

Virology of avian influenza in relation to wild birds

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The outbreak of highly pathogenic avian influenza of the H5N1 subtype in Asia, which has subsequently spread to the Middle East, Europe, and Africa, has put increased focus on the role of wild birds in the persistence of influenza viruses. The ecology, epidemiology, genetics, and evolution of pathogens cannot be fully understood without taking into account the ecology of their hosts.

Here, we review our current knowledge on global patterns of low pathogenic avian influenza virus infections in wild birds, discuss these patterns in the context of host ecology and in particular birds' behaviour, and identify some important gaps in our current knowledge.

In addition, we will discuss potentially important differences between low pathogenic avian influenza viruses and high pathogenic avian influenza H5N1 viruses in wild birds and mammals, in particular with respect to pathogenesis, virus secretion, and host range.

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