



## Leg abnormalities in Finches

### Agent

There are two main causes of leg lesions in British finches.

Chaffinch papillomavirus is a virus in the Papillomaviridae family which can cause skin disease known as papillomatosis.

*Cnemidoptes* spp. are mites which belong to the family Sarcoptidae that can cause skin disease known as cnemidoptosis. In passerines (songbirds), *C. jamaicensis* and *C. intermedius* are the most common mite species; *C. mutans* typically affects poultry and *C. pilae* affects psittacine birds (such as pet budgerigars).

There are many colloquial names for these conditions, including “tassel foot” for papillomatosis and “mange” or “scaly foot” for cnemidoptosis.

### Species affected

In Great Britain (GB), both of these conditions have been reported since the 1960s and the chaffinch (*Fringilla coelebs*) is the species by far most frequently affected. Brambling (*Fringilla montifringilla*) and bullfinch (*Pyrrhula pyrrhula*) have also been affected with similar leg lesions on rare occasions.

### Pathology

Both papillomatosis and cnemidoptosis can cause skin disease with similar appearance over the legs of finches.

With papillomavirus, proliferative “spiky” or “tassel-like” lesions typically develop which are mostly around the foot and digits (toes) but can spread higher up the leg.

With cnemidoptotic mite infestations, excess white or grey-coloured skin growths can develop, involving the foot, digits or entire leg. On rare occasions with cnemidoptosis, crusty, scab-like lesions can also occur on the face, in which case the condition is known colloquially as “scaly face”.

Whilst further research is required, it appears that mixed infection with both conditions can occur in some birds.

### Signs of disease

Chaffinches with leg lesions are most commonly bright and active, in normal body condition, and appear relatively unaffected by the disease. With both diseases, skin abnormalities are thought to develop slowly over a period of weeks to months. Spontaneous recovery in a proportion of cases is believed to occur with papillomatosis whilst the disease progression of cnemidoptosis in wild birds is poorly understood.

For either disease, severe cases can result in lameness, or secondary bacterial infections, which can cause debility, possible suffering and leave the affected bird vulnerable to predation. One or both legs can be affected and digit loss can occur in some cases.

It is not possible to reliably discriminate between the two diseases based on the appearance of leg abnormalities alone.



Figure 1. Chaffinch (*Fringilla coelebs*) with leg lesions. Photo credit Dave Sapp.



Figure 2. Bullfinch (*Pyrrhula pyrrhula*) with leg and facial skin lesions. Photo credit Dave Sapp.

## Disease transmission

Transmission of both diseases can occur via direct contact with affected birds or through indirect contact, for example at shared perches.

## Disease patterns

Chaffinch foot lesions have been reported from many regions across Great Britain. There is no known seasonality for either cause of this disease.

Papillomatosis in chaffinches has also been reported from various countries in continental Europe (including the Czech Republic, Germany, Sweden and the Netherlands).

When the diseases occur usually only a small proportion of chaffinches in a flock are affected with leg lesions; it appears that the conditions are long-established in the British chaffinch population. However, apparent epidemic disease due to cnemidoptosis has been reported in migratory American robins (*Turdus migratorius*) in the mid-1990s, where a high proportion of the population was observed to have leg lesions. Severe outbreaks of disease in wild birds can therefore occur.

## Risk to human and domestic animal health

Papillomaviruses are typically highly adapted to certain host species therefore chaffinch papillomavirus poses no known threat to human or other mammal species and is only likely to have the potential to cause disease in closely related wild or captive birds.

*Cnemidocoptes* mites are only known to infect birds therefore there is no known risk to human or other mammal health. The *Cnemidocoptes* species that typically infect songbirds (including finches) are different to the species of mite that commonly affect poultry: the risk of infection to poultry spreading from finches to poultry is therefore likely to be low. Whilst cage and aviary finches may be at risk of infection, transmission is unlikely since pet and wild birds would need to be in direct physical contact or share contaminated surfaces (e.g. perches) for this to occur.

Garden birds in the UK may carry infectious agents (for example *Campylobacter*, *Chlamydia psittaci*, [Escherichia albertii](#) 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

Whilst the appearance of finch leg lesions may be suggestive of one or either cause of the diseases, it is not possible to reliably discriminate between the conditions based on visual inspection alone, mixed infection with both agents may occur as can other skin disease (e.g. [avian pox](#)) in some garden bird species.

Diagnosis of papillomatosis and cnemidocoptosis infection in garden birds typically relies on post-mortem examination since there is a significant 'overlap' in their appearance.

Additional laboratory tests (e.g. genetic tests, microscopic examination and electron microscopy) are used to confirm the diagnosis of the disease as either papillomatosis or cnemidocoptosis.

If you wish to report finding dead garden birds, or signs of disease in garden birds, please visit [www.gardenwildlifehealth.org](http://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 cnemidocoptosis in captive birds, effective and targeted dosing of free-living birds is not possible. No medicine is available for the treatment of papillomatosis in wild or captive birds.

It is uncommon for chaffinch leg lesions to occur as outbreaks of disease and the condition is most frequently seen to affect individual birds.

If a problem with finch leg lesions occurs, general measures for control of disease in wild bird populations should be adopted:

- Since infection with both agents is spread through direct physical contact between birds, or indirect contact (e.g. perches, feeding platforms), ensure optimal hygiene at garden bird feeding stations, including disinfection (as described above).
- 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](http://www.gardenwildlifehealth.org). The booklet "Feeding Garden Birds – Best Practice Guidelines" is also available from the GWH team by (email: [gwh@zsl.org](mailto:gwh@zsl.org), telephone: 0207 449 6685).

## Scientific publications

Pence, D.B., Cole, R.A., Brugger, K.E. and Fischer, J.R. (1999) Epizootic podoknemidokoptiasis in American robins. *Journal of Wildlife Diseases* **35**(1): 1-7.

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Pennycott, T.W. (2003) Scaly leg, papillomas and pox in wild birds. *Veterinary Record* **152**: 444.

Pence, D.B. Acariasis. (2008) In: *Parasitic Diseases of Wild Birds*. Atkinson C.T., Thomas, N.J., Hunter, D.B. (Eds..) Willey-Blackwell pp. 527-537.

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