

# Common External Parasites of Poultry

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A number of parasites attack poultry by either sucking blood or feeding on the skin, feathers, or scales on the skin. Continuous external parasites are those that spend all of their adult life on their host. Temporary parasites feed on but do not live on their host.

## Continuous Parasites

### Northern fowl mite

The northern fowl mite (*Ornithonyssus sylviarum*) is the most common external parasite in poultry (chickens, turkeys, game birds, pigeons, etc.), especially in cool weather climates. They are commonly spread through bird-to-bird contact. Northern fowl mites are blood feeders. Clinical signs of an infestation will vary depending on the severity of the infestation. Heavy mite infestations can cause anemia due to blood loss. Chickens will have weight loss and decreased egg production, carcass quality, and feed intake. The flock will also be more susceptible to disease.

Check for northern fowl mites around the vent area (Figure 1). Mites can often be seen as tiny white or dark specks moving quickly on the skin. Sometimes, however, the most obvious indication of an infestation is the presence of mite eggs and fecal material.

Northern fowl mites are usually found in poultry flocks during the winter and cooler months of fall

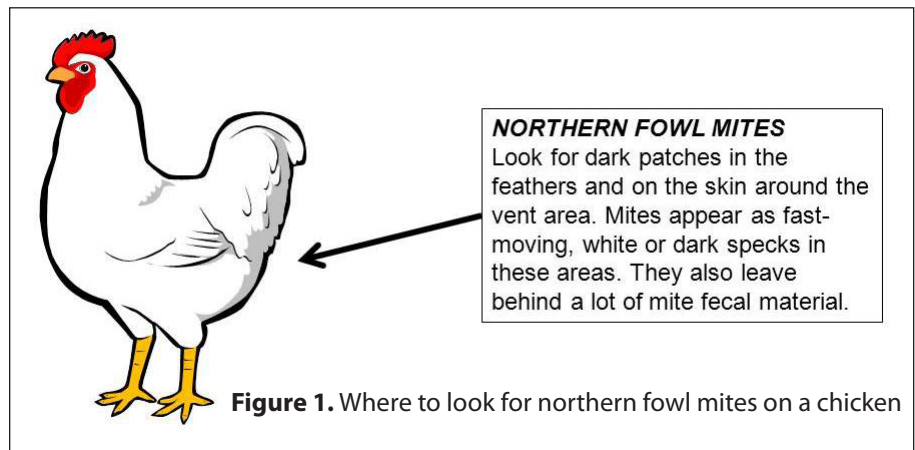
and spring. This parasite has been seen on many species of wild birds but is believed to be carried mainly by the English sparrow.

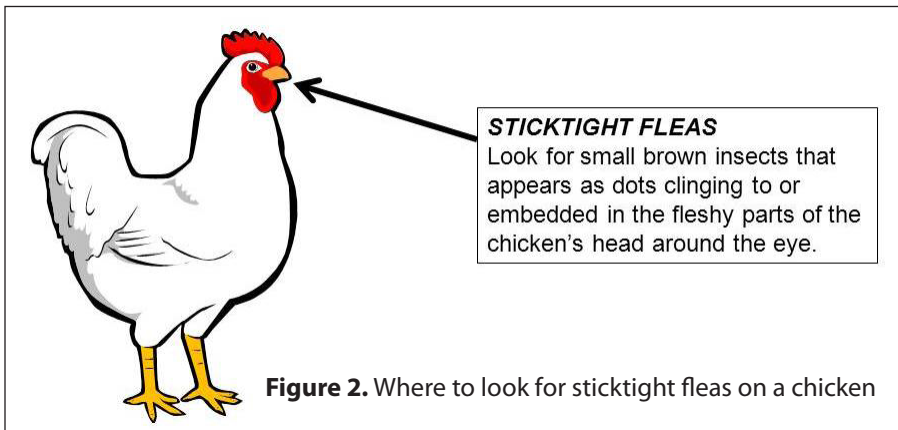
“No mite strips” are an effective way to apply an insecticide to your flock. The strip contains permethrin and as the bird touches the strip the insecticide transfers directly from the surface of the strip to the birds. They are said to provide two years of protection against northern fowl mites. Examples of powdered insecticides include Sevin, Prozap Insectrin Dust® and PoultryGuard®. Check the label for directions on the use and restrictions. Typical control measures include dusting the birds with a powdered insecticide or adding the powdered insecticide to the litter (10%) or dust bath (20% DE).

For organic producers who are not able to use the products listed above, diatomaceous earth can

be used as a preventive measure. Diatomaceous earth (DE) is believed to be a natural insect control powder. DE is obtained from deposits of diatomite, which are the fossilized sedimentary layers of tiny phytoplankton called diatoms. DE is a form of amorphous silica that can kill insects by desiccation, by absorbing the oily or waxy cuticle layer by direct contact. When the thin, waterproof layer is lost, the insect loses water and dies. In addition to its desiccant action, DE works abrasively to rupture insect cuticles.

