

The Facts and Myths of Aggressive-Biting Behavior in Parrots

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Abstract

Avian veterinarians are dealing with the issue of “aggression” and “biting” in parrots all the time as well in companion birds as in avicultural situations.

Main causes of “aggression” and “biting” will be discussed as well as the tools to deal with the problem without creating stress for the bird, the owner and the practitioner. Misunderstandings about aggression and the fear of owners and veterinarians to get bitten is a constant issue dealing with parrots. An impressive beak is one of the salient features of a parrot. It is also often the source of considerable anxiety for parents who associate a beak with biting and are concerned about the damage that could be inflicted to themselves or on their children. It is therefore important to realize that a parrot does not use its beak in the wild in order to injure or kill, but for climbing, eating, preening, feeding and defending. Understanding the background of behavior, their intelligence, cognitive abilities and proper handling of parrots makes all the difference

Introduction

The beak of a parrot, a cockatoo or a macaw is an imposing instrument that many bird owners regard with a certain amount of awe and anxiety. The power behind a parrot’s beak is well known to everyone. In the wild, beaks are used to crack open hard nuts and strong seed coverings. Nesting holes in trees are enlarged using this same powerful tool. In captivity aviculturists experience the way parrots adjust and destroy nest boxes, proffered tree branches are turned into matchsticks, nuts that have been fastened with a wrench are loosened from their bolts, and toys and furniture are reduced to fragments, all by these same beaks, and seemingly without effort.

The amount of power that a parrot can exert with a lightweight skull and a lightweight beak is exceedingly impressive. By combining strong muscles and the hinge construction of the upper beak, parrot beaks can be as effective as a pair of strong sharp pliers.

Apart from eating and adjusting the nesting site, the beak also has many other important functions. It is used as a third foot when the birds are climbing to keep them steady. It is used to hold objects so that the sensitive tongue can investigate them. The beak is also the instrument that is used to care for the bird’s own feathers and for those of his or her partner. Young birds are also cared for using the beak.

Biting is a frequently cited reason for relinquishing a pet parrot, who then disappears into the cycle of sale and re-sale, or is dumped in a rescue centre. It is the experience within the Clinic for Birds that the arrival of a baby in the house often coincides with the departure of the parrot because of the new parents’ fear that their offspring will not be safe around their pet. If it’s not the concern of the parents, then it is the concern of the grandparents. That beak, after all, what damage that could do to little fingers, little toes, little ears, or a little nose!!!

Parrots are intelligent birds with amazing cognitive abilities.

Over the past 30 years, a lot of work and research has been done to show the intelligence and cognitive abilities of birds, including parrots^{1,2,3,4}. Despite this, the intelligence and cognitive abilities of parrots as companion birds are still hardly acknowledged and appreciated.

Allowing myself as author some anthropomorphism: "From the viewpoint of parrots, it must be "frustrating" to experience not to be appreciated for their intelligence, talents but to be considered as just beautiful and cute". We all know that being respected for our talents and skills can be more rewarding than money, food or anything else.

Parrots are built and behave as prey animals

Parrots are prey animals in nature. Fear to get killed as a prey animal determines a major part of normal behavior. In situations in which a prey animal is not able to prevent a dangerous situation or escape from the predator part of the survival strategy can be to intimidate the predator or even attack the predator.

Fear of getting killed as prey animals can also be expected as normal behavior within captivity.

A typical anatomical feature of parrots as prey animals is the positioning of their eyes. The eyes of parrots are positioned at the side of their head enabling parrots to observe the whole environment. The eyes of predators are positioned in a way enabling the animals to watch straightforward making binocular vision possible enabling the predator to determine the precise position of the prey and the distance between predator and prey. Humans are having characteristics of a predator. The eyes of humans are positioned as in dogs, cats, owls and birds of prey having binocular vision.

In the experience of the author, dealing with parrots without understanding the consequences of the specific characteristics of parrots as prey animals is reason to develop insecure/defensive behavior. Breeding pairs are sitting or eating next to each other observing each other with one eye. Part of positive social behavior is to turn the neck and the back to the other bird to show the opposite of intimidation.

How different from human behavior among lovers. Lovers will sit opposite to each other in a restaurant looking each other in both eyes. Parrots that are intimidating another parrot are in a way mimicking the posture of a predator by looking straightforward having their body pointed towards the other bird. The same posture can be seen in fearful birds that have not the possibility to escape. Under those circumstances "aggression" should be considered as defensive behavior.

