

Concepts in Behavior: Section III

Pubescent and Adult Psittacine Behavior

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The prevalence of captive-raised psittacines as pets and the ensuing problem behaviors have become critical issues for veterinarians as well as aviculturists and parrot owners. Ethological considerations should occupy a large area of future study, concern and advancement.

The terms adolescent and puberty in this chapter are used to identify the period of development during which hormonal changes play an active role in both the initiation of reproductive capacity and associated variations in temperament. Recognition of the role of sexual hormones in psittacine behavior is critical to the interpretation and modification of behavior.

Puberty

As with other psittacine developmental stages, the onset of puberty varies with the species and the individual (see [Table 3.2.1](#) in Section II of this chapter). If erratic behavior is inadvertently rewarded it may continue after the sexual hormonal fluctuations of puberty have subsided.²

Owners are often unprepared for the prolonged developmental changes that their pet psittacine will undergo. Clearly established behavioral boundaries will decrease but not eliminate hormone-induced behavior. To aid in establishing rules and guidelines, the types of behavior for which the animal is reinforced must be examined. Pubescent parrots can learn to behave in ways that mitigate obnoxious behaviors, hormonal or not, and should be appropriately reinforced for non-reproductive behaviors if they are meant to be non-reproductive companions.

Increasing sexual hormone levels may lead to the first instances of territoriality and perceived aggression ([Fig 3.3.1](#)).¹ In the adolescent parrot, fluctuating hormones add to the inherently high energy level to produce a bird that needs directed, acceptable methods for dissi-

pating this energy. Daily flapping exercise, play with toys and showers consume natural energy and provide learning opportunities with inherent reinforcement. Once through puberty, the adult psittacine may display a more predictable pattern of behavior ([Fig 3.3.2](#)).

The Adult Psittacine Companion

In the wild, constant challenges test the parrot's athleticism, ability to avoid predation and to find food. To succeed in such a demanding environment, parrots must be flexible, adaptable and continue to learn. It has been estimated that the average parrot's day is divided thusly: 50% of waking daylight hours spent locating and consuming food; 25% spent interacting with one's mate and/or other flock members; and 25% spent in preening (J. Harris, personal communication, 1996). In contrast, there are few challenging activities in the human habitat. Alone in a cage all day, the monotony is pronounced. Enrichments, especially ones that encourage foraging behavior, will provide appropriate learning and athletic experiences for captive psittacines.

Management issues can significantly contribute to problem behaviors. Inadequate diet or sleep and boredom can all be problematic. Cage size, location and height are also important. Refer to Chapter 2, The Companion Bird, for discussions of these subjects.

TRAINING

Psittacines should be trained to step on and off both the hand and a hand-held perch and to enter and exit their cages on command. They also should be trained to step from one hand to the other, an exercise called "laddering." When training a parrot, it is preferable to work out



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Fig 3.3.1 | Sexually hormonal female yellow-naped Amazon parrot that is agitated. Note the erect neck feathers and forward-leaning stance as she defends her position on a cage door.



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Fig 3.3.2 | Umbrella cockatoo exhibiting "alert" display. Species and individual variation dictate how a parrot in this "state" should be approached.

of sight of a parrot's perceived territory. Lessons should be short and upbeat, with rewards that are meaningful to the bird. Positive interactions and praise work well for parrots that already like their trainers. Correct responses should be instantly rewarded. The reward will vary with the personality of the individual parrot. It may be praise, desired physical contact such as head scratching, or a food treat (see Section I of this Chapter).

The species most prone to feather destruction and self-mutilation in domestic life often inhabit large flocks in the wild, and these same animals may therefore have evolved extensive interactions within a social order. When social order is ambiguous or absent in the human habitat, high levels of stress may result.²⁷

Color Preferences and Applications

Many birds have preferred colors and other colors that are associated with fear or avoidance. To evaluate an individual bird's color preferences, place the parrot in a confined area with six or seven identical children's colored wooden or plastic blocks or balls. Note the colors the parrot avoids and those with which it plays. Remove the objects in the colors it ignores or avoids. Repeat this test several times to verify the preferences.

The positive colors can be supplied in the form of other items in the parrot's environment. During training, utilize these favorite colors in the selection of clothing, perches and food cups (Fig 3.3.3). This color selection can aid in the acclimation and acceptance of toweling in parrots (see Chapter 6, Maximizing Information from the

Physical Examination). Teaching of toweling to young parrots can include playing "hide and seek" with towels of preferred colors, while gradually increasing the parrot's acceptance of restraint.

