

You're Not Like All the Other Birds: Individuality In Nest Architecture

Anna Nevoit, Deborah Yun, Liam Nolet-Mulholland, Sara C. Blunk,
Andres Camacho-Aplizar, Connor T. Lambert, Ben A. Whittaker & Lauren M. Guillette
Department of Psychology, University of Alberta

Introduction

Bird nests are essential for shelter and reproduction [1]

Nest building is both instinctive and experience-dependant [2]

Nests are made using different materials, show variable morphology, and require different building techniques

Research Question:

Do birds have individual nest-building styles?

- Length
- Material used

Methodology

8 pairs of zebra finches built 4-5 nests each using coconut fibre

Standardized photos of each nest were measured for length (cm) using TPSdig software

Each nest was weighed to determine the total amount of material (grams)



Figure 1. Front view photo of zebra finch nest, bar demonstrates measurement for maximum length

Results

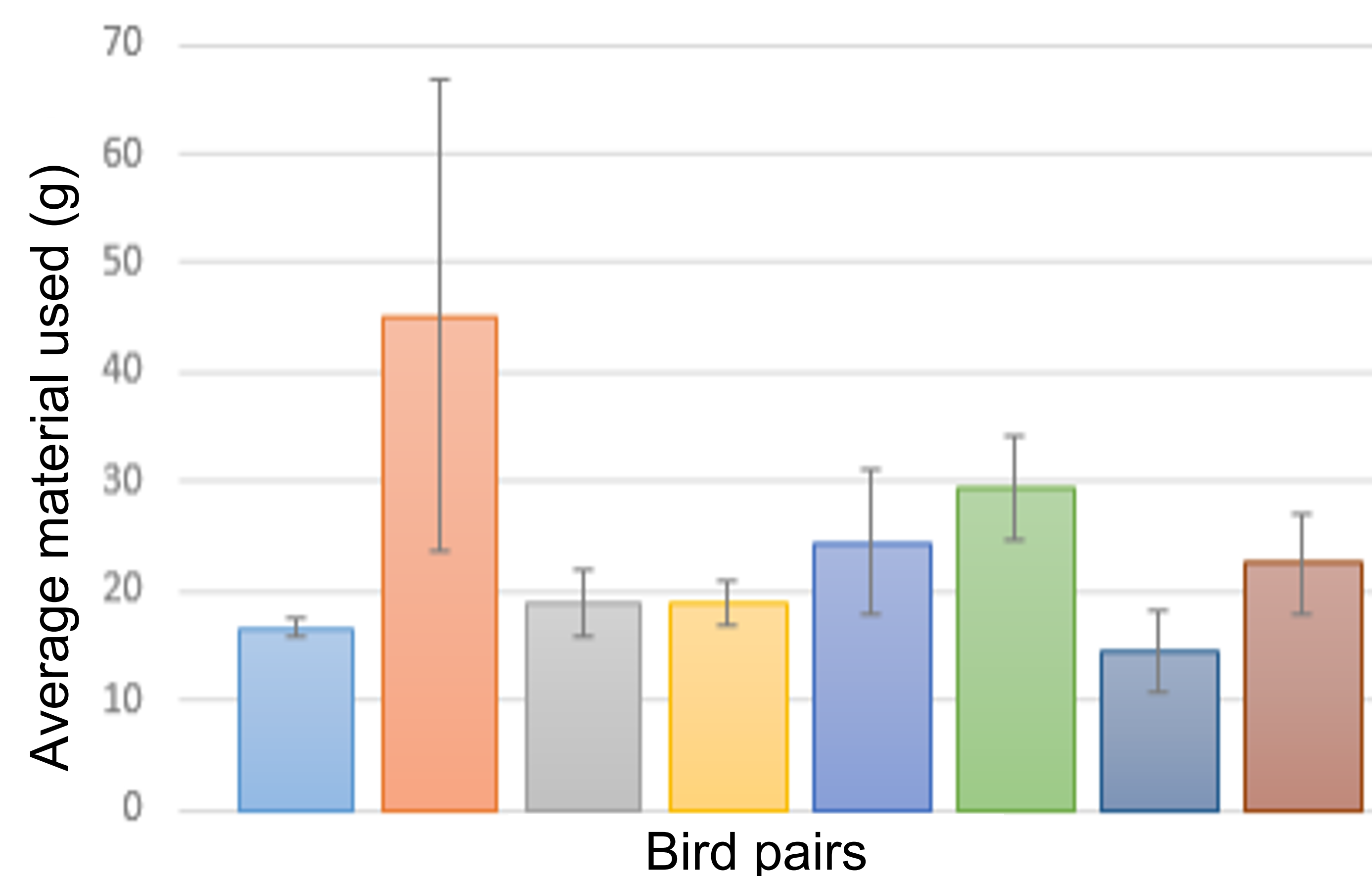


Figure 2. Average amount of material used by 8 pairs of zebra finches to build nests. Error bars represent standard deviation. Significant difference in average amount of material used across bird pairs ($F = 4.76$ (df = 6), $P < 0.01$)