Biting other parrots in the wild

It is striking that there is no significant data to support the idea that parrots inflict serious or fatal bite wounds on each other in the wild. On the contrary, there is no evidence that indicates that deliberately wounding or killing their fellows is part of the natural behavior of parrots. Although they are equipped with a built-in lethal weapon that could easily maim or kill another bird of their own kind, such behaviour is practically unknown in nature. Debilitating members of the same species does not seem to be in the interest of the preservation of parrot species.

When breeding pairs are in the neighbourhood of their nesting site territorial behavior is part of normal behavior.⁵ Skirmishes certainly take place, but these are mostly displays and mock fights in which real damage is seldom done. Parrots learn early in their development to read the body language of their conspecifics and know precisely what is permitted and how far they can go in their combativeness. Replacement behavior in birds has been described by N. Tinbergen^{6,7} in herring gulls, breeding in colonies, having their territorial disputes. Replacement behavior can be considered as a solution and strategy to prevent further escalation of the aggressive behaviour.

Playful romps with other youngsters are part of the learning and socialization process for every young parrot and there is no documentation known to the author that it ever lead to serious injury under natural circumstances.

Biting other parrots in captivity

In captivity biting problems are seen most notably among the cockatoos that are kept within aviculture, where males have been known to seriously injure or even kill a female.^{8,9}

In captivity birds of some species have been known to attack and even kill sick or wounded fellows. Also in multi bird households there is always the chance of biting incidents especially in and around the cage. Within the Clinic for Birds, serious head wounds have been observed in budgies, cockatiels and lovebirds when they are housed in same-species groups. It is not uncommon that the dead birds are then cannibalised.

The author is not aware to what extent, if at all, cannibalism occurs in nature.

Limitations due to the size of the housing of birds in captivity often hinder avoidance behaviour or make it impossible for the birds to respond appropriately to body language that in the wild would elicit a retreat from a confrontational situation. Unable to flee, a bird becomes insecure and defensive. Defensive behavior is often associated with aggression. Attacking or biting other birds in such a situation can be regarded as unnatural behavior due to the unnatural circumstances of captivity. There has been an experiment in colony breeding hyacinths macaws that stopped after an incident in which a male was attacked and killed by another male.¹⁰

We can regard biting in captivity as an expression of insecurity, and thus part of a behavior problem caused by unnatural circumstances. We observe insecurity in birds in periods of hormonal or sexual activity, and in instances of physical problems or sickness.^{5,11}

Birds with a strong attachment to their owner exhibit bonding behaviour, which in turn causes territorial behavior. This territoriality is often considered aggressive or dominant behavior. In the experience of the author, this behavior is actually insecure and defensive behavior. Away from his own territory, or when the partner/owner is absent, the bird behaves completely differently. The most striking examples are female lovebirds that act very territorial and offensive in their cage. The same bird outside of the cage in a neutral environment is showing positive social and gentle behavior. It does not make sense to label a bird like that as an aggressive biting bird without appreciating the specific circumstances and background of the behavior.

Biting people in captivity

Considering the interaction between humans as predators and parrots as prey animals it makes sense that parrots have reason to develop defensive behavior.

There is a constant stream of stories and anecdotes from parrot owners who report having been bitten by their pets. According to the experience within the Clinic for Birds, the number of instances where subsequent medical attention was necessary, however, remains exceedingly small. This is surprising considering the amount of damage a parrot beak could do if actually used with the intention to maim or injure. This shows that it is rare when parrots have the intention to create serious injuries. Biting as behavior intended to cause serious damage is very rare. It is an amazing conclusion considering the position as prey animal being intimidated by humans as predators all the time.

When it concerns children. It is even more surprising that at the Clinic for Birds in the last 25 years we have not seen a single incident of a parrot biting causing serious damage to a child. In addition to that, consistent inquiry by this author as to personal, or media-covered experience of bitten children has so far not uncovered a single incident of a child that needed serious medical intervention. So far there has been some anecdotal stories that could not be confirmed. Again, considering the actual capabilities of a parrot beak, and the size of a child's finger, nose, ear or lips, one might have expected to hear horror stories of severed or mutilated young appendages.

Within the clinic for Birds there is the experience that parrots react completely differently to children compared to the way they react to adults. Apparently parrots view children in much the same way as

human adults do. Children are obviously not considered as threatening or intimidating. Therefore children do not make the birds feel insecure and are not creating defensive behavior resulting in biting behavior.

This is all the more striking when compared with the behaviour of dogs. When a dog owner is afraid that his pet might bite a child, the insecurity of the owner turns the child into a confusing factor in the dog's environment and increases the chances that the dog indeed will bite children.