EXERCISE AND PLAY

The importance of exercise and play increases with the adolescent parrot and continues to be an important skill throughout psittacine life. Behaviorists have equated the amount of play in which the young engage with a species' general adaptability. Studies of keas (*Nestor notabilis*) are particularly compelling in this regard.²³ Play behavior is consistently demonstrated in properly raised captive psittacines. According to one biologist, "The question of 'play' in animals is an intriguing one. We use the word to connote activity that has no obvious use in daily life — almost a frivolous pastime. In fact, play has an important function for the animals that engage in it, humans included, and particularly for their young. It is a way of developing dexterity and motor coordination, and of discerning the boundaries of social behavior, skills that are critical to success as an adult. Play, as we know from watching our children, is a form of learning."¹⁵

Problem Behaviors in Captivity

An understanding of normal psittacine behavior is necessary when attempting to address problem behaviors in captivity (Fig 3.3.4). For example, it is perfectly normal for a parrot to use its beak when climbing, even when climbing onto a human hand. If that hand jerks in



Fig 3.3.3 | This lovebird is well-adapted to toweling by its owner and prefers the color blue.



Fig 3.3.4 | This is a common species threat posture displayed by a nervous green-winged macaw willing to defend against entry into its cage.

anticipation of a “bite,” and the parrot doesn’t reach its destination, the next time it might try a different (harder, perhaps) grip before it steps. It has been observed that inexpert handling by humans fuels fear in young parrots. Further, psittacines are normally loud, destructive and messy animals. While these behaviors may distress the people who live with them, they are not aberrant.

When one examines a “problem” behavior, the first question to ask is; “What function does the behavior serve?” Behavior has a function, which means that every learning-based animal performs certain behaviors based on what the animal gets as a result of that behavior (see Section I of this chapter).

INAPPROPRIATE BONDS

Some birds are reinforced when they show aggression toward less-favored people. Their actions may be accompanied by screaming, laughing or crying, culminating in a rescue by the favored person. All this vocalization and activity is positive reinforcement.

Owners can work with their parrots to prevent over-bonding to one person. A useful technique is Blanchard’s handling exercise called the warm potato game.¹⁴ A neutral room is ideal for this purpose. The parrot is passed from person to person with each member interacting positively (ie, praise, petting, treats) with the bird. This handling exercise should be continued for the duration of the parrot’s life. To avoid alarming the timid parrot, the socialization process can begin by stepping onto the shoe of a less-favored person (sitting with one leg crossed), then be stepped back to the familiar hand and rewarded.³⁰

People may inadvertently allow their parrots to form a mate bond with them (Fig 3.3.5). Owners often stroke their companion parrot’s back and tail.¹⁸ Breeding



Fig 3.3.5 | This yellow-naped Amazon has been sexually regurgitating its food to the owner, and it has some of this food on its beak.

parrots perform these behaviors during courtship and we therefore assume that companion parrots interpret this type of petting as sexual. Panting and masturbatory behavior often follow such intimate touching.⁶ Serious aggression may follow, when the bird attempts to drive all creatures except the perceived mate from its territory. When unable to reach the targets of its attack, this bird may displace its aggression, often in the form of a severe bite, to the perceived mate or even to themselves.

COCKATOO VENT PROLAPSE

This syndrome is extremely common in adult umbrella (*Cacatua alba*) and Moluccan (*Cacatua moluccensis*) cockatoos. Generally, these parrots are strongly bonded to a human. Several veterinarians³⁸ (Van Sant, personal communication, 2002) have made the observation that



Fig 3.3.6 | Prolapsed cloaca on an umbrella cockatoo.



Fig 3.3.7 | Closer look at the prolapsed cloaca in Fig 3.3.6.



Fig 3.3.8 | After prolapse is reduced, loss of elasticity and dilation of the cloacal lips are evident.

delayed weaning appears related to this phenomenon (see below). Although the etiology is still speculative, several characteristics have been noted in most of these cases. They:

- Are hand-raised individuals of the noted cockatoo species.
- Experienced delayed weaning and/or continued begging for food.
- Are psychologically attached to at least one person.
- Have a tendency to hold stool in their vent for prolonged periods (ie, overnight) rather than defecating in their cage. This may be exaggerated by potty training these parrots.

Prolonged begging for food causes straining and dilation of the vent. Misplaced sexual attraction to their “human” mate also will cause vent straining and movement. Retention of stool in the vent for prolonged periods stretches and dilates the cloaca. The vent lips in these birds are often distended and flaccid (**Figs 3.3.6-3.3.8**).

Behavioral modification is difficult for owners to accomplish, since it involves altering the tight bond that they have with their parrot. Behaviors that increase this inappropriate bonding in affected cockatoos include stroking the parrot, especially on the back (ie, petting), feeding the parrot warm foods by hand or mouth, and cuddling the parrot close to the body.

If the parrot perceives the owner as either its parent or its mate, it will continue to strain and the prolapse will likely recur despite surgical correction (see Cloacopexy in Chapter 35, Surgical Resolution of Soft Tissue Disorders). Some veterinarians have found that a total change of environment and human companionship (ie, finding the parrot a new home, either temporarily or permanently) is necessary to correct this problem.

