Special Section on Stereotypic Behavior

The gray matter: Prevention and reduction of abnormal behavior in companion gray parrots (*Psittacus erithacus*)

Phillip J. Greenwell a,*, V. Tamara Montrose b

*Independent Researcher, Saint Paul sur Save, France
bDepartment of Animal and Agriculture, Hartpury University Centre, Hartpury, Gloucestershire, United Kingdom

**A B S T R A C T**

Gray parrots (*Psittacus erithacus*) are popular companion birds, particularly noted for their ability to mimic human speech, their intelligence, and longevity. They are also prone to developing abnormal behaviors such as feather damaging behavior. This review explores the current available knowledge on gray parrots kept as companion birds with respect to behavioral problems and their management. The potential causes for the development of abnormal behaviors in this species are explored. Recommendations are made for future research, and advice is provided on the synthesis and application of available research to owners, breeders, and clinicians of gray parrots so that their well-being is maximized in captivity.

Introduction

Captivity may deny parrots the opportunity to fully engage in behaviors observed in the wild. This is particularly the case for individuals kept as companion animals in households where constraints are placed on social interaction, flight, foraging, and maintenance behaviors such as bathing and preening (Kennedy and Draper, 1990; van Hoek and Ten Cate, 1998; Engebretson, 2006; Gaskins and Hungerford, 2014). The impinging of normal behavior patterns may lead to the development of abnormal behaviors. Abnormal behaviors are believed to be common in psittacines, although estimates of their prevalence vary, with 10% (Grindlinger, 1991), 15.8% (McDonald Kinkaid et al., 2013), and 17.5% (Costa et al., 2016) of parrots being stated as presenting with feather damaging behaviors (FDBs). The presentation of FDB varies though by species and genus.

Abnormal behaviors that may be observed in gray parrots include FDBs, reproductive behaviors directed toward owners (regurgitation and/or mating attempts), aggression, and excessive vocalizations (Schmid, 2004). Stereotypic behavior may also be observed. Stereotypies are defined as unvarying, repetitive, and functionless behaviors (Garner et al., 2003) and commonly noted in captive animals. Stereotypies such as abnormal repetitive behavior (e.g., weaving, pacing) are observed in other parrot species (Meehan and Mench, 2006) but rarely documented in gray parrots.

The gray parrot has been selected for review because of its popularity as a companion bird in Europe, the United States, and the Middle East (Birdlife International, 2016) and because it is frequently presented at veterinary clinics due to being prone to developing abnormal behaviors (Seibert, 2006).

Collating and assessing available species-specific research may aid in developing a proactive response to preventing abnormal behavior in gray parrots kept as companion birds. During this review, we will introduce the abnormal behaviors seen in gray parrots and then consider the wild ecology of gray parrots. Understanding the ecology of a species gives clinicians and caretakers the insight to provide optimal care (within the constraints of captivity) for their charges (Kirkwood and Hubrecht, 2001) and helps us understand why parrots may be particularly susceptible to developing abnormal behaviors in captivity. We will then review other factors that affect the susceptibility to abnormal behaviors in gray parrots, and consider aspects of husbandry and management that may affect the development and maintenance of abnormal behaviors in gray parrots. We highlight how this research can be applied by...
clinicians, breeders, and owners and other caregivers to reduce or prevent abnormal behaviors in companion gray parrots.

Abnormal behaviors seen in gray parrots

A range of behaviors may be observed in captive gray parrots that can be classified as being abnormal or viewed as behavioral problems. In this context, we define abnormal behaviors as those that differ in frequency and form from those observed in wild populations (Wiepkema, 1985). Causation may vary between and within abnormal behaviors; however, Yenkosky et al. (2010) argued that parrots presented with behavioral problems are showing the manifestations of post-traumatic stress disorder (PTSD). The diagnostic criteria for PTSD in humans include the exposure to actual or threatened death or serious injury, either by directly experiencing or witnessing the traumatic event (American Psychiatric Association, 2013). Yenkosky et al. (2010) maintained that removal for hand-rearing, extraction from the wild or living in a socially and emotionally deprived environment are all traumatic experiences for parrots to contend with; “From the perspective of traumatology, there are no avian “behavior problems,” only birds suffering psychological distress that lack adequate developmental and/or environmental resources to self-heal and/or coping skills that would permit at least some degree of adjustment to the alien, abnormal, dysfunctional environment” (Yenkovsky et al., 2010, pp. 17-27).

Environmental conditions and the provision of enrichment devices may be key contributors in improving behavioral health or reducing abnormal behaviors in parrots kept as companion birds, and treatment therapies can be considered in 4 sequential steps: establishing a secure environment; enabling greater control and empowerment of the individual; enabling control of social relationships; and desensitization therapy assistance (Yenosky et al., 2010).