In spite of the fact that most parents feel anxiety about the perceived risk that a parrot will bite a child, parrots do not respond to this by biting. At most, the bird is pretending to bite, but does not carry out the "threat". The frightened reaction of the parents can be regarded as a "reward" for this undesired behaviour, thus reinforcing it. Even in situations where one could think that the parrot had every reason to bite, as when a child "pets" too hard, pulls a tail, or intentionally or inadvertently teases, parrots do not inflict the expected wounds. At most, a black-and-blue mark may be the result, and this is most often caused by pulling back of the finger or hand that was being "held" in the beak. Apparently parrots have a "natural" inhibition when it comes to biting children. This is all the more reason to respect parrots for who they are.¹²

Biting as learned behavior

As any behavior we have to consider that biting will become more and more a problem when the consequence of that behavior is experienced by the parrot as a reward.

Withdrawing the hand, walking away from the bird, getting angry or any (emotional) response can be considered as reward and reason to repeat the behavior.

Most owners do not realise that parrots are using their beak as a tool to climb instead of having the intention to bite. It may be an explanation why biting in hand reared babies is a very common problem. It is vital to evaluate the purpose for the parrot to show biting behavior and to determine the reward for that behavior. Any response, positive, negative, emotional and even subconscious responses to the behavior can be considered as a reward.¹³

Preventing biting behavior

Prevention starts with understanding the background of biting behavior looking at the circumstances, the consequences, the natural behavior and body language of parrots as prey animal.

Prevention is about creating circumstances in which fear, defensive behavior is not created.

Prevention is about showing an attitude and body language as owner/caretaker and veterinarian that is the opposite of intimidating and is showing respect to the intelligence and social skills of the parrot.

Prevention is about creating an enriched environment in which the parrot is allowed to express their intelligence and skills by providing toys and providing food in a way that parrots are stimulated to express normal foraging behavior. Within the Clinic for Birds one of the most important parts of enrichment is creating an environment and circumstances allowing social interactions with other birds, other animals and humans. Taking a bird outside for a walk, a bike ride, a picnic or a family visit will prevent unwanted behavior. To ensure that bird benefit from sunlight and fresh air is important for their health and welfare and thereby prevent behavior problems.¹⁴

It is always striking to see that biting behavior is very much determined by the circumstances as it is in nature. Territorial behavior is determined by the circumstances in which pair bonding, defending a nesting site are predominant factors.^{5,13} The same birds do not show any aggressive behavior towards other birds within a flock of birds that are gathering at a site with plenty of food or a drinking site.

It is important to understand that the cage of a bird can be considered by the birds as their nesting site making the bird feel insecure expressing the need to defend that position and show territorial

behavior. It explains the defensive behavior of birds that are approached while sitting in or on top of their cage.

The same bird can show very different behavior sitting on a play gym.

The same bird sitting on the shoulder or sitting on the hand of the owner is expressing different behavior.

Putting a parrot on a table in the examination room in between the owner and the veterinarian is creating defensive behavior. Having a bird on the hand next to our body or having the bird on the hand in front of our body makes a difference. Prevention is about preventing the parrot to sit on the shoulder. Observing the behavior of parrots sitting on the shoulder and listening to the experiences of owners having parrots on their shoulder, it is obvious that parrots that are sitting on the shoulder are showing insecure/defensive behavior resulting in biting behavior to other people and even towards the one they like.^{11,14}

Prevention is about understanding the consequences of biting behavior and to determine what is rewarding the behavior.¹³

Within the Clinic for Birds we advice to create a more natural day-night routine in which the bird get's 10-12 hours of sleep in a special small sleeping cage that is located in another room of the house, away from the location the birds are during daytime. The background is that birds in nature do not sleep at night where they are spending their time during the day at foraging areas or drinking places. In nature birds are spending their time during the day and during the night at the same location when they are breeding or upbringing their youngsters. Understanding the social behavior of parrots is helpful to prevent behavior problems.^{15,16}

Redirecting biting behavior

We have to consider that every response to unwanted behavior can be perceived as a reward.. Instead of responding to the behavior of the parrot and instead of ignoring the behavior, the advice is to act in a way that shows not to have a problem. Niko Tinbergen, one of the founding ethologist in the past century did research about aggressive interactions between herring gulls in their breeding colony. Tinbergen described the concept of replacement behavior. Replacement behavior prevents aggressive behavior to escalate in a conflict situation with territorial aggression. In the middle of a situation of a territorial dispute herring gulls starts to pick at grass or start grooming themselves. Part of the replacement behavior is "looking away". The outcome of that interaction is that the aggression and the fear disappears.^{3,6,7} Over the years the author has observed this behavior as birdwatcher in nature and as avian veterinarian dealing with parrots organizing outdoor events with companion parrots. Within the Clinic for Bird a **5-step behavior protocol** has been developed that is used as general protocol dealing with parrots but also serves as technique to prevent and to solve unwanted behavior.