PROLONGED HORMONAL STIMULATION

Captive-bred parrots display sexual behaviors at earlier ages than their tree-ranging counterparts. Eclectus hens (*Eclectus roratus*), for example, may lay eggs in captivity at 3 years of age. In the wild, eclectus hens generally don’t begin to lay until about 6 years of age.¹⁸ Sexually mature companion psittacines are also developing what some avian veterinarians call “hormone toxicity.” Instead of going into nesting behavior once a year, circumstances in the human habitat can cause parrots to remain hormonally stimulated indefinitely. In the wild, seasonal triggers, like changes in photoperiod, suitable nesting sites and ample food, initiate nesting behavior. Similar triggers initiate nesting behavior in captivity (**Table 3.3.1**), but the artificial environment provides not only safety from predation but also confusing signals. Artificial light mimics the long days of summer, and seasonal variations are lacking. The same is true of temperature, as indoor parrots are protected from cyclic change. Food is abundant and some parrots are fed daily rations that provide many times their caloric needs.¹⁸

In parrots that become aggressive when in breeding mode, pupillary constriction, piloerection of the nape or

Table 3.3.1 | Foods that Encourage Breeding or Foods to Avoid to Reduce Breeding Behavior

Item	Description
High fat items	<ul style="list-style-type: none"> • Seeds such as a sunflower, safflower, hemp, niger, thistle, spray millet • Nuts • Meats • Oils
Sweet items	<ul style="list-style-type: none"> • Immature items such as corn, beans and peas • Apples • Grapes • Citrus • Bananas
Refined carbohydrates	<ul style="list-style-type: none"> • Pasta • Breads and other baked goods

crest feathers, or flexion of the joints of the wing will convey a warning of the parrot's agitation and potential reaction to further approach (Figs 3.3.1, 3.3.2). If these warning signs are not recognized, both physical and emotional damage may occur.⁷ Some companion psittacine species become reproductively active once a year and during the remaining months are not so frenetic.²²

In recent years, sexual hormone manipulation has been attempted with compounds such as chorionic gonadotropin or a GnRH agonist.^b These medications may temporarily ameliorate the problem behaviors of hormonal aggression, as well as physical problems like chronic egg laying (see Chapter 19, Endocrine Considerations and Chapter 9, Therapeutic Agents). However, if the parrot's environment contains triggers for nesting behavior, sexual hormone levels may remain high despite the administration of these medications. Environmental triggers must be eliminated before lasting relief can be found.²⁸

One aviculturist cites the following example of "energy management." He suggests redirecting psittacine energy into survival behaviors instead of reproductive behaviors. In the case of one excessively hormonal female umbrella cockatoo, he randomly modified the heat and light in the parrot room, the amounts and types of food offered, and the bird's perception of safety (by not covering the cage every night). Paper was provided during the day to shred. Within a week, the hen had returned to normal behavior. (G. Wallan, personal communication, 2002).

CHEWING

Chewing is not something that parrots "grow out of," as do puppies. Owners who complain that their psittacine is chewing the wall behind the cage should move the cage, supervise their parrots when out of their cages, and teach their parrots to chew on well-designed toys or other appropriate items. Dried pine cones, natural fresh branches from unsprayed trees such as apple, citrus, melaleuca, Australian pine, ash, beech, and aspen are also ideal. Indeed, bark chewing and eating behaviors have been observed in African greys in Africa.³¹

EXCESSIVE VOCALIZATION

People frequently ask how to "teach their parrots how to be quiet." Parrots are loud animals and they cannot be taught to be otherwise. When lay bird magazines tout a particular species as being "quiet," this does not mean that parrots of that species make no noise; it means they make less noise than the species that are known to be very loud.

Normal noise levels vary from species to species, but generally speaking, parrots tend to vocalize loudly several times a day for 5 to 15 minutes. The large macaws,

Case Study: Excessive Screaming

A 9-year-old male umbrella cockatoo (*Cacatua alba*) was screaming for hours on end and neighbors were beginning to complain.

Through the process of taking a detailed history the following information was discovered. The bird's cage backed up to a half-wall that allowed visibility from all directions and the bird had no hiding place in its cage. The cockatoo was getting only 6 hours of dark, uninterrupted sleep and was eating a high-sugar, low-nutrition diet. The owners also were unknowingly allowing sexual behaviors such as masturbation and had little control over the cockatoo.

The approach to this problem was multifaceted. The owners purchased a sleep cage and began putting the bird to bed at a much earlier hour, enabling 10 hours of sleep. A large towel was positioned over one end of the parrot's cage, allowing the bird to withdraw from sight whenever he wished, and the owners discovered that the bird chose to spend a great deal of time behind the barrier. The diet was adjusted and the owners began having daily lessons to establish better control. Sexual behaviors were curtailed with no punishment or drama. Within a couple of weeks, the screaming had abated tremendously, and 2 years later, the owners (and their neighbors) continued to be very pleased with the decrease in the bird's vocalizations to expected levels.

Amazons and cockatoos normally will produce 15- to 20-minute bursts of screams several times per day, especially morning and evening.

Incessant screaming is not normal behavior. Once again, the first step to changing a behavior is to analyze its function: what does the parrot achieve by screaming? Does the screaming parrot yell to get the owner's attention, to obtain food or to alleviate boredom? Many parrots that scream excessively do so to liven up their monotonous existence.⁴³ See Section I of this Chapter for more information on inadvertent reinforcement of excessive screaming.

