

Feather Damaging Behavior - FDB

An in-depth look at feather picking and plucking parrots

By Susan Clubb

Feather plucking or feather picking are common terms for behavior in which parrots pull out or otherwise damage their feathers. But there are other behaviors in which birds will bite off (cleanly bite off the feather at the shaft), chew (chew the feather shaft), strip (strip the veins off the shaft) or barber (chew the tips) their feathers. I will refer to all of these behaviors as Feather Damaging Behavior (FDB).

FDB is a very frustrating problem for both owner and veterinarian. I began to research this problem in earnest in the late 1990s. At the time, I was able to study a large group of parrots (more than 3,000) housed in an ideal setting with ideal housing, great diet, excellent veterinary care and social groupings.

Even in this ideal setting, depending on the year and season, 8 to 12 % of the birds exhibited some feather damaging behavior. It was at that point that I was confident that this behavior occurs for reasons other than simple management deficiencies. Poor management cannot be excluded — it can be a contributing factor in many cases — but it definitely is not the whole story.

It is very common for owners to relate the onset of FDB to a upsetting event such as the owner going away for the weekend or not giving the bird the perfect toy or a specific food item. However, there's more to FDB than an upset bird.

FDB is truly a universal problem. It is seen in breeding birds, in large outdoor flights, in great climates and in birds that have great bonds with their owners and are in wonderful housing conditions. So, if everything is great, why do birds pluck their feathers?

Certainly there are many medical reasons that have been implicated as causes of FDB. Before we have a chance of providing effective treatment, we first need to, if possible, establish a reasonable diagnosis. Keep in mind, there may be more than one diagnosis, or contributing cause.

In my study of FDB in the large collection, I also found that most cases are progressive. Most birds start with one part of the body (often the chest), but from there, most birds start to damage other areas, with the legs being the second most common area and on to the wings, back, abdomen and neck, not necessarily in that order.

Paired Skin Biopsies

Unraveling the causes of FDB and intervening is challenging. In my practice, I have been utilizing paired skin biopsies as my first-choice diagnostic technique for birds with FDB.

The theory behind paired skin/feather biopsies is simple. We collect two skin biopsies, each of which incorporate a growing "pin" feather as well as the entire follicle and skin surrounding it. If a bird is plucking, it usually has inflammation in the affected area if only due to the trauma of plucking. But if the bird has inflammation in an area where it cannot pluck, (usually the head or back of the neck) this is an indication that it has a systemic inflammatory problem such as an allergy.

In this procedure, the bird is anesthetized, and we search for appropriate feathers, biopsy them and send the samples to a pathologist. One sample is taken from an area of skin where the bird is plucking, and another sample is taken from area of skin where the bird is not plucking or cannot reach (usually the head or neck).

The pathologist looks for inflammation around the blood vessels in the skin (perivascular inflammation) and the feather follicles (perifollicular inflammation). This is indicated by certain inflammatory cells (lymphocytes and plasma cells) collecting around these sites. This inflammation causes irritation and itching. The most logical cause of inflammatory skin disease is allergies, but, at this time, we cannot definitively prove that the symptoms are caused by allergies.

For pathology in these cases, I use Northwest Zoopath, Dr. Michael Garner. I have sent him more than 400 paired biopsies. In this application, paired skin/feather biopsies are used as a tool to diagnose inflammatory skin disease. Other problems often are diagnosed as well. We sometimes see bacterial or fungal folliculitis (bacterial or fungal infection in the feather follicle). Malassezia infection, a type of fungal dermatitis, can be diagnosed in this way.

Nutritional deficiencies may be implied by hyperkeratosis, and viral infections may also be diagnosed. We have even found cases of iron storage in the skin. But, for most of the birds we diagnose, we find either inflammatory skin disease (perivascular inflammation in both sections) or traumatic dermatitis (no inflammation or inflammation only in the affected site).

We also use additional testing on a case by case basis to help define other medical causes of FDB. If we do not find any medical cause, we assume that the FDB is caused by some sort of psychological problem, and we define these cases as psychogenic feather damaging behavior.

Inflammatory Skin Disease

Inflammatory skin disease (ISD) in parrots is a reflection of underlying allergic or some other unknown systemic inflammatory disease. The predominant clinical sign is plucking or damaging the feathers. In severe cases, birds might mutilate the skin as well. In many of these birds, the skin looks inflamed (red), but not in all cases.

Feather damaging behavior associated with ISD can begin in birds less than 1 year of age, or it may take years to develop. ISD, like allergies in humans and other animals, is a chronic, on-going problem. It cannot be cured; it must be managed for the rest of the bird's life. But, like in allergies in people or domestic animals, some birds may grow out of it, or, if they are away from what they are allergic to, the symptoms may naturally subside.

Skin inflammation associated with allergic reactions is certainly well known and documented in humans and domestic animals, so it would be logical that it could occur in birds. It is also logical that this inflammation would result in scratching, irritation and disruption of the plumage as the bird attempts to scratch the itch. I am very suspicious of inflammatory skin disease when the client is talking to me and the bird is sitting on his or her shoulder scratching rather than showing an interest in what is happening in the exam room. Some birds simply cannot stop scratching.

The Thyroid Connection

Other tests may be recommended at the time of the biopsy, which can help piece together the puzzle of FDB. I usually test thyroid hormone levels when I perform a paired skin/feather biopsy. While true hypothyroidism is uncommon in birds, I strongly believe that sub-optimal thyroid function or depressed thyroid function is very common in birds exhibiting FDB.

I have demonstrated this in studies comparing T4 (thyroxin) levels in plucked vs. non-plucked parrots of the same species (primarily African grey parrots). Statistically significant data reveal that plucked birds have lower thyroxin levels compared to non-plucked birds. I have also done this with thyroid stimulation tests, and affected birds have reduced response on thyroid stimulation when compared to non-plucked birds.

I don't know at this time if the reduced thyroid function makes birds more susceptible to inflammation and plucking, or if the systemic inflammation, which is observed in the skin, is also affecting the thyroid gland.

Other Causes

I often test plasma (blood) zinc levels because birds can develop subclinical zinc toxicosis, which may be associated with skin inflammation. Sources for zinc toxicosis may include cages, bowls, toys, etc. Zinc toxicosis may need to be treated prior to initiation of anti-inflammatory therapy.

In our clinical studies, we have also observed a strong link between aspergillosis and FDB. Birds may be sensitive or allergic to molds, as are many people and domestic animals. They may also have clinical aspergillosis. Treatment may enhance response to anti-inflammatory therapy. Environmental and dietary sources of molds should be reduced as much as possible.

It is possible — and very probable — that inflammatory skin disease is a reflection of the accumulation of toxins and allergens that push the bird over the thresh-hold, which results in skin inflammation so severe that the bird pulls its feathers in an attempt to find relief. This would be similar to the allergic threshold experienced by humans with seasonal allergies.

Why Not Test For Allergies?

Unfortunately, at this time, we do not have skin tests or blood tests that can determine what a bird may be allergic to. Human, canine, feline and equine practitioners have the luxury of sending out a blood sample, requesting screening for

allergens, pollens, molds, etc. in their particular area, then purchasing antigens for desensitization therapy (allergy shots). I had my dog's allergy tested, and one of the things she is allergic to is human dander. So I am desensitizing my dog to being allergic to me! Companies offering these services have not yet shown interest in testing birds, in part because the tests are species specific, and there are too many avian species.

Skin testing has long been the gold standard for allergy testing. It would seem simple then to extrapolate these techniques for allergy testing in birds. Dr. Tom Tully of the Louisiana State University veterinary School did extensive testing in this area only to find that it was not yet reliable in birds. He did show very well that the upper chest is more sensitive to allergens than the lower chest. Perhaps this is why the upper chest is by far the most common site in which birds begin to pluck.

Finding The Cause To Feather Picking

In the vacuum of having no tests to determine what a bird might be sensitive to, we must fall back on the old reliable, but very slow and hit and miss, method of elimination. Certainly the best way to control allergies is avoidance. But how do you avoid allergens if you cannot identify what they are?

Sometimes it is just intuition and luck. One client had a beloved peach-fronted conure. This bird rode constantly on the owner's shoulder. After multiple attempts to resolve the plucking which included some episodes of mutilation, the owner's wife began to wash his "bird shirts" in detergent designed for babies with sensitive skin, and the FDB resolved.

Similarly, a wild flock of Amazons with well-documented seasonal allergies and inflammatory skin disease resolved when the royal Poinciana tree they lived under was almost destroyed by a hurricane. Their plucking season correlated well with the flowering season of the tree.

Be Your Own Super Sleuth

Management can involve drug therapy (antihistamines), managing contributory problems like sub-optimal thyroid function, metal toxicosis and aspergillosis, using an anti-inflammatory diet high in antioxidants and avoidance of allergens (if you can figure out what they are). Successful management will usually involve several of these factors and be part of a long-term plan.

In hypersensitive individuals, known allergens should be avoided as much as possible. This would include environmental allergens (pollens, mold, dust mites), contact allergens (cleaning chemicals, sleeping areas, detergents, perfumes) and dietary allergens (foods, molds in foods, insect parts in foods).

Because we cannot test birds to determine which allergens should be avoided, we must try to simplify the diet and reduce items known to be allergenic in mammals. Keeping a diary of when the bird appears to be irritated or pruritic (itchy) will help you discover items that may be allergenic. If the bird becomes itchy when you wear your favorite perfume, or feed it a favorite food, these items need to be removed from the environment, if possible, to rule out a possible cause.

Diagnosis & Treatment

You might be tempted to diagnose and treat your own bird. Please be aware that the below management techniques were developed for birds specifically diagnosed with inflammatory skin disease. This diagnosis needs to be made by your veterinarian. He or she can then look for any other contributing factors and tailor a management program unique to you, your bird and its specific problems. But you also play a major role. Keep a diary, take photos, be observant about things that might be contributing to inflammation, and be consistent and persistent in any prescribed therapy.

