

## **CAPTIVE BIRD WELFARE AND ENRICHMENT (PART 1)**

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M. Scott Echols  
The Medical Center for Birds  
Oakley, CA 94561 USA

*Abstract:* Welfare of captive species has become a focal point of discussion for lawmakers, breeders, researchers and animal owners. This interest has also been extended to captive birds. This presentation will explore the role of enrichment, with emphasis on foraging, for captive avian species. The presentation will cover current welfare issues and how they pertain to birds, identification of abnormal behaviours and design and application of enrichment protocols used to prevent and address behaviour problems in captive avian species.

The goal of the presentation is to teach participants how to recognize subtle behaviour problems and develop enrichment protocols for birds. The ultimate purpose is to improve the welfare of captive avian species.

A reference list may be found at the end of Part 4 (page ).

### **WELFARE AND ENRICHMENT**

‘Environmental enrichment’ is a somewhat vague concept described in the literature. While enrichment may suggest adding something to the environment to improve captive species’ lives, one of the enrichment’s fundamental goals is ‘to allow the animal to perform species-typical behaviours that return control over the environment to the animal and promote homeostasis’ (Garner, 2005).

A key concept in environmental enrichment requires that we know ‘species-typical’ information. It is then important to select enriching strategies that are behaviorally relevant and morphologically feasible for the captive animal in question (Lutz and Novak, 2005).

The US Congress significantly revised the Animal Welfare Act in 1985 to include environmental enrichment. The regulations were then implemented in 1991 (Animal and Plant Inspection Service or ‘APHIS’ 1991)(Nelson and Mandrell, 2005) Through the revised Animal Welfare Act in 1991, federal legislation required researchers to ‘provide a physical environment adequate to promote the psychological well-being of primates’ (Lutz and Novak, 2005). While birds were not included in this legislation, the revised Animal Welfare Act does give us more reason to evaluate and provide for the mental health of captive avian species.

The Animal Welfare Regulations of 2002 delineate selected enrichments for some animals. Enrichment has also been classified into inanimate items (puzzle toys, activity areas, destructible toys) and social enrichment (group housing and grooming contact panels) (Weed and Raber, 2005).

‘Enrichment’, and what is beneficially ‘enriching’, varies between species. For example, nesting material is the only device that has been shown to be ubiquitously enriching to mice of different

sexes, group sizes and strains (Garner, 2005).

### **WHAT ARE ABNORMAL BEHAVIOURS?**

It is probably best to think of behaviour as an organ which is part of the biology of the whole bird. Just as is true with other organs, behaviour is intimately tied to homeostasis. By disrupting the bird's behaviour, we essentially alter the overall bird.

Abnormal behaviours in animals can be identified based on the following criteria (Garner, 2005):

- Is behaviour only seen in captivity (stereotypies)?
- If noted in the wild and captivity, is behaviour performed excessively (constant screaming) or in inappropriate circumstances (killing a cage mate)?
- Is behaviour self-injurious (self-mutilation), affect social interaction (barbering a cage mate), or have serious deleterious consequences on growth or reproduction (feeding cage substrate to chicks)?
- Is behaviour specific to a subset of individuals?
- Does behaviour induce obvious signs of distress in the animal or its cage mates?

Abnormal behaviours are further classified into maladaptive and malfunctional behaviours (Garner 2005).

**Maladaptive** behaviours result when a normal animal is living in an abnormal environment. These animals respond as best as possible with a functionally intact behaviour to the captive environment. Maladaptive behaviours may represent the failure to regulate a stressor (lack of social interaction) or correct a homeostatic imbalance. Over time, maladaptive behaviours can lead to malfunctional behaviours.

**Malfunctional** behaviours result from abnormal physiology, neurochemistry or brain development as a result of the captive environment. One of the most commonly recognized causes of malfunctional behaviours results from isolation rearing known to induce stereotypies and altered brain development and chemistry in several animal species.

### **ENRICHMENT IN THE EYES OF ANIMAL WELFARE**

As more emphasis is placed on animal welfare, those keeping animals will increasingly be encouraged to provide better enrichment protocols. It is generally considered that animals behaviorally well adapted to their environment display species-specific behaviour as permitted by their social and physical environment and not maladaptive behaviours (stereotypies, self mutilation, etc) (Weed and Raber, 2005). Allowing captive animals increased use and control of their environment is viewed as a means to increase animal welfare and well-being.

While no refereed publications evaluate the state of avian behavioral welfare at the time of writing, there are numerous anecdotal reports strongly supporting need for generalized improvement in keeping bird species. Avian veterinarians, rescue and rehabilitation operations, bird clubs and many individual bird owners are keenly aware that behavioral abnormalities are common in captive birds. In a survey of six facilities housing a collective 1,226 chimpanzee, the respondents ranked top behavioral issues as most important for chimps in research settings (Bloomsith and Else, 2005):

1. Self-injurious behaviour (reported in 3% of captive chimpanzees);
2. Stereotypical and abnormal behaviour;
3. Housing inadequacies;
4. Social behaviour deficits;
5. Aggression;
6. Stressful research protocols; and
7. Boredom.

With the exception of 'stressful research protocols', the same issues are anecdotally discussed with captive pet birds.

Enrichment strategies can be seen as 'therapeutic intervention' or as 'prevention' (Lutz and Novak, 2005). As its name implies, therapeutic intervention is intended to reduce levels of abnormal behaviour in an abnormally behaving animal. Most research evaluating the role of enrichment on behaviour is based on therapeutic intervention. Prevention, or preventative enrichment, applies to animals that do not show abnormal behaviour (as with young or recently caught free-ranging animals). Very few studies look at preventative strategies.

Case studies will be presented during the lecture to help identify abnormal behaviours in captive birds.