



## CMR STANDARD OPERATING PROCEDURE

**TITLE: Zebra Finch Environmental Enrichment**

**SOP Category: Enrichment**

**CMR SOP #: 6.10**

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**Effective Date: 11/7/2024**

**Approval:** *Roseann Kehoe*

**Revisions: 5/09/2018, 5/03/2022**

### SCOPE:

This document describes the procedures to be followed when providing enrichment to zebra finches. This SOP applies to all Animal Care Staff (ACS), ACS Supervisors (ACSS), Veterinary Staff (VS), and Research Staff members (RS) at the Rutgers University facilities.

### OBJECTIVE:

The objective is to summarize zebra finch environmental enrichment. This SOP is concordant with the Rutgers Environmental Enrichment Program, which states that all laboratory animal species used at Rutgers **must** be provided with species-specific environmental enrichment unless scientifically justified.

### DEFINITIONS:

**Natural Behavior:** Zebra finches (*Taeniopygia guttata*) are small, dimorphic birds of the order Passeriformes, known as song or perching birds. Their toe arrangement, three toes forward and one back, facilitates perching. They are seed-eating with beaks that are shaped to allow them to dehusk small seeds. They also prefer millet, fresh fruits, and vegetables, and like to forage. Zebra finches are good breeders with a diurnal activity pattern. Zebra finches live socially in flocks and form strong pair-bonds.

### Abnormal Behavior:

Abnormal behaviors in zebra finches include:

1. Feather plucking
2. Tracing/circling
3. Reluctance to preen
4. Excessive fearfulness

When these behaviors are observed, VS will evaluate the need for additional environmental enrichment.

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### **PROCEDURES:**

#### **1. Social Enrichment**

- Birds must be socially housed. Exceptions include birds that have behavioral or health-related concerns or those that are under an IACUC approved protocol exception for single-housing.

#### **2. Physical Enrichment**

- Perches of various diameters should generally be provided in each cage, with at least 2 sizes (widths) and textures per cage. Perches should allow birds to rest at different levels within the cage.
- Cuttle bones should be provided in each cage and replaced as needed.
- Water should be provided in shallow bowls at least once a month to facilitate water bathing.

#### **3. Food Enrichment**

- Millet should be provided weekly in addition to regular pellets or seeds.
- Fresh greens, such as kale and spinach, may also be offered weekly

### **Considerations:**

- Cost, availability of materials, safety issues for the animals and the staff, study constraints, and sanitation requirements must be evaluated for each idea.
- For novel devices or strategies, a group of animals may be selected for a pilot study to evaluate any behavioral changes, extra time needed in animal rooms, and additional steps necessary for sanitation of the devices.
- ACS assist in the environmental enrichment program by placing environmental enrichment devices in cages as directed by supervisor, investigators and veterinary staff. ACS are responsible for removing and replacing damaged or soiled devices, and sanitizing or disposing of devices as appropriate.

### **Records:**

The Animal Care Staff or Research Staff will log provision of enrichment according to their facility specific documentation records.

### **REFERENCES:**

Patterson, Mary and Fee, Michale S. "Zebra Finches in Biomedical Research." *Laboratory Animal Medicine*. Cambridge, MA. Academic Press. 2015, Pages 1109–1134.

Yamahachi, Homare, et al. Institute of Neuroinformatics, University of Zurich and ETH Zurich, Zurich, Switzerland. "Welfare of Zebra Finches Used in Research." *bioRxiv*. 23 June 2017.