When taking a behavioral history, ask the owners *what they do* when their bird screams. They may let the parrot out of its cage, pick the parrot up, give it a treat to quiet it or yell at the bird. Unfortunately, all these responses are rewards and reinforce the behavior.

Modifying Screaming Behavior

There are inherent problems with most cases of excessive screaming. First is duration, because the more time

parrots have been reinforced for screaming, the more ingrained is the behavior. It is also essential that all people involved understand that changing screaming behavior requires participation by all the humans in the area. If one person in the environment continues to reward the screaming, the behavior will not change.

The resolution of any behavior problem requires a step-by-step approach (see Section I of this chapter for more information). Circumstances that precede the behavior should be documented. These may include:

- Time of day
- Day of the week
- Activity/mood/noise level in the household
- The parrot's body language
- Relation to feeding time

Reactions that accompany or follow the screaming should be recorded (as these may be the inadvertent reinforcers of the behavior).

Owners are instructed to collect but not interpret data for 10 to 14 days. If a pattern is detected, steps can be taken to change what leads up to the behavior and the response to the behavior, therefore changing the behavior itself³ (see Section I of this chapter for an in-depth discussion of this behavioral model).

To successfully decrease excessive screaming, owners must be consistent and patient. If a parrot screams while caretakers are in the room, they can turn their backs and momentarily withdraw their attention. This maneuver is classified as a "time out." The second the racket quiets, they can turn back to the parrot and gently, so as not to reignite a screaming fit, reward with smiles, praise or acceptable food treats. If the screaming begins again, caretakers should turn their backs and leave the room, leaving the parrot alone. They should not return until the parrot has temporarily quieted.

If they are not in the same room when a screaming episode begins, they are to do nothing until the parrot quiets briefly and preferably makes some acceptable type of noise. Then they can reenter the room and reward the parrot for either silence or acceptable vocalizations. Extinguishing excessive screaming will not produce a completely quiet parrot.²⁵

Parrots often scream excessively when company arrives. Owners can take the following preemptive steps: (1) Do not feed the parrot for 4 to 6 hours prior to company arriving; (2) Encourage the parrot to engage in flapping session, followed by a drenching shower. Once accomplished, move them to a sleep cage in a separate room (for more information on sleep cages, see Chapter 2, The Companion Bird); and (3) Give the bird a meal and

some special treats hidden in a difficult-to-get-at toy.

There are exceptions to the rule of ignoring excessive screaming. When the human "flock" reunites, parrots tend to celebrate this occasion with raucous noise. Owners should not ignore the bird in this situation. Instead, they should greet their parrots and spend a couple of minutes interacting with them. Owners should then ignore any noise that happens after a parrot is suitably greeted. A second exception has been termed the "contact call."²⁴ In the wild, a parrot's flock represents the safety and protection of numbers. When other flock members are not visible, for example, when a flock is feeding in the heavy foliage of the rain forest canopy, they may use the contact call. Its function is to make certain they have not become separated from the flock. Companion parrots also do this, and they are simply making certain they are not alone. When contact calls are not answered, they often escalate to a scream. If a scream is required to receive a response, this inadvertently reinforces screaming.

African greys (*Psittacus erithacus erithacus*) have been described as learning human contact calls, such as the ringing of the phone and the beep of a microwave. It is postulated that they mimic these sounds when they are seeking contact with the members of their human flock.²⁶ Cage location also can influence levels of psittacine vocalization.

Without an area in which to hide, vigilance behavior may be displayed as excessive vocalization.

BITING

Unlike excessive noise, biting may not be grounded in instinct. According to observations made of parrots in the wild, the beak is used for eating, preening and social interaction, not as a weapon against other flock members. Wild parrots use complicated body language, feather position and voice to express themselves in situations of conflict with others in their flock. When a confrontation is not quickly resolved, they simply fly away rather than engage in actual combat.^{36,37,39}

Most captive parrots are caged and have clipped wings, so instinctive responses such as flight are not an option. Hence, biting becomes a common behavior in captivity.

The Functions of Biting

As was previously mentioned, it is critically important to analyze the function of a behavior before appropriate recommendations can be made. A detailed history must be obtained. There are wide varieties of stimuli that motivate a parrot to bite, and these need to be identified and analyzed.

Fear-based Biting

The issue of fear is a critical consideration with a parrot. Psittacines tend to be frightened of novel objects or situations, as their survival in the wild would be enhanced by approaching new things with extreme caution. Owners may not realize this and become impatient with their parrot, increasing rather than dissipating its fear. One needs to look for techniques to gradually desensitize the parrot to fear stimuli.