In addition to DE, a few products are available for use with organic poultry production, such as PyTganic Pro® which is a pyrethrum-based product. Pyrethrum is a botanical insecticide derived from chrysanthemums. The life cycle of northern fowl mites is five to seven days, so repeated treat-





**Figure 2.** Where to look for sticktight fleas on a chicken

ments may be necessary to eliminate a large infestation. Follow label directions.

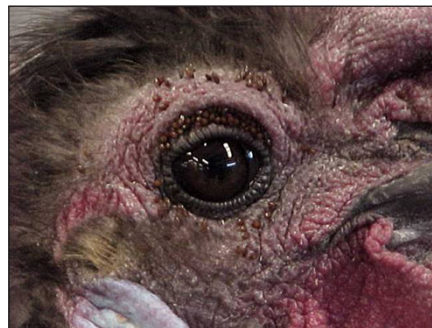
**Sticktight fleas**

Sticktight fleas (*Echidnophaga gallinacea*) are another common external parasite of poultry. Although they are called a “flea” they are stationary compared to most other fleas. They are a burrowing flea; female fleas attach to the skin around the face and wattles to lay eggs (Figures 2 and 3). Ulceration and aggravation of the skin can occur. When the area around the eyes is affected, blindness can result. In severe cases, stick-tight flea infestations can kill young birds.

Sticktight fleas can be transferred to other animals, including dogs, cats, horses and humans.

Sticktight flea larvae develop in the soil around chicken cages and pupate in about two weeks. Two weeks later, adult fleas emerge from the pupae and are free-living until breeding time. Female fleas attach to the skin around the face and wattles of chickens and lay their eggs to continue the life cycle.

Chickens raised in wire cages three or more feet above the ground do not usually become infested with sticktight fleas. Sevin® dust can be applied to the fleas and litter. An alternative method for treating an infestation is to coat the adults with petroleum jelly. In



**Figure 3.** Chicken with sticktight fleas. *Jacquie Jacob*

either case, the attached fleas will die within a short period of time, but they remain attached to the chickens for an indefinite period (several days or weeks).

**Scaly leg mites**

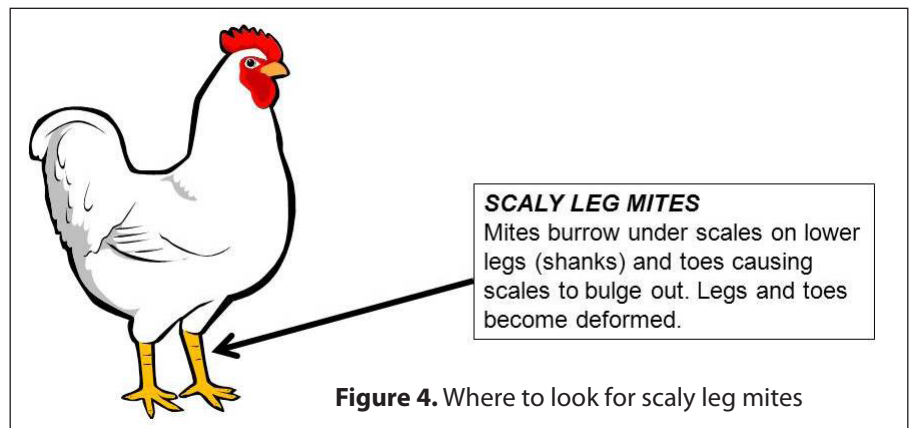
Scaly leg mites (*Knemidokoptes mutans*) burrow into and live in the skin under the scales of the feet, causing lifting of the scales and deformity of the feet (Figures 4 and 5).

Chickens raised in wire cages three feet or more above the ground do not usually become infested with scaly leg mites. Prevention is easier than treatment, so inspect new birds before adding them to a flock. Transmission is bird to bird. Scaly leg mites are frequently picked up at poultry shows so treat all chickens return from poultry shows.

Chickens with scaly leg mites can be treated by dipping the legs in linseed oil or petroleum jelly (Vaseline) at seven-day intervals for three weeks. Do not use fuel oil, kerosene, motor oil or other liquid petroleum products on the chickens at any time. The swollen and deformed look to the feet may remain even after the mites are dead. Since most poultry judges consider a scaly leg mite infestation to indicate a lack of proper management by the exhibitor, such chickens should not be shown in poultry exhibits.



**Figure 5.** Chicken feet deformed by scaly leg mites. *Jacquie Jacob*



**Figure 4.** Where to look for scaly leg mites

## Chicken lice

Chicken body louse (*Menacanthus stramineus*) and the shaft louse (*Menopon gallinae*) are the two species of lice most commonly found on poultry. Lice feed on blood and other fluids of the host, causing birds to become restless and irritated. This adversely affects feed intake, digestion, growth and egg production. Young birds are more seriously affected.

Lice tend to be more abundant in unclean, overcrowded conditions. Control of chicken lice is typically done with the use of Malathion and Sevin dusts applied to the birds. Pesticides used for northern fowl mites will usually also control lice.

