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Surveillance of avian influenza viruses in wild ducks and geese in the Bangweulu wetlands of Zambia

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Avian influenza is a highly contagious acute respiratory disease of avian origin and is of major economic and public health importance. Out of all the 16 subtypes of influenza viruses, only H5 and H7 are considered highly pathogenic in poultry. However, previous studies have reported that serotype H9N2 produces severe respiratory and reproductive tract infections in chickens. Previous studies have suggested that poultry movement through trade and migratory wild birds play a major role in the spread of avian influenza viruses over long distances. Surveillance among wild ducks and geese in many parts of the world has always resulted in isolation of a broad spectrum of avian influenza virus subtypes. Although avian influenza has not yet been reported in Zambia, its outbreak would be devastating to the local economy. The present study was carried out to determine the presence of avian influenza viruses in the wild migratory ducks and geese on the Bangweulu wetlands of Zambia located in Luapula and Northern provinces of Zambia during 2009-2014. A total of 5,000 environmental samples of fresh faeces of wild ducks and geese on the Bangweulu wetlands of Zambia were examined and analyzed for the presence of avian influenza viruses using Haemagglutination (HA) and Haemagglutination inhibition (HI) tests. The results indicated that H6N2 and H9N2 subtypes were present in the faeces of the Knob-billed ducks (*Sarkidiornis melanotos*). These data indicated that wild migratory ducks that inhabit the Bangweulu wetlands play a role as carriers of influenza viruses, thus necessitating continued surveillance studies so as to elucidate the ecology of the viruses in the area. There is also a need to expand the surveillance scope to cover the entire country in order to determine what other subtypes of avian influenza are circulating in Zambia.

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