Biting and Territoriality

Parrots, like most animals, have territorial impulses.³ If a parrot starts to lunge when around any perimeter, it is labeled as “territorial.” Caregivers can alter the configuration of that perimeter, preferably with enrichment, decreasing the territorial response. Preferred behaviors should simultaneously be reinforced. Commonly identified perimeters frequently include nest boxes, feeding stations, play gyms, dark places, cage interiors and cage doorways. The territory outside of these locations can be made more enriching than the protected areas. For example, the parrot that balks at leaving its cage can be shown, before the cage exit is requested, that the reward it will get contingent upon removal from the cage is greater than that of solitude.

As exemplified by the frequent springtime attacks of small songbirds on substantially larger predators, like raptors, dogs and people, parrots take their territoriality quite seriously. Owners who allow their parrots total freedom in the home unwittingly exacerbate this problem, as the parrots may then defend wider areas from non-favored people.²¹ In extreme cases, parrots assume the entire house as their territory, attacking anyone who enters.

By training parrots to enter and exit the cage on command, caretakers maintain control over the cage space, preventing territorial aggression. This is easily accomplished by teaching parrots that they must step onto the offered hand or hand-held perch if they wish to exit the cage.¹³ If parrots do wish to come out of the cage, owners should not just open the cage door and walk away, allowing the parrots to exit whenever they choose. Instead, parrots should be taught to politely step onto a perch or the hand prior to exiting the cage. Feeding such a parrot away from the cage makes the effort of getting the parrot out of its cage easier.

Parrots that have a very small living area (cage) may have increased territorial instincts. Setting up a number of other play areas can decrease territorial instinct back to a more normal level.

Case Study: Fear-Based Biting:

Normally sweet and unaggressive, Lily, a 9-month-old African grey (*Psittacus erithacus erithacus*) hen abruptly started biting when her owner’s friends tried to handle her. She became especially aggressive with her person’s new boyfriend, striking quickly and biting hard.

Lily was biting from fear-based aggression. Frightened by non-flock members, she needed to be better socialized. If not identified and handled properly, a shy parrot like Lily can blossom into a determined fear biter. Lily’s person needed to reassure her that she was safe when interacting with others.

Introducing her to other people in neutral territory with patience and sensitivity, the owner taught Lily that new people are fun and interesting. Initially, she expected Lily only to step onto the outsider’s hand politely, and then step right back onto her trusted caretaker’s hand. Lily’s good manners were then lavishly rewarded with smiles and praise. Each time Lily did this successfully, she discovered that positive things happened when she was compliant with new people. As a result, Lily learned to enjoy interactions with non-flock members.

Case Study: Biting as a Learned Defense

An extremely polite and unflappable 3-year-old male African grey had always been very sweet and easy to handle, so this author (IW) was quite startled when the owner recently complained that the grey had been biting her.

When questioned regarding the circumstances, the owner revealed that the bird was biting only when she was trying to pet him. Upon further questioning, the owner admitted that on each occasion, the bird had pushed her hand away several times before it would bite. This was a clear example of biting as a learned defense. The bird obviously had tried to communicate to the owner that it did not wish to be petted, but the owner did not understand. When the frustrated bird finally resorted to biting, the woman ceased her attempts to fondle it.

In this manner, the owner was very clearly sending the message that nothing short of violence would get her to stop forcing herself on the bird. It was explained to the owner that the parrot had politely refused her attentions and that request should be honored. The domesticated dog is the only animal that is always in the mood to be petted, and a parrot is not, after all, a dog with feathers.

Case Study: Territorial Aggression

Clients complained that their 14-year-old male yellow-naped Amazon (*Amazona ochrocephala auropalliata*) was lunging and biting at family members as they walked by his cage.

The location of cages and playgyms can strongly influence parrot behaviors. In this situation, questioning revealed that the Amazon's cage was in the middle of a high-traffic intersection, on the same wall with doors. The consultant explained that while these social creatures like being in the middle of the action, they can get overstimulated by constant traffic flowing by their cages, as well as being startled repeatedly by the abrupt appearance of humans. Owners need to remember that parrots are prey animals that often react aggressively when frightened. This aggressive behavior was eliminated when the owners relocated the cage out of the middle of the traffic flow over to a far wall where the Amazon could see people coming.

Parrots are often not comfortable with strangers invading their cage space. If interaction with a stranger is to be attempted, the parrot should be removed from the cage first and then introduced to the stranger. When the protected territory is a person to which the bird is strongly bonded, owners must be vigilant to prevent injury to other persons, the bird or themselves (see Mate-bonding).

HEIGHT

No true dominance has been documented in birds as relates to their relative perching height. Ornithologist Jim Murphy commented, "Height does have its advantages, and behaviors can and do change as a result of it. Height alone confers a temporary advantage if there is the determination on the part of the involved individual parrot to exercise that advantage."³⁴ Parrots that become incorrigible when above eye level are already out of control, and this becomes more obvious with the increased altitude.⁴⁶

In some situations, a temporary easement of problems can result simply from raising the people. For example, a footstool placed next to a high play gym can enable shorter people to more easily reach and therefore have better control over a parrot.²⁰ Whether being at an increased height changes a parrot's perception of its status or decreases its perceived vulnerability is still under debate. Regardless of the psychology behind it, most parrot species that are incompletely trained are more compliant on the floor than when perched on top of a tall cage.

