

Avian Flu: A Risk Assessment for Purple Martin Landlords

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As media coverage grows about the H5N1 strain of avian flu, so have the concerns of those who feed or provide housing to wild bird species. Purple Martin landlords who manage their housing have a close relationship with “their” birds. The effects of this virus on Purple Martins are not known at this time. This article aims primarily to assess the current risk of avian flu to Purple Martin landlords.

The H5N1 is a strain of Influenza A, a class of viruses that circulates among many types of animals, from whales to chickens. Birds are hosts to all known subtypes of Influenza A¹. The Spanish Flu of 1918, mankind’s most severe modern pandemic, was also an influenza A virus (H1N1). That virus was believed to have directly mutated into a human virus². In the case of the other two milder, 20th century flu pandemics, 1957-58’s H2N2 and 1968-69’s H3N2 strains, both were hybrids of avian and human viruses².

A flu virus has eight separate gene segments³. Hybrids can form when two different flu strains infect a single animal, which allows the gene segments from each virus to mix and recombine. If, say a pig, contracts the H5N1 strain and a highly contagious human flu strain at the same time, a new strain may result that may have the same deadliness of H5N1 and the contagious qualities of the more benign human flu strain. This is the “fast track” scenario of viral evolution that has health officials so concerned. Their worry is that H5N1 could hybridize to become a human virus—one that could spread easily from human-to-human as our annual, mild flu strains do. Health officials warn that if H5N1 does not cause a pandemic, some other strain eventually will. However, because the H5N1 virus is known to be highly pathogenic and capable of infecting humans, and because it currently has the greatest potential to cause a pandemic, it is the focus of much attention.

The pathogenicity, or potential for disease, of this virus for Purple Martins is presently unknown. The current H5N1 strain has caused mortality in over 40 species of wild birds, including geese, ducks, storks, egrets, herons, and a Peregrine Falcon⁴. H5N1 is thought to have evolved in the artificially concentrated populations of chickens on farms. Wild birds have not yet had wide-ranging exposure, and thus resistance, to this virus and may suffer high mortality as a result⁵. Evidence suggests that avian flu viruses tend to affect waterbirds more heavily than other types of birds because they frequently feed in groups in water where fecal-oral transmission easily occurs. One can only speculate how H5N1 might affect Purple Martins. They do have two ecological behaviors that increase their potential for epidemics, they are colonial breeders and they gather in large numbers to roost when not breeding. This close social contact among martins may increase the risk of H5N1 to martins.

What risk does H5N1 pose for Purple Martin landlords? Fortunately, H5N1 is currently inefficient at sustained human-to-human transmission. It is still basically a virus of birds, not humans. Human infections of the H5N1 strain have so far been limited largely to bird-to-human transmissions, with only a few cases of human-to-human transmission. Further-

more, H5N1 has been described as very low risk even for people living in Asia where the virus is known to exist⁶, and the virus has not yet been found in North America, despite monitoring in the western states where it is thought H5N1 is most likely to make landfall. In sum, at the present time, the risk of Purple Martin landlords contracting avian flu from their birds is extremely minute.

However, if the H5N1 virus in its present form is discovered in the New World, Purple Martin landlords would need to take some precautions. Washing your hands with warm soapy water after any contact with birds, their nests, feeders, etc., is a must. To more fully protect yourself, wear rubber gloves and a mask, in addition to hand washing. Due to the abundance of pathogens in nature, it would be extremely advisable to wash your hands anyway (see *West Nile Virus: Should Purple Martin Landlords be Concerned?* in *Update 12(1)*). Follow basic sanitation strategy during nest checks; avoid touching your face until you can wash your hands. In addition to soaps, the alcohol-based gels are effective at neutralizing flu viruses as well as bacteria. Removing nests and cleaning houses almost always stirs up dusty feather sheaths and feces, so care should be taken to avoid inhaling this ‘dust’; wearing a surgical mask is advisable. Taking these precautions will not guarantee disease prevention, but should help minimize risks.

Should the worst-case scenario develop with H5N1 becoming a human virus and a pandemic erupting, then taking precautions with birds will become somewhat moot. The risk of contracting the virus from another person will be far greater than contracting it from a wild bird. Governmental and private organizations are providing information. To read what the experts are saying, follow any developments, and learn what safety precautions you can take, see:

Centers for Disease Control and Prevention:

<http://www.cdc.gov/flu/avian/> or 800-CDC-INFO

World Health Organization:

http://www.who.int/topics/avian_influenza/en/

USGS National Wildlife Health Center: http://www.nwhc.usgs.gov/research/avian_influenza/avian_influenza.html

Ornithological Council: Avian Influenza: what ornithologists and bird banders should know: <http://www.nmnh.si.edu/BIRDNET/OC/fact/Avian.Influenza.Fact.Sheet.pdf>

Citations

¹ <http://www.cdc.gov/flu/avian/gen-info/transmission.htm>, 10/17/2005 (accessed on 10/27/2005)

² Fact Sheet: Information About Influenza Pandemics (October 17, 2005). *Centers for Disease Control and Prevention*. Available at <http://www.cdc.gov/flu/avian/gen-info/pandemics.htm>

³ Transmission of Influenza A Viruses Between Animals and People (October 17, 2005). *Centers for Disease Control and Prevention*. Available at <http://cdc.gov/flu/avian/gen-info/transmission.htm>

⁴ Wildlife Health Bulletin #05-03 (August 23, 2005). *National Wildlife Health Center, USGS*. http://www.nwhc.usgs.gov/research/WHB/WHB_05_03.html

⁵ Wildlife Health Bulletin #04-01 (February 2004). *National Wildlife Health Center, USGS*. http://www.nwhc.usgs.gov/research/WHB/WHB_04_01.html

⁶ Wildlife Health Bulletin #05-03 (August 23, 2005). *National Wildlife Health Center, USGS*. http://www.nwhc.usgs.gov/research/WHB/WHB_05_03.html