Backyard Poultry Magazine

What's Crawling on your Chicken?
Finding and identifying the most common ectoparasites on your chickens.

Amy Murillo, PhD Candidate, Department of Entomology, University of California Riverside

Have you ever examined your hen? Flipped her upside down and rifled through her feathers? A bird is a whole world to parasites, with unlimited housing and food opportunities just waiting to exploited by organisms that require chickens to complete their life cycle. Domestic chickens are potential hosts to many different ectoparasites. These ectoparasites are insects (six-legged) or related arthropods (eight-legged) who live some of or their whole lives on the bird. Some of these arthropods are very specific to chickens, while others need only an avian or warm-blooded host. The most common ectoparasites are described below.

Chicken Body Louse There are many species of lice that can infest backyard poultry, but the most common type seen on chickens is the chicken body louse (Fig. 1). The lice are yellowish in color and dorso-ventrally flattened (lay flat against the skin). They live all over the body, but can often be found concentrated under the wings (a place that is difficult for hens to groom). Lice lay their eggs on feathers in white clusters. These lice feed on feather barbules but may also feed on skin and blood. While lice may crawl onto people while handling birds, they do not feed on humans and will drop off harmlessly within a few hours.

Sticktight Flea Sticktight fleas (Fig. 2) are dark brown and laterally flattened. The fleas are quite visible on the face and comb of chickens (especially roosters) where they embed themselves in the skin to feed; they can be very difficult to remove manually. The females lay their eggs while feeding, which fall to the ground where they hatch and live as immatures on organic material in the litter or soil. Sticktight fleas may attach to cats, dogs, other pets, and in rare cases people. Cotton balls can be used to carefully apply insecticide to affected areas around the face.

Northern Fowl Mite The most common ectoparasite on chickens in North America is the northern fowl mite (Fig. 3). Mites are usually found in the vent region of birds, just in front of the cloaca. Mites have a short life cycle, allowing populations to grow very rapidly on birds. Individual mites are tiny, but the vent area will have a "dirty" look caused by the eggs, feces, cast skins, and mites which is characteristic of an infestation. While mites may get on people when handling infested birds, they do not like to feed on people and will not last long on a non-avian host.

Scaly Leg Mite These mites are very tiny and burrow into the skin under the scales of poultry legs and feet. Their presence causes irritation, swelling, and a crusty, scabby appearance. Chronic infestations can cause deformities and lameness. Rubbing infected legs with petroleum jelly can disrupt the mite life cycle.

Bed Bug and Chicken Red Mite Both bed bugs and chicken mites spend most of their time in cracks and crevices within structures, and will travel to birds at night to feed for a short time. Chicken eggs, nest boxes, and corners of poultry housing should be examined for the presence of parasites or fecal spots (Fig. 4). These harborage sites can be treated with insecticidal dust or other materials.

Management Options

Ectoparasites may be introduced to your flock via wild birds, rodents, contaminated birds or supplies, or even other people. Sanitation and biosecurity can play an important role in keeping your chickens parasite-free. When possible, keep chickens away from wild birds and their nests and exclude rodents. In addition, litter or bedding may be contaminated with immature or dormant life stages which are difficult to detect (e.g. sticktight fleas). For this reason, litter should be changed regularly, especially after treating animals, in order to prevent reinfestation from the environment.

Identification of ectoparasites is key to achieve pest control. There are many tools available for proper pest identification. Books and other publications can be a great tool. Many universities and vet schools offer diagnostic services for a small fee, and are vital when experiencing flock mortality. The internet can be a scary place when researching parasites. Try to stick to reputable sites, like university extension websites (.edu). While fellow backyard poultry keepers may have experience with parasites on their flocks, many treatments that are recommended on websites or blogs are ineffective, or worse, downright dangerous (gasoline is NEVER a solution). Local feed stores carry pesticides for use on poultry, with labeled instructions for the insect or arthropod it controls. Pesticides are formulated specifically, and something that works on lice, for example, may not work at all on mites, so it is important to know your target pest and always follow label instructions. Many current pesticides have low non-target toxicity when used properly.

Alternatives to conventional pesticides are available. Ongoing research at the University of California Riverside has shown that diatomaceous earth (DE) works well to manage mites and lice on hens (and likely other parasites as well). It is best to mix DE with sand (regular play sand works great, in a 1 (DE):4 (sand) ratio) in a container such as a plastic swimming pool or cement mixing bin (wear a dust-mask while doing this; DE is safe for birds but can cause irritation in humans). This should attract hens to dustbathe in the DE/sand mixture, which is essential to getting the DE into the feathers and onto the skin where the ectoparasites live. Having DE in the environment (i.e. on straw or dirt) is not effective on its own for ridding birds of on-host parasites.

Once parasites are introduced to birds, they often proliferate very quickly. Regularly check your animals so that infestations can be stopped before they become too difficult to control. It is important to check each individual as the majority of parasites may only be found on 1 or 2 birds in a flock. Isolating infected individuals should help to slow contamination of the whole flock. Keeping healthy animals is essential, as many of the parasites discussed here are negatively impacted by host immune responses.