## Temporary Parasites

A number of blood-sucking external parasites feed on chickens but do not actually live on them. After feeding they leave the host and hide in the floor and walls of the housing near the host. The three most common are fowl ticks, chicken mites and bed bugs. All are considered rare and are nocturnal feeders. Because they feed only at night it may be hard to detect an infestation unless the birds are examined at this time. None of the parasites move quickly, so they are usually easy to observe on birds and, if necessary, to collect for identification.

### Fowl ticks

Fowl ticks (*Argas persicus*) are also known as blue bugs. They are classified as soft ticks and are very different from the hard ticks normally found on cats and dogs. Fowl ticks are light reddish brown to dark brown, and the skin is wrinkled. The adults are usually 6 to 9 mm (0.24-0.35 inches) in length.

Female fowl ticks lay several batches of eggs. They typically lay 30 to 100 eggs per batch, though

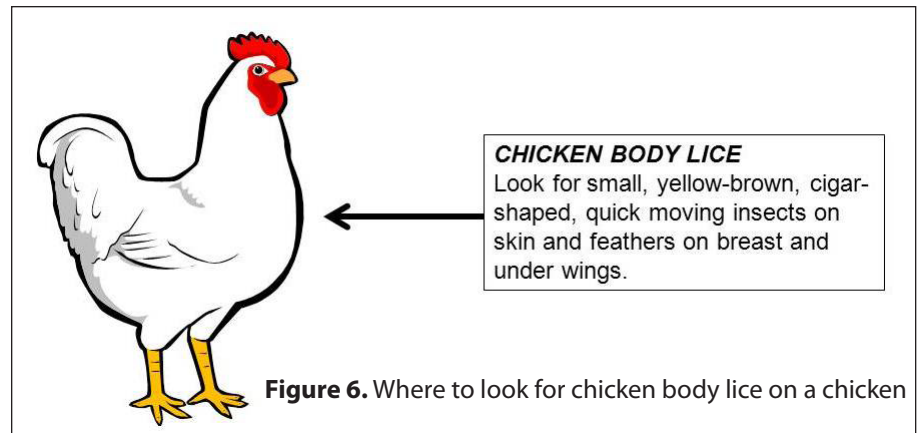


Figure 6. Where to look for chicken body lice on a chicken

some batches may contain more than 100 eggs. A female lays several batches of eggs and produces an average of 700 to 800 eggs during her lifetime. A blood meal is needed to produce each batch of eggs. Under favorable conditions, time from egg to adult is approximately 30 days. Adult ticks completely engorge on hosts in 30 to 45 minutes. Adults are extremely resistant to starvation and can live more than a year without a blood meal.

### Chicken mites

Chicken mites (*Dermanyssus gallinae*) are also known as red mites or roost mites. They are often confused with the northern fowl mite (*Ornithonyssus sylviarum*). The main difference between the two mites is that the northern fowl mite spends its entire life on the host and the chicken mite does not.

Chicken mites are quite small, but they can be seen with the naked eye. They are typically found in large numbers. The life cycle is fairly complicated, with a series of feeding and non-feeding immature stages. Eggs hatch in about three days, and under favorable conditions the life cycle can be completed in seven to ten days. Adults are resistant to starvation and can live off the host for more than a month.

### Bed bugs

Bed bugs (*Cimex lectularius*) are typically found in large numbers. Adults are reddish brown, and the immatures are off-white in color. Females lay eggs in batches of 15 to 60 in the cracks and crevices they occupy. Females lay between 150 to 600 eggs in their lifetime. Time from egg to adult typically ranges from 1 to 4 months although it is not unusual for the time to be much longer. Nymphal stages can withstand long periods of starvation (1 to 5 months) and still survive. Adults completely engorge on hosts in 5 to 10 minutes.

### Prevention and Treatment

Damage caused by all three of these temporary external parasites is similar. Birds will have bloody lesions of various sizes depending upon the parasite that fed upon them.

The chicken mite hitches rides on wild birds, rodents and other animals, but it is not known how ticks and bed bugs are spread between flocks.

Changes in poultry housing have almost eliminated these three parasites from commercial flocks. However, they sometimes appear in small flocks of chickens, other poultry, or exotic birds such as parakeets and cockatiels.

Because these pests are rare, it can be difficult to find pesticides labeled specifically for their control. Pyrethroid pesticides can be used to treat the poultry house. Cracks and crevices, where these pests shelter, should be eliminated, minimized, or sealed. Entry of wild birds and rodents should be prevented with screens and other barriers. Treatment for these parasites must include a thorough cleaning and sanitizing of the poultry house.

## Summary

Continuous external parasites of poultry can be detected through a physical examination of the bird. Periodic examination of your flock is recommended so that infestations can be detected early and a larger flock outbreak contained. It is especially important to detect infestations early in food-producing poultry because there are restrictions on the treatments available for these flocks. It is also important to remember that many of the external parasites live part of their life cycle off the bird in the environment so these areas should be treated during an outbreak as well.

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