

## ***Chlamydia psittaci* in Swedish Wetland Birds: A Risk to Zoonotic Infection?**

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### **Important Findings**

*Chlamydia psittaci* in birds may be transmitted to humans and cause respiratory infections, sometimes as severe disease. This study investigated the *C. psittaci* prevalence in migratory birds in Sweden by real-time polymerase chain reaction (PCR). DNA from *C. psittaci* was found in six (1.2%) birds from three different species. Considering exposure to humans it is concluded that the risk of zoonotic infection is low.

### **Significance of Findings**

In this study, 1% of 497 birds were found to be infected with *C. psittaci* by sequencing, and in addition one case of a novel *Chlamydiaceae*-like bacterium was detected. It was concluded that the risk of zoonotic infection from migratory birds in Sweden is low.

### **Additional Information**

The intracellular pathogen *C. psittaci* primarily infects the respiratory, pharyngeal, and cloacal epithelia in birds, but can also be transmitted to humans. The disease has been reported since the late 1800s and became recognized worldwide in the late 1920s, when an outbreak of pneumonia in North America and Europe was found to originate from Amazon parrots imported from Argentina. Originally, human infection was thought to originate solely from psittacine birds, and was therefore named psittacosis. Nowadays

*Chlamydia* bacteria are known to infect a large number of bird species as well as other animal groups worldwide.

Migratory wild bird species can potentially function as long-range dispersers of microorganisms transmissible to humans. Recently, a number of reports have been published concerning the occurrence of *C. psittaci* in free-living birds, but knowledge is still limited. Migrating long distances is an energy-demanding activity, and prolonged, physical strain may lead to immunosuppression, which in turn increases the risk of activating latent infections.

The order Anseriformes includes many species of ducks and other game birds. *C. psittaci* has previously been isolated from these types of birds, both free living and domestic. *C. psittaci* infections have also been found in several species of waterfowl and other wetland birds. Previous reports show that free-living birds can spread chlamydial infection to domestic fowl, for example via common standing water.

Human chlamydiosis is regarded as a rare, but potentially severe disease. The bacteria can cause respiratory symptoms, including pneumonia, but patients can also be asymptomatic. Because the clinical picture varies from mild infection to fatal disease, it is difficult to distinguish chlamydiosis from other respiratory diseases, and laboratory diagnosis is required. *C. psittaci* usually spread through inhalation of contaminated aerosols, contact with secretion from eyes or exhalation, or contact with feces. Shedding of the bacteria through feces occurs intermittently and can continue for several months in both symptomatic and asymptomatic carriers. Humans in close contact with birds in their profession or leisure time, such as poultry farmers, veterinarians, bird owners, and hunters of game birds, are considered to be at greatest risk of being infected. In Sweden around 10 cases per year of human chlamydiosis have been reported the last decade according to the Swedish Institute for Infectious Disease Control.

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## ***Chlamydia psittaci* en las Aves de Humedales de Suecia: un Riesgo de Infección Zoonótica?**

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### **Hallazgos Importantes**

*Chlamydia psittaci* en las aves puede ser transmitida a los seres humanos y causar infecciones respiratorias, a veces como enfermedad grave. Este estudio investigó la prevalencia de *C. psittaci* en aves migratorias en Suecia por reacción en cadena de la polimerasa (PCR) en tiempo real. El ADN de *C. psittaci* se encontró en seis aves de tres especies diferentes (1,2%). Teniendo en cuenta la exposición a los seres humanos, se concluye que el riesgo de infección zoonótica es baja.

### **Relevancia de los Hallazgos**

En este estudio, 1% de 497 aves fueron encontradas para ser infectados con *C. psittaci* por secuenciación, y además uno de los casos de una nueva bacteria *Chlamydiaceae* fue detectado. Se

concluyó que el riesgo de infección zoonótica de las aves migratorias en Suecia es baja.

### **Información Adicional**

El patógeno intracelular *C. psittaci* infecta principalmente el epitelio respiratorio, la faringe, y de cloaca de las aves, pero también puede ser transmitida a los seres humanos. La enfermedad ha sido reportada desde finales de 1800 y llegó a ser reconocida en todo el mundo a finales de 1920, cuando un brote de neumonía en América del Norte y Europa se encuentran a su origen de loros amazónicos importados de Argentina. Originalmente, la infección humana se cree que proceden exclusivamente de aves psitácidas, y fue nombrado por lo tanto psitacosis. Hoy en día bacteria *Chlamydia* es conocida por infectar a un gran número de especies de aves, así como otros grupos de animales en el mundo.

Las especies migratorias de aves silvestres potencialmente puede funcionar como dispersores de largo alcance de los microorganismos

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