

# Pardon my finch ... have you seen my juicy garland?

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## Introduction

We have a responsibility to promote a Culture of Care to ensure that all species have an appropriate positive environment. Enrichment provides holistic welfare opportunities for captive animals enabling them to demonstrate their natural behaviour. Commercially available enrichment is usually suited for aviaries with mesh panelling or cages. This provided us with some challenges, as our zebra finch colony is housed in large flight rooms with cladded walls.

## Aims

Utilise novel and current enrichment, suitable for facility and research specification to:

- Promote zebra finch physical activity and freedom to fly.
- Provide engaging resources that will offer mental stimulation and socialisation.



**Figure 1.** Old caging.

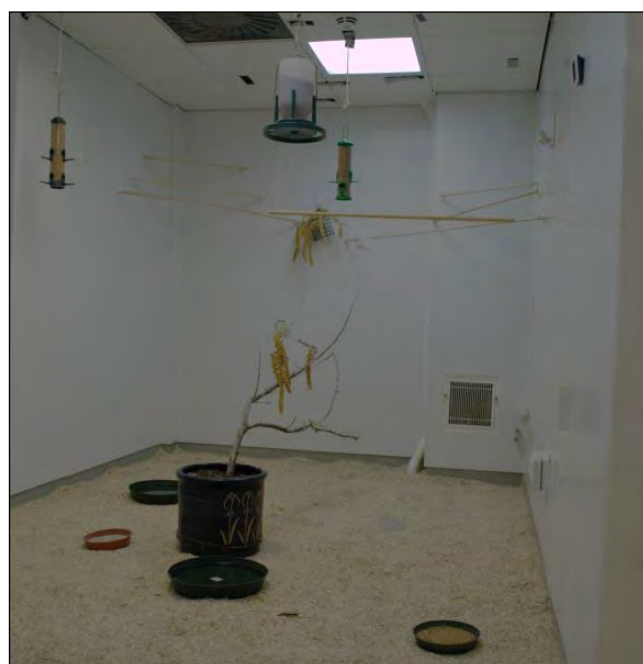


## Background

In 2016 the University of St. Andrews made momentous modifications to the housing of zebra finch to ensure the utmost compliance with the amended Home Office Code of Practice, which came into force in January 2017.

This resulted in moving away from wooden and mesh panelled cages no longer compliant (Figure 1) to full flight rooms (Figure 2).

This created opportunity to provide the finches with increased flight space and implement new enrichment innovations.



**Figure 2.** Basic flight room set up.

### The standard flight rooms consist of the following:

- Rooms approximately 8.9 m<sup>2</sup> (3.2 m x 2.4 m).
- Wet wall cladding and suspended ceiling.
- Tray liners and hemp substrate.
- 12 mm and 15 mm dowel perching installed on wall adhesive hooks in a step effect.
- Rope perching.
- Floor dishes (food/water/greens/supplements).
- Swing perch.
- Millet baskets (suet baskets).
- Apple tree branches – lower perching.
- Curtain rails (attached by heavy duty Velcro) for suspending enrichment.

### Challenges

To continue implementing refinement opportunities to the zebra finch home environment, we found there were some challenges to overcome. These included:

- Majority of available enrichment is for mesh aviary type, enclosure and small bird cages.
- Cladded walls (not permitted to drill into walls).
- Nature of research.
- Advised to purchase from vendors approved by the establishment.
- Suppliers tend to cater for larger bird species and domestic fowl.
- Time to implement new enrichment and monitoring.



**Figure 3.** Juicy garland.

### Things to consider when implementing enrichment

- Should not impede free flight.
- Safety considerations.
- Hanging items should not be positioned directly above ground food and water stations.
- Husbandry and welfare checks.
- Cost and durability.
- Easily cleaned and reusable.

### Innovation of new and improved enrichment

From open floor dishes to juicy garlands. Encouraging social interaction, natural foraging behaviour and stimulating an active environment.

### Juicy garland (Figure 3) introduced during 2022

- Inexpensive and easy to implement.
- Cucumber and broccoli used but suitable for other vegetables.

