

Name: \_\_\_\_\_

## Data Case: Funky Juncos

Film: <https://vimeo.com/59871689> ~16 minutes

1. Where did the campus Juncos come from?

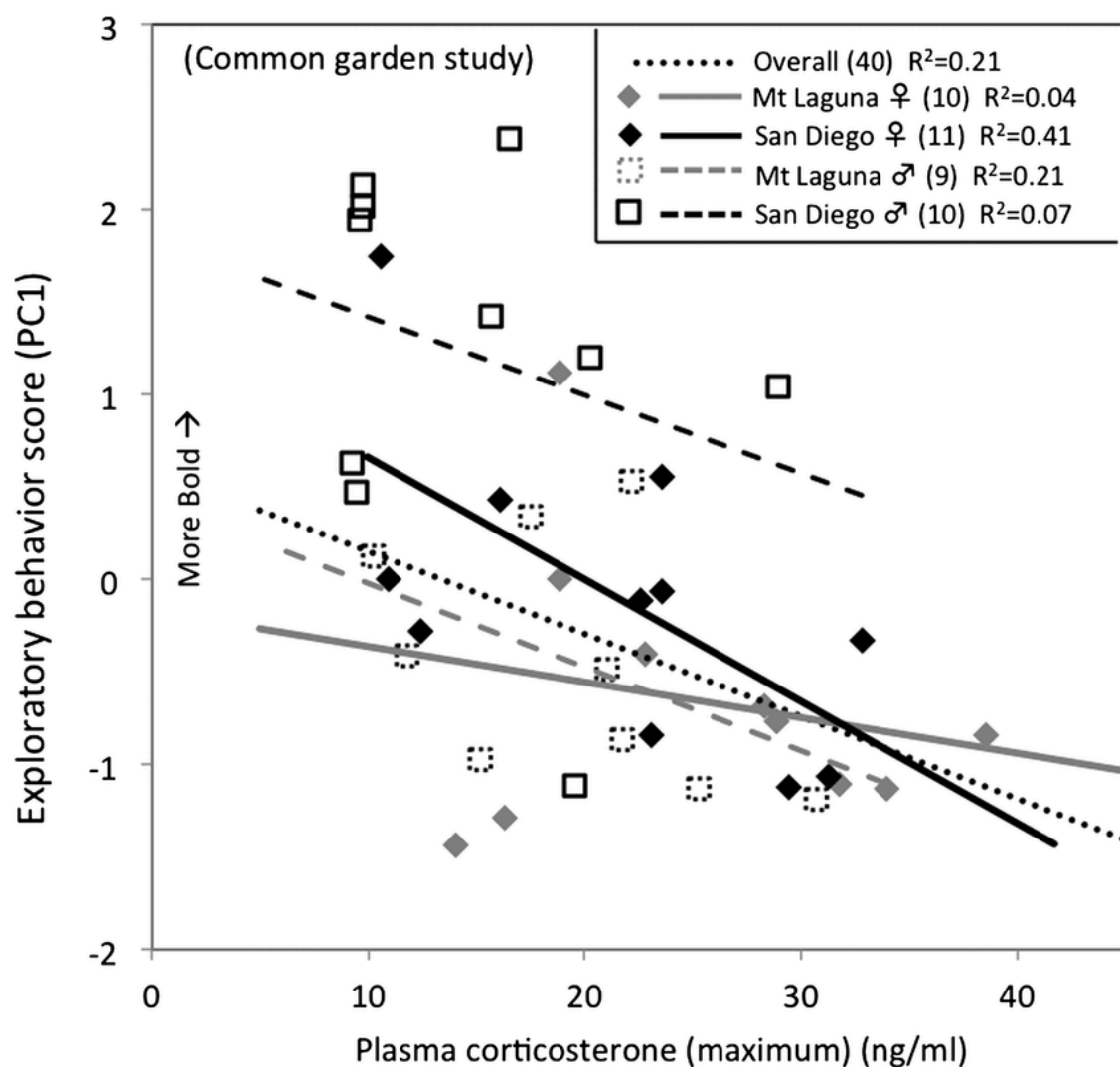
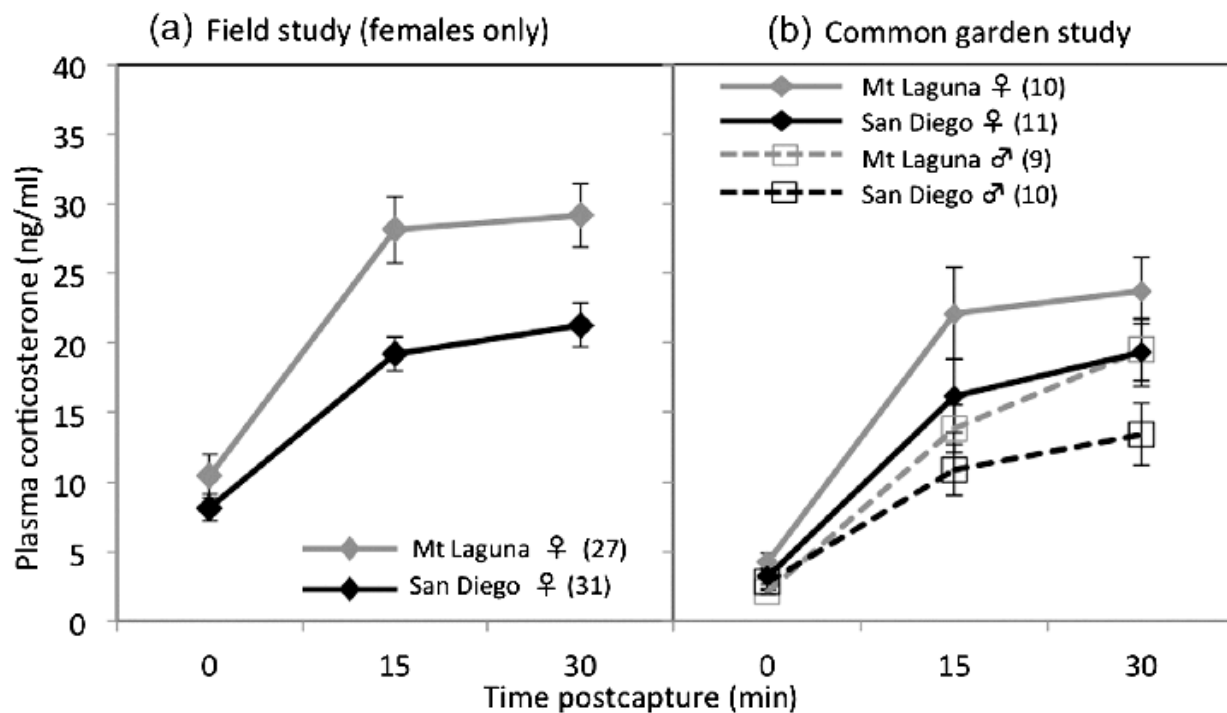
2. How does the habitat on the campus differ from the original habitat?

