dengue IgM detection) and GAC ELISA (dengue IgG detection) tests were carried out in the laboratory according to the manufacturer's instructions. All 35 monkey serum samples tested for dengue NS1 antigen (ICT assay), IgM and IgG antibodies (ELISA) were negative for these markers. It appears that there was no evidence for past DENV infection in the captured 35 monkeys (*Macaca sinica*) around Kandy. Monkey antibody level may be undetectably low immune response following DENV infection. Further studies are need to confirm these findings.