- *Step one* is showing to have no problem with the situation and doing whatever that has nothing to do with the unwanted behavior as if the bird is not even present. In fact, what we do is showing replacement behavior in a situation of "aggression/fear". By doing so the parrot is observing our behavior, which is the wanted behavior that we are creating.
- *Step two* is that when the parrot is watching us and find it interesting what we are doing, it is vital to reward the parrot immediately in a positive way by telling the bird that he/she is beautiful in a non intimidating way.
- *The third* step is to describe the body parts of the parrot and describe whatever object, colour material with a non intimidating attitude. By doing so we are rewarding and acknowledging the intelligence of the parrot and we behave as a nursery school teacher working with children of 3-5 years old.
- *Step four* is allowing the parrot to touch, feel or bite an object. Part of step 4 can also be allowing the parrot to step up the hand and allowing the parrot to step up a play gym.

- *Step five* is creating a situation in which the parrot is accepting unpleasant situations and be rewarded for doing so. Towelling, a physical examination, grooming, wing clipping taking a blood sample are all part of step 5.

Using this protocol in this order, biting/aggression/fear as unwanted behavior is not rewarded. Watching us when we are not looking at the bird, acknowledging and rewarding their intelligence and rewarding the behavior like touching, feeling and even biting in a specific object can all be done within 30 seconds.

Using this protocol, unwanted behavior is redirected into wanted behavior using positive reinforcement by rewarding a chain of wanted behaviors, including rewarding and acknowledging their intelligence and their social skills, always considering the fact that parrots are prey animals. Within the Clinic for Bird we are having a list of over thousand families that are using this protocol as part of the daily care of the bird. Those families are invited for outdoor events and are organising their own hiking events.¹⁷ Learning more about the cognitive abilities of parrots we can conclude that parrots do understand our meaning, posture and attitude. Parrots learn by observing other birds, other animals, humans as part of their environment, draw their conclusions, behave accordingly. Dealing with parrots is like dealing with children that are eager to show and demonstrate what they have learned. The Model/Rival technique, described by Pepperberg is acknowledging the intelligence and learning skills of parrots.^{1,2,4}

Handling parrots that show “aggression”

The first impression makes all the difference in approaching a parrot. Considering a parrot as a prey animal we do not walk towards the parrot and we do not look at the bird, face to face. Approaching the bird as a predator is intimidating and not showing respect for the parrot as a prey animal. Approaching a parrot like this will create insecure and even “aggressive/defensive” behavior. Expecting the bird to step up the hand does not makes sense. Saying step up as a command is not the way to achieve the ultimate goal that it becomes the free choice of the parrot to step up the hand or perch or rope, at the right moment.

When a parrot is approached, showing fear to get bitten and showing lack of trust towards the parrot, the behavior of the bird will be predictable defensive. Approaching the parrot without walking towards the bird and by turning our back towards the parrot is showing the opposite of intimidating behavior. Watching the bird and talking to the bird from aside makes a huge difference. Using the simple 5 step procedure, as mentioned above, taking less then a minute makes it possible to create wanted behavior and is reason to reward the bird for that. Allowing the bird to bite in an object and reward the bird for doing so is replacing unwanted biting behavior into wanted behavior. Step 5 allows us to towel the parrot for a physical examination, for taking a blood sample or grooming the beak or nails without creating a traumatic experience for the parrot. It is amazing for owners to experience that parrots, after handling, feel more comfortable then before handling.¹⁸

Conclusions

There are many misunderstandings and myths concerning “aggressive-biting behavior” in parrots. Biting behavior can be regarded as natural defensive behavior in prey animals as part of their survival strategy.

Biting behavior can be regarded as learned behavior in parrots because the behavior has been (unintentionally) rewarded.

Biting is under parrot friendly circumstances not with the intention to create serious injuries.

Parrot’s have no intention at all to bite children causing serious injuries.

There is every reason to have much respect for the intelligence and the normal behavior of parrots.

This is certainly the case when we realize that they are capable to adapt to extremely unnatural circumstances and do integrate in captivity as companion birds.

It is up to avian veterinarians and owners to change attitudes and behavior to create circumstances in which parrots flourish and have no reason to express aggression or biting behavior.

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Curriculum Vitae

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