3. What characteristics have changed with the campus Juncos?

4. How is boldness measured?

5. Describe the experiment that was used to determine whether the changes were genetically based. (Innate or Learned?)





**Abstract**

Novel or changing environments expose animals to diverse stressors that likely require coordinated hormonal and behavioral adaptations. Predicted adaptations to urban environments include attenuated physiological responses to stressors and bolder exploratory behaviors, but few studies to date have evaluated the impact of urban life on codivergence of these hormonal and behavioral traits in natural systems. Here, we demonstrate rapid adaptive shifts in both stress physiology and correlated boldness behaviors in a songbird, the dark-eyed junco, following its colonization of a novel urban environment. We compared elevation in corticosterone (CORT) in response to handling and flight initiation distances in birds from a recently established urban population in San Diego, California to birds from a nearby wildland population in the species' ancestral montane breeding range. We also measured CORT and exploratory behavior in birds raised from early life in a captive common garden study. We found persistent population differences for both reduced CORT responses and bolder exploratory behavior in birds from the colonist population, as well as significant negative covariation between maximum CORT and exploratory behavior. Although early developmental effects cannot be ruled out, these results suggest contemporary adaptive evolution of correlated hormonal and behavioral traits associated with colonization of an urban habitat.

What CLAIM is being made by the film and research?	
EVIDENCE	REASONING

*Boldness behavior and stress physiology in a novel urban environment suggest....* Available from:  
[https://www.researchgate.net/publication/230769581\\_Boldness\\_behavior\\_and\\_stress\\_physiology\\_in\\_a\\_novel\\_urban\\_environment\\_suggest\\_rapid\\_correlated\\_evolutionary\\_adaptation](https://www.researchgate.net/publication/230769581_Boldness_behavior_and_stress_physiology_in_a_novel_urban_environment_suggest_rapid_correlated_evolutionary_adaptation) [accessed Mar 28 2018].

Another Junco Project Film Guide: <https://dcmp.org/guides/TID9369.pdf>

Junco Image: <http://www.audubon.org/field-guide/bird/dark-eyed-junco>