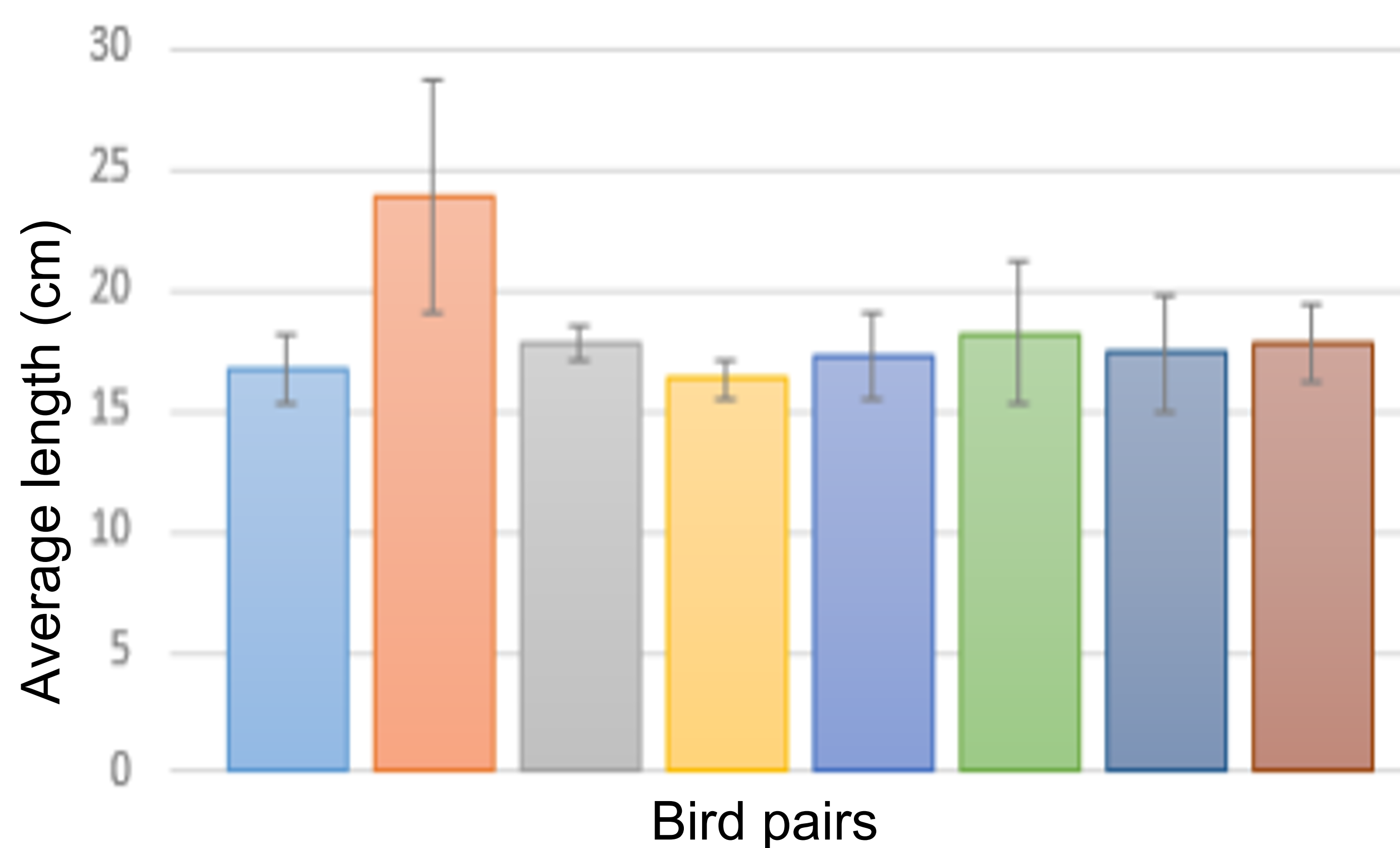


Figure 3. Average length of nests built by 8 pairs of zebra finches. Error bars represent standard deviation. Significant difference in average length of nests across bird pairs ($F = 4.35$ (df = 6), $P < 0.01$)

Results, cont.

