

## Welfare developments for captive psittacines

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### Introduction

Parrots are becoming increasingly popular companion animals. Meyers (1998) estimated that approximately 8% of American households owned one or more birds. Sadly, owners often believe that birds are low maintenance pets and fail to give them enough toys and attention. In reality, parrots are intelligent, emotional beings that require a balance of appropriate interactions with their owners and individual stimulation from their environment (Davis, 1998). When these requirements are not met, a range of behavioural abnormalities such as screaming, aggression, excessive fearfulness, and feather plucking often occur. Three recent studies examined environmental enrichment and isosexual pair housing as a means of improving the welfare of captive Orange-winged Amazon parrots (*Amazona amazonica*).

### Discussion

The first article looked at decreasing the fear response of parrots by increasing environmental enrichment. Excessive fear can cause increased levels of stress, injury and can result in wasted energy (Meehan and Mench, 2002). Novelty has the potential to stimulate excessive fear reactions, and as captive parrots are often exposed to unpredictable environmental changes, such as novel toys or food items, or in the case of zoos and animal parks changes in animal care staff, these often result in fear and distress (Meehan and Mench, 2002). However, increased exposure to novelty has been shown to decrease fear responses.

Researchers devised enrichments to give parrots an opportunity to express the food acquisition skills and complex locomotor skills they would normally exhibit in the wild. Foraging enrichments required the parrots to perform some work to retrieve food, such as chewing through a barrier, sorting through inedible material or opening containers. Physical enrichments were designed to increase the complexity of the cage environment and included alternative perches or swings, and objects which could be manipulated with the beak or feet (Meehan and Mench, 2002). Enrichments were rotated to expose each bird to different foraging and physical enrichments over the study period. At the end of the study the enriched birds (n=8) showed shorter latencies to interact with novel objects or unfamiliar handler than the unenriched, control birds (n=8) (Meehan and Mench, 2002). These results indicate that environmental enrichments can reduce the level of fear experienced by the birds in novel situations.

The second study used the same types of foraging and physical enrichments to investigate whether these could decrease the incidence and severity of psychogenic feather picking. Feather picking is a welfare issue both due to the psychological distress it reflects, as well as the physical problems it may cause including skin and tissue damage, haemorrhage and infection (Meehan et al., 2003). Grindlinger (1991) estimated that this behaviour occurs in 10% of captive parrots. In this study eight enriched birds received one foraging and one physical enrichment each for 48 weeks. A veterinarian was consulted to rule out any medical causes of feather picking, and a ten point scoring system was used to quantify plumage condition. At the completion of the first phase (48 weeks), birds in the enriched group showed improved feather condition, while feather condition worsened in the eight control birds (Meehan et al., 2003). At this time, the enriched birds were removed from the study, and the control group received enrichments for an additional sixteen weeks. During this enrichment period, improvements in feather quality and re-feathering occurred rapidly; demonstrating that the decrease in feather picking behaviour was dramatic, and nearly immediate after introduction of the enrichments (Meehan et al., 2003).

Another study, by Meehan et al, (2003) examined isosexual pair housing in Amazon parrots as a means to improve welfare, as evidenced by a decrease in abnormal behaviours, increased activity and interaction with the environment, and reduced fear reaction to novel

stimuli. Seven isosexual pairs and seven individually housed birds were involved. Throughout the study period behaviours such as locomotion, enrichment use, screaming, and preening were noted for each individual. The birds were also put through handler response tests and novelty response tests periodically throughout the study.

The study results suggest improved welfare for birds housed in isosexual pairs. Paired birds were observed to spend more time in locomotory activities (climbing, flying) than single birds, and also interacted with their physical enrichments more; while single parrots spent more time screaming and more time on preening than their paired counterparts. No parrots in the paired group developed any stereotypy over the course of the study period, whereas four out of seven singly housed birds did develop some type of stereotypy (pacing, bar-biting) (Meehan et al, 2003).

These three articles bring to light some important issues regarding psittacine welfare. Foraging appears to be a behavioural need for parrots, which is largely absent in captivity, resulting in frustration and abnormal behaviours. Increasing the complexity of the cage environment and providing enrichments which encourage foraging activity seems to produce happier, better adjusted birds, with lower incidences of psychogenic feather picking and excessive fear responses. Likewise, housing birds in pairs also seems to be associated with a better quality of life, indicated by the relatively greater proportion of time spent on normal behaviours by paired birds, and lesser amount spent on less desirable behaviours and stereotypy.

While this research brings about some very important considerations, its value is limited in many regards. Probably of greatest significance is the young age of the subjects in all three studies. "The juvenile stage is a time when pet quality is highest" (Clubb, 1998). It is well known that as many parrots approach sexual maturity their temperaments and behaviours change, with increased aggression a common finding (Clubb, 1998). In the isosexual pair housing study, three paired parrots sustained injuries which required veterinary treatment, although none could be directly linked to intra-pair aggression. These incidents were deemed not to pose a substantial risk to the birds, even though no singly housed birds were injured (Meehan et al, 2003). In a situation where one or both of the birds was nearing sexual maturity, aggression could pose a risk to the safety of the parrots. The practicality of isosexual pair housing also needs to be examined, as many bird owners only own a single large parrot, and may be financially restricted from having another.

Results of these studies may also not accurately reflect the response of all parrot species to enrichment, as "Amazon parrots are good at entertaining themselves, and so are less prone to developing problems when left alone" (Wilson, 1998). Other parrots species such as Cockatoos, have an higher incidence of abnormal behaviour and feather plucking, and are less inclined to engage in independent activity. Consequently, these birds may respond differently or to a lesser degree to the enrichment.

## Conclusion

As abnormal behaviours and stereotypies occur frequently in captive psittacines, much opportunity still exists for improvements in the health and welfare of these animals. These studies are beneficial, but it is clear that more research is needed, using a wider range of species, ages and methods in order to produce results that can be beneficial to the average parrot owner.

## References

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