Management of feather damaging behavior is not a one-size-fits-all scenario. What works for one bird will not necessarily work for all affected birds. It is not static. I have had cases that were initially diagnosed as psychogenic pluckers and, on subsequent testing, determined to have inflammatory skin disease. And, as in humans, some individuals may "grow out of it." Others develop allergies over time, and many are seasonal. If the environment, diet and other exposures are dramatically changed an individual bird can become allergy-free.

An Anti-inflammatory Diet

The goal of the anti-inflammatory diet is to reduce potential allergens, provide optimum levels of specific nutrients that help to control inflammation and to enhance metabolism. Also, try to balance Omega 3 and Omega 6 fatty acids, which have been shown in other species to reduce inflammation especially skin inflammation.

An anti-inflammatory diet can consist of a staple pelleted diet that is designed to be hypoallergenic. Foods high in antioxidants can reduce inflammation, too. In my practice, I use an oil inflammatory supplement that supplements Omega 3 and Omega 6 fatty acids in the proper ratio, depending on the base diet and fat soluble vitamins. This is used in combination with an aqueous supplement that contains water-soluble vitamins, trace minerals and natural herbal supplements that are potent antioxidants.

For example, Kaytee's exact® Rx HA Support (hypoallergenic) diet could be used as the mainstay of the diet, preferably offered in limited quantities twice daily. The supplements can be added to a pelleted diet and they will soak into the morsels, which makes them well accepted. Palatability of the H/A diet can be enhanced by adding fruit juices, warm water or favorite soft foods or table foods.

The quantity of daily H/A Diet offered should be approximately 8 to 12 percent of the bird's body weight, divided into two meals. (Smaller birds will eat a higher percentage of their body weight). Preferably birds should be fed at the owner's mealtime to reduce begging for human foods. Supplemental foods and treats should be provided from the list below. Other companies also offer hypoallergenic diets. Find the one that works for your bird.

Some birds are sensitive to aromas or colors in pelleted diets. Most manufacturers produce natural diets without colors or fragrances. If your bird will not eat a pelleted diet, consider a conversion diet. If conversion is not successful, or you choose to utilize a seed mix as the basis of the bird's diet, the same supplements can be utilized but with some alterations to the basic program.

If the bird is refractory to changing the diet, oil-based and aqueous antioxidant solutions can also be used with seed-based diets. Work with your avian veterinarian before implementing any dramatic changes to your bird's diet or adding supplements.

Antihistamines

Seasonal allergies often occur in birds with inflammatory skin disease. This may coincide with seasonal peaks in pollens, molds or other allergens. At these times, some birds may benefit from treatment with antihistamines, but they don't appear to work for all species.

In some species, allergies may be mediated by some pathway other than by histamine. Macaws seem to benefit most from anti-histamine therapy. Some highly allergic individuals may require year-round antihistamine therapy.

If antihistamines are used, I prefer plain chlorpheniramine maleate. Most products that you find in a drug store or grocery store contain a combination of ingredients, such as decongestants, which are not suitable. Plain chlorpheniramine can be obtained from your veterinarian. It is conveniently administered in the drinking water. Water administration works well, because it allows continuous dosing, otherwise chlorpheniramine must be given frequently.

Bathing

Bathing is important for skin/feather condition. Bathe the bird at least twice weekly but not every day, because excessive bathing can dry the skin. Soak the bird with fresh water. Ideally the bird will be allowed to dry in sunlight, with the appropriate precautions undertaken if your bird is taken outside. A solution of Aloe Vera Penetrans (1 teaspoon in 4 ounces water) may be sprayed on the feathers and skin once weekly, especially if the skin is very irritated.

Avoid getting oil supplements on the bird's feathers, because they can cause discoloration. If oils remain on the feathers, they can serve as a substrate for fungi to grow on the feathers. If this occurs, a weekly misting of Nolvasan solution (diluted 1:10 parts in water) can prevent the spread of the fungus from infected feathers to new ones. Bathing with fresh water between Aloe Vera or Nolvasan misting will reduce buildup on the feathers. Oil from your hands or oils from foods can also accumulate on feathers and be a substrate for feather fungus.

Monitoring Progress

Improvement in FDB will be gradual, especially if feathers are broken, chewed off, barbered or otherwise damaged, because the bird must molt in order to replace the old feathers with new ones. Therapy must be continued for at least three to four months prior to assessing effectiveness. Progress is more easily assessed if the follicles are still healthy, because these feathers can re-grow in as short as a few weeks.

Taking photos of your bird is a great way to monitor its progress. Take the photos in the same place with the same lighting each time for ease of comparison. Monthly digital photos are ideal. Otherwise the changes may be so gradual that they are unnoticeable.

When managing chronic problems, you must give any therapy adequate time before stopping or changing treatment. As the inflammation resolves, the bird will feel better and its attitude and personality usually improves as well.