SHOULDERING

A potentially dangerous but extremely popular practice is allowing parrots onto people's shoulders. A popular tradition over centuries of parrot ownership, this practice probably did not become especially dangerous until the advent of captive-bred parrots.

It has long been understood by raptor specialists that there is a substantial difference between raptors that have been captured and tamed and those that are domestically raised and socialized to humans. Birds of prey that have been socialized to humans have no fundamental fear of people and they can become extremely dangerous when in nesting season, aggressively attacking people who encroach on their territory (M.J. Stretch, personal communications, 2000). Imprinted hawks may need to be tethered during nesting season to prevent them from attacking people. Due to their potential aggression toward humans, these raptors cannot be released into the wild. The similar reaction seems to occur in captive-bred parrots. Allowing parrots on the shoulder can be particularly hazardous.

Additionally, a psittacine on a human's shoulder easily can reach vulnerable parts of the owner's anatomy (eyes, ears, noses, lips). Facial injuries can be severe and also permanently damage the parrot-human bond. Parrots should not be allowed on a human's shoulder. This is one of the few issues on which all experienced persons involved in parrot behavior agree.^{4,10,19,20,40}

BEHAVIORAL MODIFICATION FOR BITING

Undesired behaviors often can be avoided by interpretation of psittacine body language. Careful observation is the first step in this process. Once experienced in reading body language, people will find that it is easier to anticipate and avoid a bite.

A parrot most often resorts to biting when other potentials for communication have been exhausted. It then continues to bite because it has been reinforced for doing so. For example, a parrot often will respond to unwanted human attention by raising its foot to fend off the hand, or by pushing the hand away with their beak. Humans will get bitten if they ignore these warnings.

Owners reaching for a parrot while they are on the phone may trigger a biting reaction. Psittacines often behave as if they dislike telephones. From the bird's perspective, the ringing telephone elicits an immediate response. The owner holds the phone to their ear and interacts with it verbally. It is not surprising that parrots act so negatively to this apparatus.

An owner can often prevent a bite by making direct eye contact and putting a hand or finger up as a counterpoint of attention, while quietly but firmly saying something like, “Be good” or “Settle down.” Seldom will a parrot break eye contact in order to bite. Other methods of prevention include giving the parrot something on which to place its beak while stepping it onto the hand, or approaching from behind instead of offering the hand from the front.

When a parrot attempts to bite while sitting on a hand or arm, there are two techniques that can be effective. Athan’s “Wobble Correction” entails a tiny rotation of the arm or hand.⁵ Davis’ “Little Earthquake” involves performing a slight drop of the hand or arm.¹⁰ If used consistently, parrots soon make the connection between biting and losing their balance.

Laddering can be an effective deterrent to biting. This is the exercise described previously in “Training” in this section. The technique is the same, but the handler’s facial expression and tone of voice is quiet and firm and the handler is frowning. When the parrot follows the command, the owner’s tone turns positive, and the bird is then placed on a perch. Laddering works well with many cases of aggression when firmly implemented.

Some owners are not aware that parrots normally use their beaks as hands rather than weapons. Afraid of being bitten, these people often pull away when a bird reaches for them with their beaks. Repetition of this exchange will teach young parrots that if they wish to climb onto a hand they must grab it quickly. At some point the bird may grab the human hand with enough force to cause pain. If this is rewarded with vocalization by the person (such as “OW, BAD BIRD, NO BITE!”), the bird has received positive reinforcement. Instead of verbal reinforcement, a stern look and a quiet, firm, “No” *without* withdrawing the hand is most effective. Once reprimanded, the parrot can be given a toy with which to play, offering it a healthy outlet for exploration with its beak.

Neurotic Fears or Phobias

According to human psychology, a phobia is defined as “any unfounded or unreasonable dread or fear.”² It is not unfounded or unreasonable for a prey animal such as a parrot to be afraid of a predator such as a human, and this reaction would be expected in wild psittacines. However, most pet psittacines are acclimated to the human captive environment. When there is no precipitating incident and the parrot is suddenly terrified of people, noises, shadows, or comparable non-threatening

items, the definition of phobic would seem to apply.

There are few situations as frustrating as dealing with the phobic or neurotic parrot. The classic signalment is a high-strung young parrot that suddenly begins reacting to humans as if they are deadly predators. This is especially upsetting when the formerly beloved owner is an object of their terror. The parrot may flail around its cage, screaming and trying to escape when the owner approaches. A “phobic” parrot is not simply afraid of new toys or new people, it also overreacts to noise, movement, and even direct eye-contact from humans. These parrots often break multiple blood feathers, and cause extensive soft tissue damage to their keel and wing tips.¹²

Ordinarily, aggressive parrots are not phobic (J. Doss, personal communications, 1997-1998). There has been discussion concerning whether these are two different responses to the same stimulus. If so, insecure parrots that perceive themselves as threatened can become either phobic or aggressive, depending on individual personality type (P. Linden, L. Dicker, personal communications, 1997). Some species are particularly prone to phobic behaviors, including small cockatoos like the rose-breasted (*Eolophus roseicapillus*), citron-crested (*Cacatua sulphurea citrinocristata*) and triton (*C. s. triton*); small *Poicephalus* (Meyers [*P. meyeri*] and Senegal parrots [*P. senegalus*]); African greys (especially the Congo [*Psittacus erithacus erithacus*]); and eclectus parrots (*Eclectus roratus*). These same species also are predisposed to feather-destructive behaviors.