FDB in gray parrots

FDB in psittacines is frequently described as an abnormal repetitive behavior and/or abnormal behavior (van Zeeland et al., 2009a,b; Jayson et al., 2014; Cussen and Mench, 2015) instead of a stereotypic behavior because repeated fixed-action motor patterns are absent. Some authors, however, classify FDB as stereotypic (Owen and Lane, 2006), and some definitions of stereotypic behavior support the use of this term (Mason, 2006).

Gaskins and Hungerford (2014) noted that gray parrots are likely to engage in FDB, with gray parrots being 8 times more likely to show FDB than other parrot species (except cockatoos, which were 13 times more likely to evidence FDB). Of 42 birds showing FDB in this study, nearly a quarter of birds were gray parrots, the highest percentage of single species in the study. Although age of onset of FDB ranges across species, Gaskins and Hungerford (2014) found that gray parrots may initiate FDB when still younger than 1 year old, with 7 of 8 birds in their study initiating the problem at this age. This result prompted the authors to recommend exploration of early behavioral history and its relevance for behavioral therapy.

Jayson et al. (2014) explored the predisposing factors of FDB in gray parrots kept in the United Kingdom. In a single bird per questionnaire study, 39.4% (N = 137) of questionnaires identified individual birds demonstrating FDB. In this study, the significant predictive factors for FDB in gray parrots were length of ownership and sleep lasting more than 12 hours each day. Age was not associated with the likelihood of FDB, but the authors hypothesize that birds maintained in a static environment may adapt poorly if changes subsequently occur. If the environment is suboptimal, prolonged exposure may lead to the development of FDB. Seibert (2006) stated that optimal environments permit birds to engage in species-specific behaviors, whereas Cussen and Mench (2015) used this term to indicate an enriched environment. Lack of sleep has been proposed as a factor in FDB onset (Kennedy and Draper, 1990), but Jayson et al. (2014) found that sleep for more than 12 hours each day increased the likelihood of developing FDB by 7 times.

The isolation of being in a darkened environment for an extended period may lead to boredom, where an animal adapts to its environment in an abnormal way indicative of understimulation, so that the animal may maintain a sense of selfhood (Wemelsfelder, 1984). Covering the cage with a sheet, or placing the bird in a darkened room, removes visual, and possibly, vocal contact with the owner or other birds, which may result in a sense of loneliness. FDB may start as a way to cope with these negative affective states associated with isolation (van Zeeland et al., 2009b).

Rosenthal et al. (2004) removed feathers from parrots (including gray parrots) showing FDB and from control birds with no FDB to determine the extent to which inflammatory changes were present in the skin, feather follicles, or pulp of FDB birds. Only 1 FDB bird showed inflammatory skin cells. One feather pulp sample from an FDB bird grew bacteria, as did one feather pulp sample from a control bird. These results lead to the conclusion that dermatitis and folliculitis are unlikely primary causes for FDB and should not be assumed unless confirmed through further diagnostic techniques (Rosenthal et al., 2004).

Garner et al. (2008) found that biopsies from gray parrots frequently showed traumatic skin lesions, possibly as a result of FDB. Samples taken from gray parrots showing skin or feather disorders indicated that of 77 skin biopsies, 74% were labeled as traumatic skin disease. In this same study, 26% (N = 77) of gray parrots showed inflammatory skin disease. These results suggest that biopsies are necessary to identify lesions that may be associated with feather picking in gray parrots (Garner et al., 2008).

FDB is considered a multifactorial disorder, and any underlying inflammation, pruritus, irritation, discomfort, or pain may be an inciting factor in the development of FDB (van Zeeland and Schoemaker, 2014a). Comprehensive reviews on FDB in parrots that include medical causes of FDB and diagnostic techniques can be found in the study by van Zeeland and Schoemaker (2014a,b).

Aggression

Welle and Luescher (2006) defined aggression as the biting or lunging at another parrot or human. It is important to note that under this definition aggressive interactions have an element of biting, but not all biting has an element of aggression. Kennedy and Draper (1990) stated that parrots have 3 distinct periods of development (juvenile, adolescence, and adult), biting may occur in any of them, and aggression may also be presented in adolescence and adulthood. Juvenile parrots exhibit a teething stage and may have little control over bite pressure. As young parrots reach adolescence, some authors believe that they may try to assert their dominance over human owners through aggressive reactions or threats or that they try to establish territory around their cage (Welle and Luescher, 2006). However, Friedman et al. (2006) warned against using dominance terminology because of its ambiguity in psittacine studies, as there is limited research on social hierarchies in parrots and stated that “This lack of scientific consensus of what dominance is should call into question its usefulness for understanding and managing companion parrot behavior ...” (Friedman et al., 2006). Biting may also occur once adulthood, and therefore sexual maturity, is attained as aggression may be directed at perceived competitors (Kennedy and Draper, 1990).

Schmid (2004) noted that aggression was observed in gray parrots, which had formed a bond with a human and, conversely,
دریافت فوری متن کامل مقاله

امکان دانلود نسخه تمام متن مقالات انگلیسی
امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات