

Thanks to Dave Ganzer & Nigel Tonkin for passing on the following article and obtaining permission to reprint. It is for pet birds but easily adapted to aviary conditions..

STRESS – IDENTIFYING POSSIBLE CAUSES AND IMPROVING MANAGEMENT TO MINIMISE ITS EFFECT ON DISEASE

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Throughout their lives, birds are exposed to many organisms that have the potential to cause severe and sometimes even fatal disease, but often the birds do not even become sick. Why is this? Healthy, happy birds have a natural resistance that prevents these organisms from causing disease. Avian veterinarians describe much of the clinical disease seen in birds as being stress induced or stress related. What exactly does your veterinarian mean when he says that your bird has become stressed? Essentially, he means any physical or psychological factor that decreases the bird's ability to resist disease. Birds under stress become what is termed 'immunosuppressed'. This means that their immune system is less able to mount an immune response, making the birds more vulnerable to disease. If we want our birds to live long and happy lives we should understand some of the common causes of stress and how we can avoid them.

Stress and the New Pet Bird

The acquisition of a new bird is always exciting. However, for the new bird, there are always many inherent and often unavoidable stresses associated with transport and rehousing. This is particularly so with young birds because often this time is also associated with weaning. Not only are they separated from their parents but there is also a possible change of diet. A bird in a new cage must find where the food and water are, and, if weaned into a cage with other birds, must find its own space and territory.

Having the cage ready and correctly set up will help to settle the new bird more quickly and avoid any unnecessary stress. Considerable thought should be given to cage size, design and placement. For many birds, the cage represents their own space or territory and acts as their refuge if they feel threatened. It is therefore important that the cage promotes this sense of security. Remember the old zoo cages that used to house animals such as tigers, which were entirely constructed of wire? They are no longer used in zoos and yet are commonly used to house pet birds. A skittish bird sitting in a cage with four wire walls and a wire roof must feel very exposed and vulnerable. It is beneficial to have a solid roof or one or two solid walls fitted, even if this simply means attaching some cardboard sections with string. Placing the perches high in the cage promotes security and, of course, the perches should always be of uneven diameter and have a variable surface to avoid later foot problems. Natural branches are best.

Many commercially available cages have a removable wire floor for ease of cleaning. Many birds do not like these. Often removing these and covering the floor with washed dry river sand to a depth of 1–2 cm (available from garden supply outlets) provides a surface that birds enjoy walking and lying on as well as exploring. changed regularly, this provides a hygienic floor. The sand absorbs the moisture from the droppings and when the cage is cleaned the sand and dropping mixture make a good garden dressing.

Birds, when introduced to a new home, cannot sense intuitively that you mean them no harm. Sudden movements, bright colours and loud noises are all intimidating. Speaking in a steady voice in a lower tone also helps.

Cage placement is also important. Initially the cage should not be placed in a major thoroughfare of the house. Remember that everything is new and potentially frightening. Unfamiliar activity interferes with normal rest and feeding and does little to promote a feeling of security. Adjustment to other pets in the premises, such as dogs, will take time. It is doubtful whether birds ever become accustomed to a cat. It is often a good idea to place the cage in a quieter part of the house or aviary for the first few days until the bird familiarises itself with its new home and starts to eat properly.

Once the bird settles into its cage and starts to recognise and know its new owner, the cage can then be moved to a busier area. This is particularly so for intelligent birds such as parrots, which quickly become bored. Placing the cage in front of a window or even outside can help to prevent any cage boredom with a more established pet. However, it is important to remember that the sight of any natural predators such as magpies, raptors and cats, will not only cause significant stress but may lead to physical injury due to the bird panicking and flying around the cage.

The temperature and humidity of the area in which the cage is placed are also important. Ideally the temperature for most birds should be in the range 20–25°C and the humidity about 60%. Birds can, of course, cope with much higher and lower levels of both, however, a significant change in either value over 24 hours, eg cold nights and hot days, has been shown to be a significant stress factor. Draughts (which are essentially cold currents of air through warmer air) should be avoided.

Because most time spent in the air by birds is involved in horizontal rather than vertical flight, it is better if the pet bird's cage is a rectangle lying on its side rather than its end. This will make the cage much more usable for the bird. It should go without saying that the cage needs to be big enough for the species kept. It is unfortunate that many larger cockatoos are kept in cages that are too small for them to even fully extend their wings, let alone fly. Cages measuring 60cm x 60cm x 1 metre are not uncommon. (This is analogous to keeping a Budgerigar in a cage 15cm square.) A cage of this size for a cockatoo should only be viewed as temporary housing or as a transport cage. If it is the only cage that is available, then the bird needs to spend a significant amount of time out of the cage to ensure its long-term health.

Hygiene-related Stress

Cage birds prefer clean, dry conditions. Dampness encourages bacterial proliferation and speeds the development of worm and coccidial eggs. Accumulated droppings, particularly around food and water trays, expose the birds to a higher level of germs generally and also to noxious gases, such as ammonia. It is commonsense to keep the cage clean and feed and water the birds in a hygienic manner.

Nutrition-related Stress

In the past 10–20 years both bird fanciers and avian veterinarians have realised that the ingestion of a full and balanced diet is vital. This is particularly so in certain species. For example, it would not be an exaggeration to state that probably more than 90% of diseases observed in lorikeets relate to a poor diet. This is even seen in free-flying lorikeets, where people offer wild birds saucers of sugar, bread and water.

These birds develop a dependence on these easily available foods rather than forage for themselves. Because these foods are low in protein and lack many micronutrients, the birds become immunosuppressed and significantly more vulnerable to disease. In many cases, when a disease outbreak occurs in an aviary, the owner of such birds and the veterinarian must not only figure out what the disease problem is but also then ask what caused this in the first place.

Often, an improvement in diet will help in preventing a recurrence of the problem and avoid the need for medication in the future. The closer the aviculturist can mimic the diet of wild birds of that species the better. Keep in mind that many birds such as Galahs, pigeons and many parrots are essentially foragers that take a wide variety of foods, and simply increasing the variety offered to them does much to improve the situation.

Parasites and Stress

A parasite is essentially any organism that lives off another organism. In order to survive, parasites must drain energy from their host. In doing this, many also damage the host animal physically. Parasites therefore cause significant stress to the host animal. It is common to see parasitic disease occurring simultaneously with stress related disease, a common example being the double-barreled problem of roundworm infection and chlamydial disease often seen in *Neophema* grass parrots. It is not possible to provide effective treatment for the chlamydia until the roundworm infection has been cleared and the stress associated with this drain on the bird's system removed.

In free-flying wild birds, parasites are much less of a problem than in cage birds because of the decreased level of contact between individuals and the lower level of exposure to droppings because of the wider area over which the animals roam. With the higher stocking densities associated with captivity, exposure to parasites increases dramatically. Without ongoing hygiene and an adequate control program, parasite numbers can build up to levels that cause disease and deaths in their own right. Lower parasite burdens generally weaken birds and predispose them to other diseases. The control of parasites is a significant concern and will be covered in a later article. Suffice it to say now, that the major parasites are worms, coccidia, lice and mites and that there is a range of safe and effective medications available. Your avian veterinarian is well equipped to advise you on what parasites are particularly relevant to your species and which medications are best to use.

Stocking Stress

It is not only important that the correct number of birds for the available cage space be kept but also that species that are compatible are kept together. As a general rule pre-pubertal young birds require less space than adults and yet overcrowding is a common cause of stress induced flare-ups of disease in youngsters. In most species, once the birds go through puberty they require larger areas within an aviary. Parrots in particular are very territorial and overcrowding can lead to aggression, fighting and injuries. Birds not only compete for cage space but also for access to food bowls, the better (ie higher) perches and nesting sites.

Behaviour-related Stress

Birds, particularly young birds, gain security from a predictable daily routine and a familiar environment. Many people not familiar with birds, when they see them simply sitting in a cage, regard a bird's IQ as perhaps not much higher than that of a goldfish, when in fact anyone who has kept a bird for a period of time realises that nothing could be further from the truth. Many birds have an IQ similar to, if not higher, than that of a dog. It goes without saying that they not only recognise other species of birds but also individual birds of their own and other species. They can also recognise different humans. Some parrots can recognise more than 60 individual voice commands, which is way beyond most dogs. In fact, one of my client's parrots can whistle the entire theme of the television show 'Burke's Backyard', which is quite impressive. With this level of intelligence demonstrated, it is easy to understand how loneliness

and boredom can become problems in many pet birds. Satisfying a bird's psychological needs does much to avoid stress.

Much has been written on bird behaviour and training. Correctly interpreting your bird's behaviour will not only increase your level of enjoyment of him but also help to make him feel more secure and less stressed in the captive situation. This is particularly so with parrots and other social birds where interactions with humans need to be a substitute for those with other members of the flock in the wild. Most parrots form fairly strong pair bonds within their flock. Captive pet birds are deprived of this sort of relationship and yet it is part of their instinct to develop this type of bond. As a result, many transfer this behaviour usually to their primary carer. Being an intelligent animal, parrots easily become lonely. The primary carer not only represents company but also is associated with the giving of food. As a result it is only natural that a relationship starts to develop between the primary carer and pet bird, which mimics that of a wild pair of birds. It is important to recognise this 'I want to be your friend' behaviour for what it is.

Parrots develop a mutual trust and bond through mutual preening. Too many people are frightened by a parrot's biting beak. A parrot that lets you stroke or scratch him around the head is displaying trust in you. Let him know that you trust him by letting him groom your hand. As an extension of this, stroking around the base of the beak or the side of the tongue itself is a very strong bonding behaviour. Jerking your hand away suddenly when a friendly parrot moves his head towards you gives him a very confused message. Rather than reinforcing friendly behaviour, to him this may mimic the behaviour of a subordinate bird and trigger an aggressive response. Once you have established a relationship with your parrot, it will no more bite you than would your pet dog. The trust and antics displayed by birds ranging from the family pet Budgerigar up to the largest parrots are some of the true pleasures that bird ownership can bring.

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