The etiologies of phobic behavior are unknown. A particular incident may precipitate phobic behavior, but the actual underlying causes may be species-specific tendencies and developmental problems (see Relative

Case Studies: The Non-Phobic Phobic

Care must be taken to accurately diagnose phobics, since they are handled so differently from the more common problem behaviors seen in companion parrots. One author (LW) worked with a “phobic” yellow-naped Amazon (*Amazona ochrocephala auropalliata*) that turned out to have an idiopathic medical problem that predisposed the parrot to falling from the hand because it could not grip properly with its feet. Multiple falls taught the parrot a direct correlation between handling and pain. The result was a dramatic fear response when people approached. Interestingly enough, the Amazon’s screaming and flailing was eliminated by the use of the dopamine antagonist, haloperidol[®] (D. Kupersmith, personal communications, 1997-1998).

Table 3.3.2 | Sodium Contents in Foods

Food Serving	Sodium (mg)	Food Serving	Sodium (mg)
Fruits/Vegetables		Peanuts	
Peppers (sweet) (1 cup)	3	Dry-roasted (unsalted)	0
Banana (one)	1	Oil-roasted (unsalted)	0
Apples (one)	0	Roasted-in-shell (unsalted)	0
Pineapples (fresh) (1 cup)	2	Sunflower seeds	
Raisins (1 cup)	17	Unsalted	0
Pumpkin (1 cup)	2	Popcorn (movie theater style)	
Oranges (one)	0	Light (1 cup)	97
Cantaloupe (1/8)	6	Crackers	
Strawberry (1 cup)	2	Crackers w/cheese	101
Bananas (one)	1	Whole wheat	105
Papaya (1 cup)	4	Saltines® (4)	156
Grapes (European) (10)	3	Saltines® low salt (4)	75
Watermelon (1 cup)	3	Chips - Bread	
Green beans (1 cup)	4	Chips (1 oz)	216
Romaine (1 cup)	4	Whole grain bread (1 slice)	127
Olives (5)	192	Butter - Cheese	
Yams (fresh no skin) (1 cup)	2	Butter (1 Tbsp)	117
Yams (canned heavy syrup) (1 cup)	76	Cheddar (1 oz)	176
Brussel sprouts (frozen) (1 cup)	36	American (processed) (1 oz)	405
Cabbage (1 cup)	13	Mozzarella (whole milk) (1 oz)	150
Beet greens (1 cup)	347	Meat	
Corn (cob) (1 cup)	8	Beef fresh (3 oz)	56
Corn (canned) (1 cup)	571	Beef (dried) (1 oz)	984
Celery (1 cup)	104	Turkey (breast white) (3 oz)	54
Carrots (1 cup)	39	Chicken (breast white) (1/2)	64
Broccoli (fresh) (1 cup)	24	Bacon (3 slices)	303
Spinach (1 cup)	24		
Coconuts (1 cup)	24		
Potatoes (french fries) (10)	15		
Mixed vegetables (frozen)	64		
Mixed vegetables (canned)	243		
Beans (canned)	700-1000		

* Products with 3 mg of sodium or more per serving should be avoided in feather picking birds. Restrict foods to recommended yellow fruits and vegetables (G.J. Harrison, personal communication, 2003).

Attachment Disorder in Section II of this chapter). Potential exacerbating events may include physical or psychological trauma such as aggressive capture and restraint techniques.⁴² Ethologists agree that aggressive handling or “punishment” is not the only reason that parrots become phobic (A. Luescher, J. Oliva-Purdy, L. Seibert, personal communications, 2003). Often there is no discernible history of abuse.

Rehabilitation of a phobic parrot can be a painfully slow and difficult process. Misinterpretation and mishandling of phobic behavior may increase the severity of the problem.⁴⁴ Various psychotropic drugs may be used in conjunction with behavioral modification to aid in the treatment of phobic parrots. Many of these drugs are also used for parrots with feather destructive behavior. Species specificities seem to exist but much of this information is still anecdotal. One author (TLL) has had rela-

Case Study: Feather Destruction

A 3-year-old male African grey (*Psittacus erithacus erithacus*) was boarded with this author (LW), and on presentation the bird had removed all its contour feathers on its chest, leaving only down.

