

Detection of Bat Coronaviruses in the North Central and Sabaragamuwa Province, Sri Lanka

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Bats are the most widely distributed terrestrial mammals in the world. They have unique animal behaviours act as a reservoir host for many zoonotic viruses, including coronaviruses (CoV). Bats Since the emergence of the SARS-CoV in 2002, SARS-like bat CoV have been detected in bats from Asia and Europe (1). Bats, as the native host for CoV, are of greater importance in identifying future pandemic CoVs evolving through bats. Objective: In this study, we aimed to identify the frequency of bat CoV in several selected locations in the Sabaragamuwa Province of Sri Lanka between December 2022 to January 2023. Sampling was done between December 2022 to January 2023 from the Minneriya National Park and surrounding areas like Giritale, Nildiyamankada and Thimbolkatiya from both fruit and insectivorous bats. Sampling of bat guano was done once in every location where droppings were collected into cryovials containing 1.5 mL of Phosphate-Buffered Saline. Viral RNA was extracted to perform a Pancoronavirus (PanCoV) nested RT-PCR, which is designed to target the RNA-dependent RNA polymerase gene, a 442 base pair fragment conserved region for the *Orthocoronavirinae* family. A total of 38-bat guano were collected, out of which 24 (63%) bat guano had bat CoV by RT-PCR. Further sequencing data is required to confirm the bat CoV and species of the bats. The frequency of bat CoV shedding was calculated for the different locations within the Province. Nildiyamankada had the highest positivity for bat CoV (80%) while Minneriyawa showed the lowest positivity for bat CoV (43%) shedding. Based on our interim results, overall, 63% of bats tested positive for bat CoV in the Sabaragamuwa Province. This is a high positivity rate for bat CoV shedding compared to the Central Province of Sri Lanka (Data not shown).

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