

The paper “Urbanization erodes niche segregation in Darwin's finches”, of De León et al. 2018 is about the influence of the urbanization process in finches' feeding habits. This influence may lead to an indirect influence on the evolutionary process since it is closely related to beak size and shape, strongly influenced by the seeds birds feed. Besides, the interspecific coexistence is only possible because birds in nature explore different niches, with few or no overlap, which may lead to interspecific breeding, decreasing the genetic diversity in long term.

The most confusing figure of the paper is figure 2. The authors present a correspondence analysis between types of food-related to different sites, organized in a degree of urbanization. The problem is that the sites are not clear, only when grouped with other sites, which does not let clear the degree of urbanization of each place at the first moment. Food labels are overlapping, which difficult visualization. Authors could use different colors to label each food type, or numbers/letters, naming the food in a legend. Besides, they mention the site “PA”, which is not represented alone in the figure. Finally, they never mention the meaning of “Dim1” and “Dim2” and its' importance in the analysis.

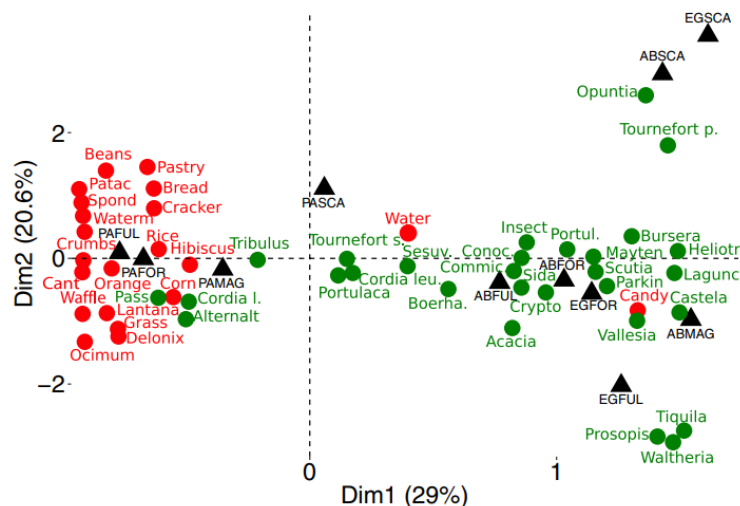


FIGURE 2 Diet of ground finches across sites with different degrees of urbanization on Santa Cruz Island, Galápagos, Ecuador. The graph represents correspondence analysis (CA) based on feeding observation data. Colors represent natural (green) and human (red) food items. Black labels represent species and site centroid combinations: El Garrapatero (EG), Academy Bay (AB), Puerto Ayora (PA), *Geospiza fortis* (FOR), *Geospiza fuliginosa* (FUL), *Geospiza magnirostris* (MAG), and *Geospiza scandens* (SCA). Food items labels and points were slightly offset to facilitate readability. In this graph, the position of each species/site combination (filled triangles) corresponds to the food items favored in its diet. Finches at the urban site, PA, cluster near the human food items

Figure 3 is better organized, showing the response of finches to human presence. Having sites side by side makes the comparison easier, as well as having different colors for different treatments. However, the figure is not perfect, and has some problems that could easily be fixed. The absence of the mean numbers, which could be written above the standard deviation bars, leads to confusion when readers try to guess how many birds approached the humans. They could also present data as box plots. Finally, the “y” axis of both graphs could be of the same size, even representing different experiments. If they presented the same scale for both axes, readers could compare experiments easier.

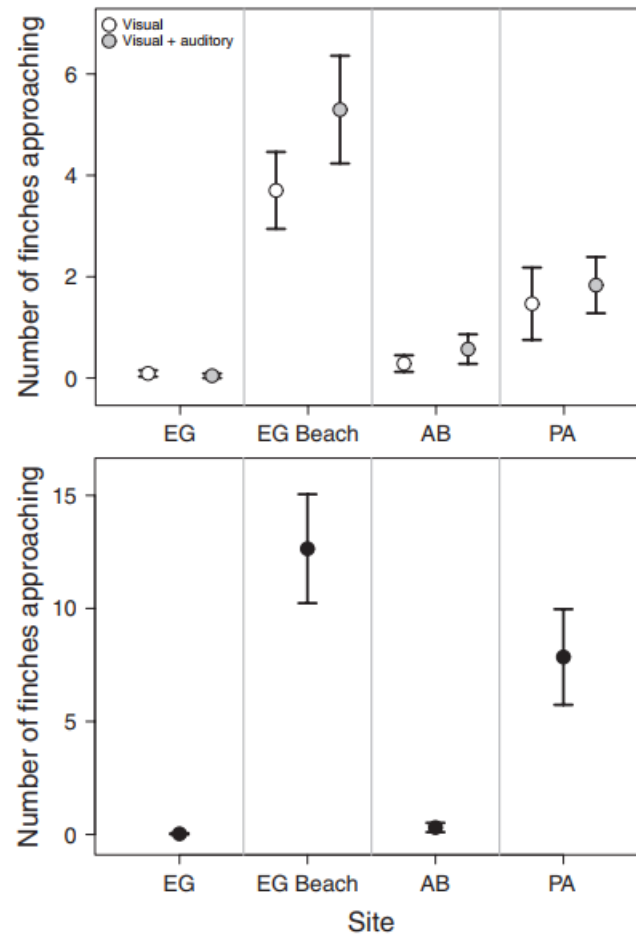


FIGURE 3 Finch response to humans across sites with different degrees of an urbanization and human behavior on Santa Cruz Island, Galápagos, Ecuador. The data represent the number of finches (mean \pm SD) that approached the human experimenter (top panel, food preference tests) and the food tray (bottom panel, cafeteria experiment) at the four study sites. Site labels are El Garrapatero (EG), El Garrapatero Beach (EG Beach), Academy Bay (AB), and Puerto Ayora (PA)

Paper cited: De León LF, Sharpe DMT, Gotanda KM, Raeymaekers JAM, Chaves JA, Hendry AP, Podos J (2018) Urbanization erodes niche segregation in Darwin's finches. *Evol Appl* 12:1329–1343