

Of Mites and Men

One reason that bird owners love their pets so much is because of their beautiful plumage. So it shouldn't be surprising to find that many bird owners are very upset when their birds develop feather problems. At the first signs of feather abnormalities, the bird owner may come to the pet retailer to seek a remedy or solution to the feather problems. There are many causes of damaged or missing feathers, and often, the bird owner thinks first of mites or lice. Unfortunately, in most cases, infestation with these little insects is not the problem.

Feather problems can be caused by a bird over-preening its feathers, by a bird chewing, mutilating or pulling out feathers (on itself or a cage-mate), by improper perch placement in the cage (resulting in broken tail or wing feathers), by viral diseases (such as Psittacine Beak and Feather Disease, PBFD, or polyomavirus), by bacterial skin infection, fungal skin infection (rarely), nutritional problems, metabolic disease (such as hypothyroidism), protozoal diseases (such as infestation with *Giardia*), toxins and mite and lice. So, you can see that feather problems can be the result of a myriad of different factors, and sometimes can be quite complex to solve.

Pet bird owners seem to often have an irrational fear of external parasites on their feathered friends! So, when an owner comes in for advice regarding feather problems, it is important to allay their fears regarding mites and lice. First of all, mites and lice are quite uncommon in pet birds (with the exception of a type of mite that may be found in budgies). And if a bird does have a problem with mites or lice, in most cases, the critters only live on the bird and don't bite humans or other pets, and they are easily eradicated. (There are exceptions to this, but we'll cover those later).

When you are asked to counsel a bird owner regarding the possibility of the pet suffering from a parasitic infestation with mites or lice, it is important to closely examine the bird's skin and feathers. In addition to examination of the bird, the cage and environment must also be evaluated? Does the owner smoke? Handling a bird after smoking may transfer tars and nicotine to the bird's skin and feathers, resulting in problems, for example. It helps tremendously if you have a source of magnification and illumination to better help you observe the bird's feathers and skin. Unless you can visualize mites, lice or nits on a bird's skin or feathers, or the characteristic powdery lesions on the skin of infested budgies, it is best to recommend that the owner take the bird to an avian veterinarian for evaluation. Since many feather problems are the result of a disease process other than mites, you will be doing the bird owner a big favour by suggesting a trip to their vet.

If a bird does not have mites or lice, there is no need to exercise any special caution or provide any type of product for their prevention. Some mite repellents contain mothball-like compounds that can be toxic to birds or may even cause liver cancer. However, if you do discover an external parasite problem, you should have a basic understanding of these types of insects in order to best advise your customers.

The most commonly encountered mite is the scaly face mange mite of budgerigars, called *Knemidokoptes pilae*. It is found on the cere (that fleshy portion of skin over the beak where the nostrils are situated), the skin around the beak, around the vent and also on the legs. This mite burrows in the skin, causing a powdery appearance to the skin, and if you look closely,

you will see a honey-comb pattern of holes in the skin, representing burrows and tunnels caused by the mites. These lesions are usually not itchy. Rarely, these mites may be found on other species of psittacine bird. The *Knemidokoptes* mites may also cause lesions on the bottom surface of the feet of affected canaries and goldfinches, and sometimes lesions occur on the leg scales, as well. This is commonly called "tasselfoot" in these species.

Diagnosis is usually confirmed by skin scrapings performed in a veterinary office, and then examined under a microscope. Older remedies included applying mineral oil or ointment to the lesions, to suffocate the mites living under the skin. Treatment of choice is the administration of ivermectin, either by injection, orally or topically. This should be administered by an avian veterinarian, based on the precise weight (in grams) of an infested bird, dosed carefully after calculation of the exact amount of medication necessary. Treatment should be repeated at 7-10 day intervals for at least 3-4 treatment. If the mites have deformed the beak, it may need to be trimmed by a vet, as well. Although these mites are not thought to be easily contagious, it is best to treat all birds in the cage with an infested bird. The mites cannot live off of the bird and they cannot cause problems in humans or other species of animals.

There is one mite that you cannot easily see. The air sac mite of canaries and finches (especially Lady Gouldian finches) actually live in the respiratory tract of these birds. The mites can be visualized by shining a small, bright focused light across the windpipe (trachea). The mites will appear as grains of pepper (possibly moving) inside the trachea. The mites are also found in the lungs and air sacs. A small number of mites may cause no obvious signs, but if a bird suffers from a serious infestation, it may open-mouth breathe, tail-bob or have difficulty breathing. Transmission is thought to occur from the bird coughing the mites up into the mouth, or by the mites crawling into the mouth, where they are wiped from the beak by a bird during feeding or rubbing the beak along perches, where they may be transferred to another bird. A parent bird may pass mites to its offspring through feeding. If a mite or egg is swallowed, the specimen may be observed in a fecal test by microscopic examination. Often, air sac mites are diagnosed at necropsy. Treatment by an avian veterinarian may be attempted using ivermectin, dosed precisely. However, if a large number of mites all die at one time, this may cause a fatal reaction in the infested bird. Older treatment consisted of making a light cloud of 5% carbaryl, and allowing the bird to briefly inhale it. All birds in a cage with a bird diagnosed with air sac mites should be treated at 10 day intervals for at least three doses. A cage containing infested birds should be thoroughly disinfected. If your store sells canaries and finches, it is a good idea to establish a routine examination and treatment schedule with your avian vet to control these elusive bugs.