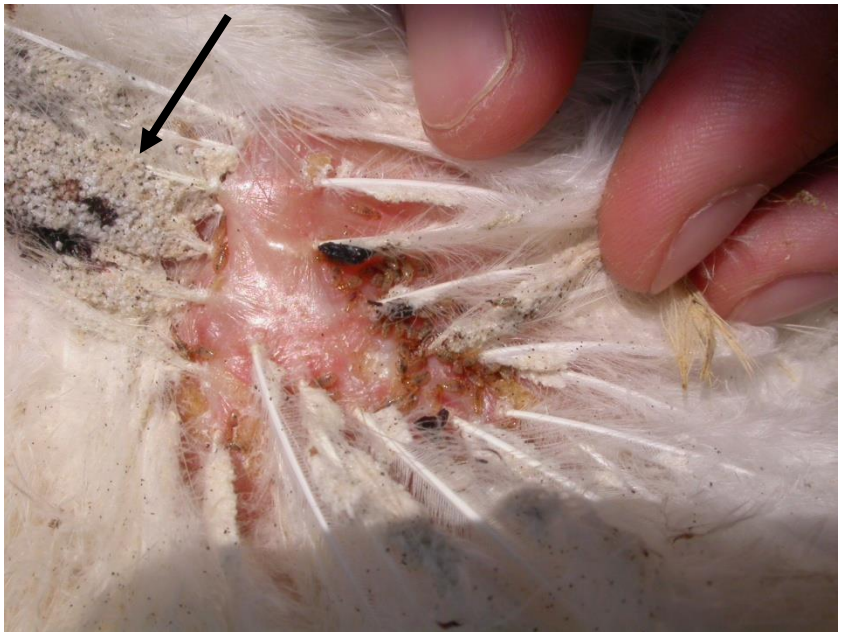

Figure 1. Chicken body lice in the vent area of a hen. Eggs are laid on feathers (arrow). Photo courtesy of B.A. Mullens.

Figure 2. Sticktight fleas embedded in the comb of a chicken. Photo by A.C.Murillo.

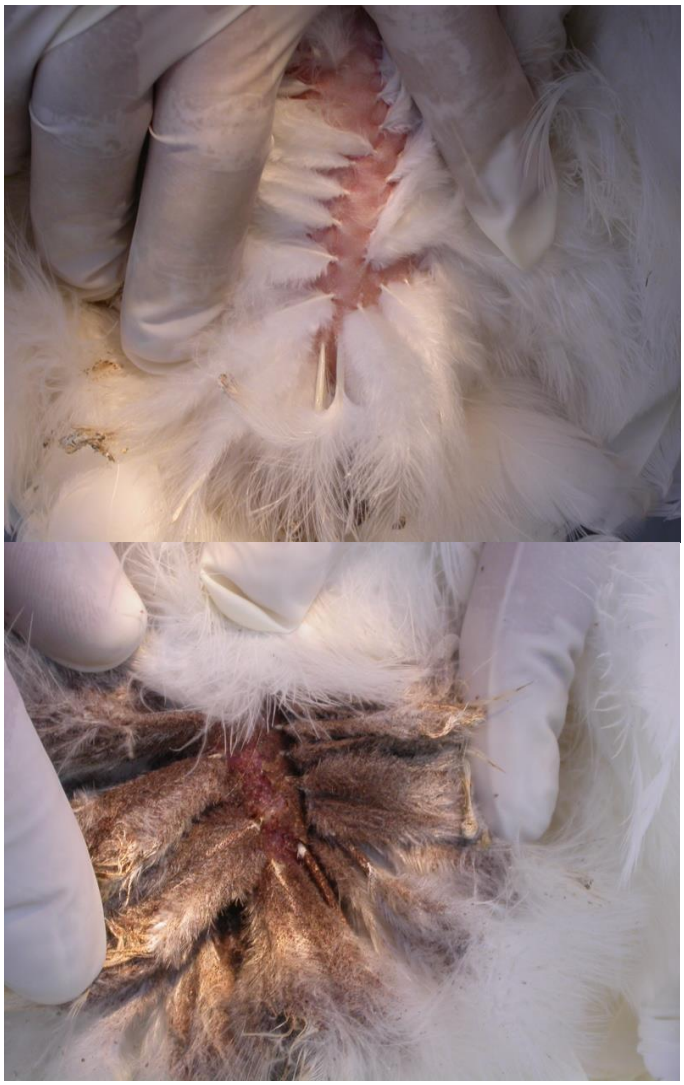

Figure 3. Vent area of clean, uninfested chicken (top) compared to vent area infested with northern fowl mites. Photo courtesy of B.A. Mullens.

Figure 4. Bed bugs in corner of poultry house (top). Close up view (bottom) of bed bugs, eggs, and fecal spots. Photos courtesy of Cornell Vet Ent.