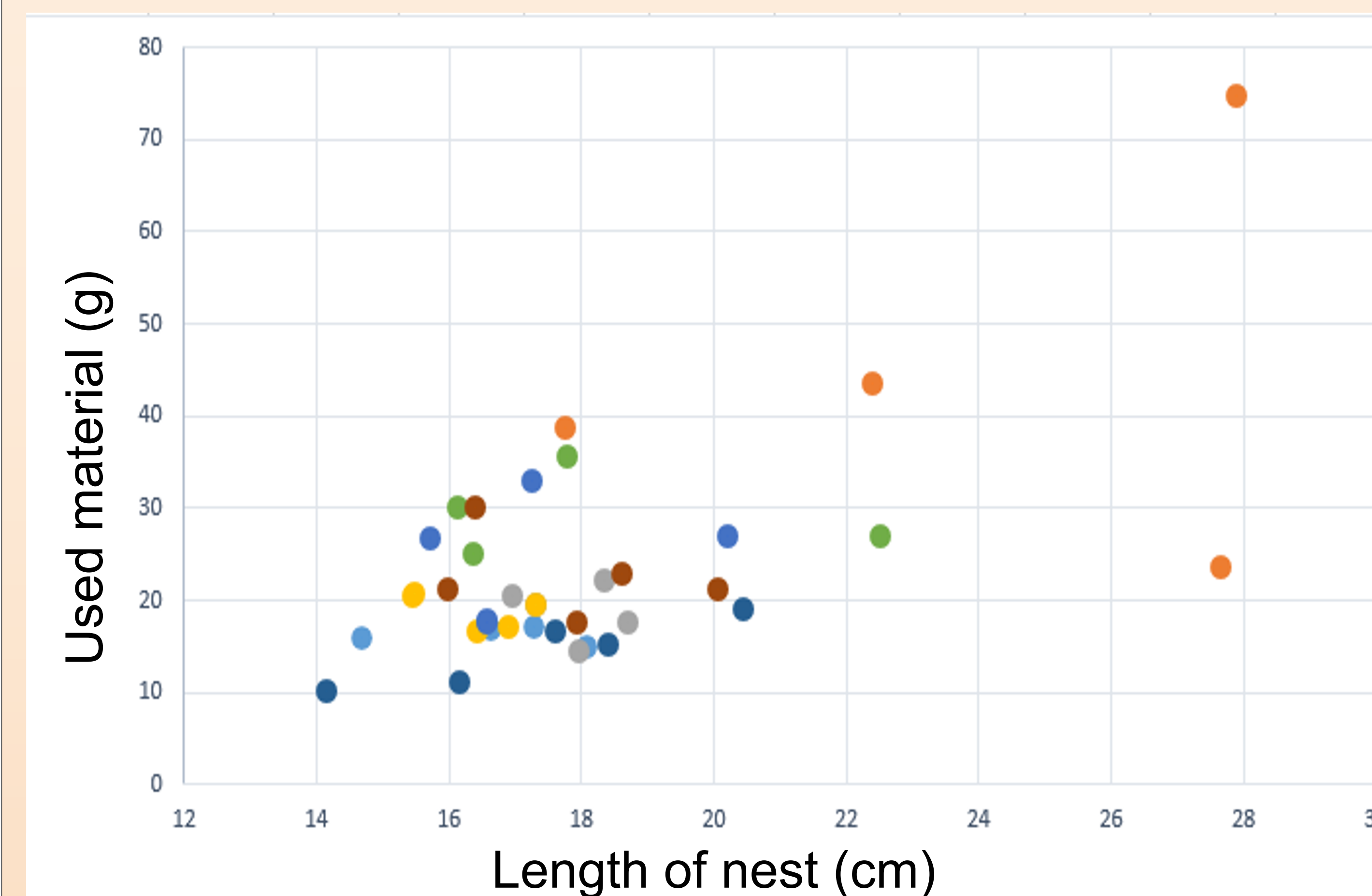


Figure 4. Each colour represents one pair of zebra finches, each dot represents one nest. Significant correlation between nest length (cm) (x-axis) and material used (g) (y-axis) across all nests ($R^2 = 0.60$, $t = 4.39$ (df = 35), $P < 0.01$)



Birds that built longer nests used more material

Nests built by different birds varied in the length and the total amount of material used

These data support the prediction that birds do have individual building styles

Citations

- [1] Guillette, LM & Healy, SD (2015) *Curr. Opin Behav. Sci.* 6, 90-96
- [2] Sargent, TD (1965) *The Auk* 82, 48-61
- [3] Walsh PT, Hansell, M, Borello, WD, Healy, SD (2011) *Behav. Process.* 88, 1-6