



Escherichia albertii infection in Garden Birds

Agent

Escherichia albertii is a bacterium that can cause fatal disease in some species of garden bird. Previously known as *E. coli* serotype O86, it is a (non-motile, late or non-lactose fermenting) bacterium within the Enterobacteriaceae.

Other serotypes of *E. coli* have been isolated from wild birds but these are not known to regularly cause disease in British garden birds.

Species affected

Various strains of *E. albertii* have been isolated from a range of wild bird species in Great Britain (GB) and mainland Europe, USA and Australia; infected birds may show no signs of ill health, or disease which can be severe leading to death. Disease caused by *E. albertii* infection is sometimes known as “colibacillosis”.

Escherichia albertii usually causes disease in gregarious seed-eating garden birds, with the siskin (*Spinus spinus*), chaffinch (*Fringilla coelebs*) and greenfinch (*Chloris chloris*) most frequently affected in GB, although a range of other species also may be susceptible to infection.

In GB, disease outbreaks usually only affect a small number of birds, but an incident with mortality of ~100 common redpoll (*Carduelis flammea*) due to *E. albertii* infection occurred in Alaska, USA, in 2004. *Escherichia albertii* infection has not been recorded in lesser redpoll (*Carduelis cabaret*) in GB to date; whether this species is vulnerable to infection or disease with this bacterium is currently unknown.

The bacterium has also been detected in some species of wild mammals, in which the significance of infection to health is unknown.

Pathology

Escherichia albertii typically affects the digestive tract where it causes diarrhoea. In some cases, gut stasis may occur leading to accumulation of food contents in the crop and oesophagus.

Signs of disease

Birds affected by *E. albertii* infection tend to show non-specific signs of ill health, for example lethargy and fluffed-up plumage. Wild birds suffering from a variety of conditions can exhibit similar signs of disease and there are no characteristic signs of *E. albertii* infection that allow it to be diagnosed without specialist veterinary examination. Affected birds are frequently observed to remain around feeding stations, where they continue to attempt to feed until the terminal stages of the disease.

Disease transmission

Escherichia albertii can persist in the environment for some time. It has been suggested that apparently healthy birds maintain this infection, however, the extent to which the bacterium is adapted to wild birds requires further investigation. The main route of spread is when infected bird droppings contaminate food or water sources.

Disease patterns

Escherichia albertii infection in garden birds has been reported across GB, however, disease incidents have been most commonly reported from northern Scotland. The reasons for this variation in the geographical distribution of *E. albertii* disease outbreaks in GB are unclear; however it is noteworthy that this distribution mirrors that of the siskin, which occurs most commonly in northern Scotland but can be found across GB. Whether the siskin plays a key role in the epidemiology of *E. albertii* infection in British garden birds is currently unknown.

Escherichia albertii infection has been reported as a sporadic cause of disease outbreaks in garden birds in Scotland since the 1990s. These disease outbreaks tend to occur during the spring months, peaking between April and July, however exceptions to this seasonal pattern may occur.

Risk to human and domestic animal health

Escherichia albertii is a gastrointestinal pathogen that has the ability to affect humans, causing watery diarrhoea. The main risk factors identified for infection in people include international travel and possibly foodborne transmission.

A recent study of *E. albertii* infection in humans and birds in GB found that the bacteria infecting the two groups usually were genetically distinct from each other, indicating that substantial transmission of the bacterium from people to wild birds, or vice versa, is unlikely. However, since a small number of isolates from people were genetically similar to those from wild finches, it is possible that some people are infected from direct or indirect contact with wild birds.

Garden birds in the UK may carry *E. albertii* bacteria and other infectious agents (for example *Campylobacter*, [Chlamydia psittaci](#) and [Salmonella](#) bacteria) that can affect people and pets.

We recommend following sensible hygiene precautions as a routine measure when feeding garden birds and handling bird feeders and tables. Following these rules will help avoid the risk of any infection transmitting to people and help safeguard the birds in your garden against disease.

- Clean and disinfect feeders/ feeding sites regularly. Suitable disinfectants that can be used include a weak solution of domestic bleach (5% sodium hypochlorite) and other specially-designed commercial products (See *Further information*). Always rinse thoroughly and air-dry feeders before re-use.
- Dampen surfaces with water before cleaning to reduce the chance of breathing in dry dust or aerosolised secretions.
- Brushes and cleaning equipment for bird feeders, tables and baths should not be used for other purposes and should not be brought into the house, but be kept and used outside and away from food preparation areas.
- Wear rubber gloves when cleaning feeders and thoroughly wash hands and forearms afterwards with soap and water, especially before eating or drinking. Avoid handling sick or dead birds directly. For instance, use disposable gloves or pick the bird up through an inverted plastic bag.

Diagnosis

Diagnosis of *E. albertii* disease in garden birds relies on post-mortem examination. As the signs of the disease at post mortem are subtle and non-specific, additional laboratory tests are required to confirm the diagnosis of the disease.

If you wish to report finding dead garden birds, or signs of disease in garden birds, please visit www.gardenwildlifehealth.org. Alternatively, if you have further queries or have no internet access, please call the **Garden Wildlife Health** vets on **0207 449 6685**.

Control

Whilst medicines are available for the treatment of *E. albertii* infection in captive birds, effective and targeted dosing of free-living birds is not possible.

Where a problem with *E. albertii* infection exists, general measures for control of disease in wild bird populations should be adopted:

- Since the infection is spread when infected droppings contaminate food or water sources, ensure optimal hygiene at garden bird feeding stations, including disinfection (as described above).
- Ensure that water provided for garden birds is fresh and clean on a daily basis.
- Feeding stations (such as bird tables and hanging feeders) encourage birds to congregate, sometimes in large densities, thereby increasing the potential for disease to spread between individuals when outbreaks occur. **If many birds in your garden are affected, we recommend that you consider significantly reducing the amount you feed, or stop feeding for a period (2-4 weeks).** The reason for this is to encourage birds to disperse, thereby minimising the chances of new birds becoming infected at the feeding station. Gradually reintroduce feeding, whilst continuing to monitor for further signs of ill health (See *Further information*).

Prevention

Following best practice for feeding garden birds is recommended to help control and prevent transmission of disease at feeding stations all year round (See *Further information*):

- Routine good hygiene on bird feeders (see guidance on cleaning and disinfection above).
- Provision of clean and fresh drinking water on a daily basis.
- Buy fresh food from reputable sources and in quantities which will be used within a relatively short period (e.g. 3 months) or before the best-before date if stated.
- If your garden size and design allow, have several sites where feeders can be positioned and rotate feeder location between these regularly (e.g. weekly) to reduce build-up of food waste or bird droppings in any one area.
- Bird feeders should only be filled with enough food to last 24-48 hours. Food which is left out for a prolonged period can become stale, allowing mould and pathogens (e.g. bacteria) to build up. Feeders should not be topped up with fresh feed but, instead, any food not eaten within 24-48 hours should be safely disposed of where it cannot be eaten by wildlife and replaced with fresh food.

Further information

Information on [Best feeding practice for garden birds](#) is available and should be followed at all times to help ensure that the birds visiting your garden remain healthy. More information on additional conditions that affect garden birds can be found on the [Garden Wildlife Health website](#).

Scientific publications

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