

INVITED PRESENTATION

Bat Coronaviruses: Towards a One-Health Approach for Pathogen Surveillance

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Bats are among the most diverse group of mammals globally and provide important ecosystem services such as seed dispersal, pollination and pest control. Due to its unique biology, bats can tolerate infectious agents and have been found to harbor numerous bacterial and viral species, including pathogens with zoonotic potential. The 21st century has seen a rapid rise in emerging infectious diseases (EIDs) including coronaviruses that cause SARS, MERS and COVID-19, all of which have several levels of evidence indicating its origin from bats and other wildlife hosts. Furthermore, because of anthropogenic activities that alter ecosystem landscapes and facilitate sustained interaction between wildlife, livestock and humans, it is expected that the frequency of EIDs will continue to increase. In the Philippines, efforts for pathogen surveillance in wildlife populations including in bats remain fragmented. This indicates the need for increased research to monitor pathogens circulating in the wild. We present some of the local efforts initiated by UP Mindanao researchers in bat coronavirus surveillance and highlight some of the key findings, challenges, and future directions to enhance pathogen monitoring using a one-health approach. We also highlight the need to use metagenomic approaches to enable a comprehensive profiling of bat and wildlife pathogens, identify priority targets and facilitate the development of rapid diagnostics for routine surveillance.