野生鳥類家禽流行性感冒監測報告

疾病診斷組

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摘要

高病原性 H5N1 亞型家禽流感病毒首次於 1996 年在廣東的鵝隻中發現，這群病毒持續傳播及演化，已對全球家禽產業造成多次嚴重疫情，並對野生動物及公共衛生構成威脅。遷徙水鳥是家禽流行性感冒病毒引進國內的重要傳播途徑之一。自 1998 年起，台灣開始針對遷徙野生水鳥進行監測，早期以秋冬季抵台的水鳥排遺為主要檢體類型；2017 年後則納入死亡及救傷鳥類檢體，不限制鳥種及季節。在監測的前 20 年中，幾乎所有檢測到的病毒均屬於低病原性，但自 2017 年起，在死亡鳥類（如黑面琵鷺）中檢測到極少數高病原性禽流感病毒。 2020 年開始可在野鳥排遺中檢測到高病原性禽流感病毒，隨後每年秋冬季節均可持續檢測到多例高病原性禽流感病毒。近年導入次世代定序技術，大幅提升了病毒基因體定序的量能。從序列分析結果發現入侵台灣的 H5N1 病毒具有多種基因型。台灣野鳥檢出 H5N1 病毒的趨勢與序列分析結果反映了這些病毒在國際間廣泛及持續的傳播，也突顯了國內家禽產業每逢秋冬季時面臨的風險。本監測系統的相關成果可示警家禽產業提高生物安全防護。

Report on Surveillance for Avian Influenza in Wild Birds

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Abstract

The high pathogenicity H5N1 avian influenza virus was first discovered in geese in Guangdong in 1996. This lineage of virus has continued to spread and evolve, causing multiple severe outbreaks in the global poultry industry and posing threats to wildlife and public health. Migratory waterfowl are one of the transmission routes for introducing avian influenza viruses into Taiwan. Since 1998, Taiwan has been monitoring migratory wild waterfowl for avian influenza viruses. Initially, the main sample type was fecal droppings from waterfowl arriving in autumn and winter; after 2017, samples from dead and rescued birds were also included, without restrictions on species or seasonality. During the first 20 years of monitoring, nearly all detected viruses were low pathogenicity; however, starting from 2017, sporadic case of high pathogenicity avian influenza viruses were detected in dead birds (such as the black-faced spoonbill). After 2020, high pathogenicity avian influenza viruses began to be detected in fecal samples, with multiple cases continuing to be detected each autumn and winter thereafter. The introduction of next-generation sequencing technology in recent years has significantly increased the throughput for viral genome sequencing. Sequence analysis revealed that the H5N1 virus ~~that~~ invaded Taiwan include multiple genotypes. The trend of detecting H5N1 viruses in wild birds in Taiwan, along with the results of sequence analysis, reflects the widespread and ongoing transmission of these viruses globally and highlights the risks faced by the poultry industry during the autumn and winter seasons. The relevant results of this surveillance system can alert the poultry industry to improve biosecurity measures.