One other type of mite may be seen in pet and aviary birds. This is called the red mite (*Dermanyssus*). *This nasty mite bites birds and sucks their blood. Red mites may be found on any species of bird. Most recently, I diagnosed red mites in a breeding aviary of Queen of Bavaria conures. They feed at night, which often makes the bird restless and itchy. The mites may be found crawling around on the skin or feathers at night. If a bird is examined during the day, no mites may be present on the bird. The easiest way to diagnose them is by covering the cage at night with a white sheet. Examination of the sheet in the morning will show tiny brown or red specks about the size of a grain of pepper if the bird has red mites. After the mites take a blood meal from the bird, they will crawl off into cracks in the cage or perches, nest boxes or even into other areas of the home in the morning. I have seen these mites*

infest an entire New York City apartment! Unfortunately, red mites aren't very fussy about who or what they take their blood meal from! They can bite and feed on human blood, as well as the blood of household pets. During the day, mites can get into furniture, carpeting and woodwork, where they lay their eggs. Clean-up requires removal of the mites from the environment as well as from the birds. Birds may be treated with ivermectin at 7-10 day intervals, or a pyrethrin spray or 5% carbaryl powder may be used on the bird. Because the mites suck blood, an avian veterinarian should be consulted, as the bird may be anemic from continued blood loss! Although unlikely, the mites could transmit certain other diseases to birds, as well.

In addition to mites, occasionally lice may be observed on bird feathers. In general, lice are not as dangerous to birds as mites are, and they are host species-specific. There are biting lice and sucking lice. Lice commonly encountered in pet birds are the biting kind, and are found on the feather shafts of infested birds. They eat scales or bits of feather, resulting in poor feather quality with serious infestation, although feathers may appear normal if just a few lice are present. Because they are species-specific, this means that if you find lice on cockatiels, there should be very little worry that the lice will spread to other species of birds in the store or home. Lice are usually elongated, whereas mites are more round in shape. The most common feather lice found on birds are usually seen attached to the underside of feathers, along the vanes. They don't easily move around on the bird. Diagnosis is made by observing the lice or their eggs on the underside of wing and tail feathers. These lice are easily treated by the use of 5% carbaryl dust, pyrethrin spray or ivermectin. Several doses 7-10 days apart may be necessary to eradicate lice as they hatch out on the feathers. They complete their life-cycle on the bird and are not a problem for other types of animals. It is a good idea to clean and disinfect the cage housing infested birds. Young birds may be infested by their parents in the nest, or the lice may pass from bird to bird by close contact.

One other parasitic insect that you may encounter in pet birds is the stick-tight flea. While not a mite or louse, you might see a bird, dog or cat with them. They appear as small brown, raised, shiny dots on the bare skin of a bird, or on the tips of the ears of infested dogs or cats. These fleas are most commonly found on poultry, and for a pet bird to become infested, it must have close contact with infested chickens or their coops. Treatment may be instituted with pyrethrin spray or ivermectin.

Several products are available for you to sell to customers with mite or lice problems. The safest and most effective products should contain a percentage of insecticide (pyrethrins or carbaryl) that is safe for birds, yet will kill the parasites. Sprays or dusts are safest. Ointments generally should not be used on birds, because if spread over feathers, they will prevent proper thermoregulation of the body temperature by the bird. Any products for use on birds should not contain lidocaine (a topical anesthetic that is toxic to birds even in very low doses). Products safe to kill parasites in cages and cage equipment can be offered to assist the owner with their problem. If you see mites or lice on a pet bird brought in to your store, you will never go wrong by recommending that the customer take the bird to an avian vet for diagnosis of the specific type of bug present, since it is now obvious to you that different insect parasites require different treatments.

If an infested bird has come into your store with a customer, don't panic. If you have handled the bird, thoroughly wash your hands and arms with hot, soapy antibacterial soap. If you held

the bird against your body, it might be a good idea to change your shirt and wash that one in a hot washing machine, just to be on the safe side. Unless the bird has had close contact with store birds, the risk to those birds is minimal.

As a pet retailer, it is good practice to perform a complete external examination of every bird destined for sale that comes into your store. If this is done, you should catch many problems right off the bat, allowing you to address them before things go very wrong. If mites or lice are seen, follow your store protocol or the directions given to you by the avian vet that you use. That way, you'll have one less thing to bug you.

