



Escherichia albertii infection in Garden Birds

Agent

Escherichia albertii (previously known as *E. coli* serotype O86) 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 the UK, 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 tends to affect gregarious seed-eating garden birds, with the siskin (*Carduelis spinus*) most frequently affected in Great Britain (GB), followed by the chaffinch (*Fringilla coelebs*) and greenfinch (*Chloris chloris*).

A bacterium which was probably *E. albertii* has also been reported as a cause of nestling mortality of house sparrow (*Passer domesticus*) and tree sparrow (*Passer montanus*) in Poland; the extent to which the bacterium may be a cause of nestling mortality in GB is unknown.

Epidemic mortality due to *E. albertii* infection occurred in the common redpoll (*Carduelis flammea*) in Alaska, USA, in 2004. *Escherichia albertii* infection has not been recorded in lesser redpoll (*Carduelis cabaret*) in GB; whether this species is vulnerable to infection or disease with this bacterial infection is currently unknown.

Pathology

Escherichia albertii typically affects the digestive tract causing inflammation of the stomach and intestines and resulting in 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 and continue with attempts to feed until the terminal stages of the disease. Affected birds are either in moderate or normal body condition, indicating that the disease may progress relatively quickly, likely over the course of several days.

Disease transmission

Escherichia albertii bacteria can persist in the environment for some time.

It has been suggested that apparently healthy individuals may maintain this infection in wild bird populations, however, the extent to which the bacterium is adapted to wild birds requires further investigation. The main route of spread is likely to occur when infected bird droppings contaminate food or water sources.

Disease patterns

Escherichia albertii infection in garden birds has been reported across GB, however, the disease incidents appear to occur most commonly in northern Scotland. The reasons for variation in the geographical distribution of *E. albertii* infection incidents in Great Britain are unclear, however it is noteworthy that this distribution mirrors that of the siskin, which also 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

The strains of *E. albertii* that affect wild birds may have the potential to infect humans, livestock and domestic animals. Signs of disease in these species are likely to include diarrhoea.

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.
- 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. The signs of the disease at post mortem are subtle and non-specific therefore additional laboratory tests are used 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 table hygiene. Clean away uneaten food and droppings before putting out fresh food and disinfect feeders/ feeding sites on a regular basis.
- Provision of clean and fresh drinking water on a daily basis.
- Provision of fresh food from accredited sources.
- Rotate positions of feeders in the garden to avoid build-up of contamination in any one area and pay particular attention to clearing food remains that fall on the ground.

Further information

[Best feeding practices](#) should be followed at all times to help ensure that the birds visiting your garden remain healthy. More information can be found on the Garden Wildlife Health website www.gardenwildlifehealth.org. The booklet “Feeding Garden Birds – Best Practice Guidelines” is also available from the GWH team by (email: gwh@zsl.org, telephone: 0207 449 6685).

Scientific publications

Pennycott, T.W., Ross, H.M., McLaren, I.M., Park, A., Hopkins, G.F. and Foster, G. (1998) Causes of death of wild birds of the family Fringillidae in Britain. *Veterinary Record* **143**: 155-158. [doi:10.1136/vr.143.6.155](https://doi.org/10.1136/vr.143.6.155).

Oaks, J.L., Besser, T.E., Walk, S.T., Gordon, D.M., Beckmen, K.B., Burek, K.A., Haldorson, G.J. Bradway, D.S., Ouellette, L., Rurarngirwa, F.R., Davis, M.A., Dobbin, G. and Whittam, T.S. (2010) *Escherichia albertii* in wild and domestic birds. *Emerging Infectious Diseases* **16(4)**: 638-646. [doi: 10.3201/eid1604.090695](https://doi.org/10.3201/eid1604.090695).

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