### Veggie balls (Figure 4) introduced 2023

- Greens provided in suet ball holders suspended from rope as well as tree branches.



**Figure 4.** Veggie balls.



### Millet basket (Figure 5) introduced October 2024

- More natural material to their environment.
- Waterfall of millet spray provides an area for refuge.
- Requires replenishment over time.
- Can be placed anywhere in the room for pecking.



Figure 5. Millet basket.

### Foraging mats (Figure 6) introduced October 2024



Figure 6. Foraging mats.

### Turf swing mats: (Figure 7) introduced in October 2024



Figure 7. Turf swing.

### Perch enrichment

An innovative approach to increase perching space with the aim to accommodate their gregarious nature whilst encouraging natural muscle reflexes, balancing skills and the need to exercise without compromising comfort. Different material and diameter promote variation in leg and foot muscle activity.

### Trixie bird climbing frame (Figure 8) introduced 2023

- Providing additional perching that is more natural, whilst maximising space available in the room.



Figure 8. Trixie perch.



### **Pyramid perch (Figure 9) introduced September 2024**

- Designed and constructed in house.
- A triangular shaped perch prototype was trialled. However with it being quite large made husbandry difficult.
- Pyramid design offers more stability, takes up less space and a secondary tier for group perching.
- The perch tiers rotate in unison and the ropes do not twist or coil.



**Figure 9.** Pyramid perch.



**Figure 10.** Cotton climbing rings.

### **Cotton climbing rings (Figure 10) introduced October 2024**

- Sourced online but altered to accommodate bird safety and room fabrication.

### **Discussion and conclusion**

Observations indicate the birds engage positively with the enrichment, exhibiting broad range of natural behaviours. The birds can perch together for warmth, security and preening.

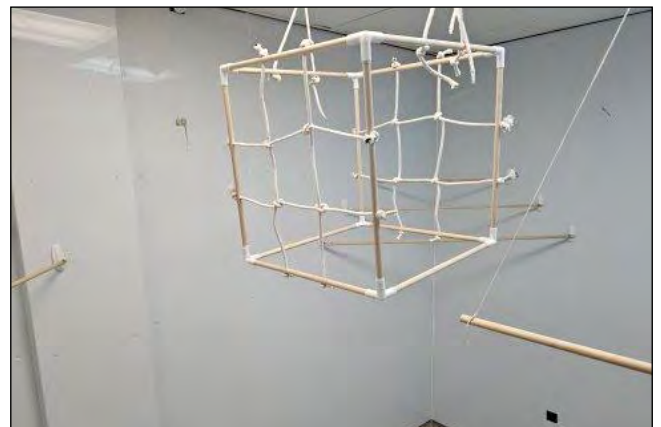
Food enrichment is provided on a rotational basis to ensure variation to their diet without over feeding. They flock immediately to the garlands, veggie balls and foraging mats which provide alternative feeding stations whilst encouraging physical, mental and foraging activities. Some novel items such as the millet baskets required gradual introduction.

Interactions with the pyramid perch showed a collective engagement by the birds, which was synonymous for both males and females. On one occasion 43% of the birds were interacting together with the perch. Further evaluation of recorded data is still to be undertaken and reported.

Providing enrichment can reduce stress and improve welfare by encouraging natural behaviour and physical activity. Acclimatisation to new enrichment is important to not stress the birds. Furthermore, the birds' interactions with the enrichment must be monitored for suitability, safety and if it is beneficial. Most of the implemented enrichment is either inexpensive or reusable. Refinement is a dynamic process which continues to be monitored, assessed and evaluated.

### **Future enrichment ideas include:**

- Cuboid perching (Figure 11).
- Enrichment rotation plan, to not clutter the room nor overstimulate the birds with the increased enrichment.



**Figure 11.** Cuboid perch.

- We are also looking into ways to enhance our hospital cages by providing small foraging mats and a hoop swing perch (Figure 12).



**Figure 12.** Hoop perch and small foraging mat.

## Acknowledgements

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## References

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