The impetus for this behavior became obvious when the bird yanked out feathers whenever its wishes were frustrated. When the grey apparently realized that no one would acquiesce to its desires, the motivation for the plucking was removed and the behavior ceased. The bird went home 3 weeks later with a dramatic increase in contour feathers on its chest, and the owners were delighted. However, they renewed their behavior of complying with the bird’s wishes whenever it touched a feather, so the bird promptly reduced its feather coat to only down again.

The owners opted to do a consult at this point, and learned how to avoid reinforcing the bird and the behavior ceased once again. There were periodic episodes of plucking over the next few years (such as when the owners purchased a Great Dane puppy), but when the owners did not reward the feather destruction with attention, it ceased after a short period. At this time, the bird is fully feathered.

It is felt that success in a feather picker is that it does not escalate, may cease, or does not mutilate. It has been noted in many cases that during times of stress, which varies from case to case (a storm, a new pet, new people, a new home or changes in the home) the bird will revert at least temporarily to picking (G.J. Harrison, personal communication, 2003). Guaranteeing a cure is seldom fulfilled.

tively good results in with several African greys using a combination of diazepam and fluoxetine, or diazepam and amitriptyline. Conversely, haloperidol has worked in a number of *Cacatua* species, but the same dose caused excessive agitation in a male black-headed caique (*Pionites melanocephalus*), an eclectus (*Eclectus roratus*) female and one eleanora cockatoo (*Cacatua eleanori*) (see Chapter 9, Therapeutic Agents).

Feather Destruction and Self-mutilation

Feather destructive behavior is a condition seen only in, and therefore caused in some manner by, captivity.¹⁷ Species predilections exist, with African greys and cockatoos being over represented. Psychological as well as

physical etiologies contribute to feather-destructive behavior.²⁷

Feather-destructive behavior is a clinical sign, not a disease entity. Nutritional causes, including malnutrition and food, pesticide, dye or preservative sensitivities, and excess salt or sodium may be causative (Table 3.3.2). Environmental factors including low humidity, inappropriate light cycles, and noxious aerosols, are all possible potentiating factors. Primary dermatologic disease as well as metabolic disease and parasitism may be causative. The reader is referred to the appropriate chapters in this and other references for more information.

The observation that “the best kept parrots often develop feather-destructive behavior” is applicable, and frustrated owners find comfort in this adage. With all their food, attention and security needs met, some parrots will redirect their energies. Normal preening then becomes prolonged and exaggerated and may lead to feather mutilation. Psychotropic medications seldom are a complete answer but may be used as an aid during environmental and behavioral modification.

Additionally, owners often unconsciously reward parrots for feather destruction. Psittacines may recognize the potential for feather picking or destruction to obtain internal stimulation or external reinforcement. The first step in behavioral modification is to ignore this behavior.⁴¹

The Geriatric Parrot

Despite the USA having imported hundreds of thousands of parrots in the 1970s and 1980s, there is little information to be found on geriatric parrots. Additionally, the physical and emotional health of these older import parrots may not equate to that of captive-bred psittacines that will be reaching geriatric status in the coming decades.

A study of the large macaws at Parrot Jungle (Miami, FL) found their “functional breeding life-span” to be about 30 years, and their survival life-span was about 45 years. Physical signs in older macaws included increased scalliness of feet, thickening of the skin of the feet, thinning of the facial skin, appearance of warts, cataracts and other ocular color changes. It was noted the yellow iris thinned so the dark retina could show through, producing a dark ring within the iris. Macaws over the age of 35 showed postural changes due to arthritis and degenerative neurological disease. Causes of death in these older birds included tumors, renal failure and other degenerative diseases.¹⁶



Fig 3.3.9 | Cataract in an older yellow-naped Amazon. Cataracts may cause behavioral changes related to decreased vision.

Gradual development of cataracts allows compensation by the bird as long as its environment remains static. Sudden onset of cataracts may cause behavioral abnormalities that mimic aggression, lethargy, or even seizures (Fig 3.3.9). Thousands of imported parrots that should be growing old in captivity have died of malnutrition and husbandry related disease. Documentation of the physical and behavioral changes of our current psittacine pets as they age will improve our understanding of their medical and emotional needs. Hopefully, we will have an increasing captive geriatric parrot population from which to learn.

Conclusion

Psittacine birds have been sharing the human habitat for hundreds of years. However, these are still not domestic creatures. It will take additional research and application of existing knowledge to integrate parrots into the human environment. A growing number of owners, particularly of cockatoos, are “donating” these parrots to shelters and rescue organizations due to excessive screaming, plucking or biting behavior.³³ Other birds are condemned to life in a cage due to the owner’s fear or inability to handle them. Early education of owners may prevent incompatible behaviors that lead to abandonment or neglect.

Products Mentioned in the Text

- a. Chorionic gonadotropin, hCG, American Pharmaceuticals Inc., Los Angeles, CA, USA
- b. GnRH agonist Depo-Lupron (Lupron Depot, leuprolide acetate), TAP Pharmaceuticals, Inc., Lake Forest, IL, USA
- c. Haldol, Henry Schein, Melville, NY, USA
- d. Prozac, Eli Lilly, Indianapolis, IN

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