

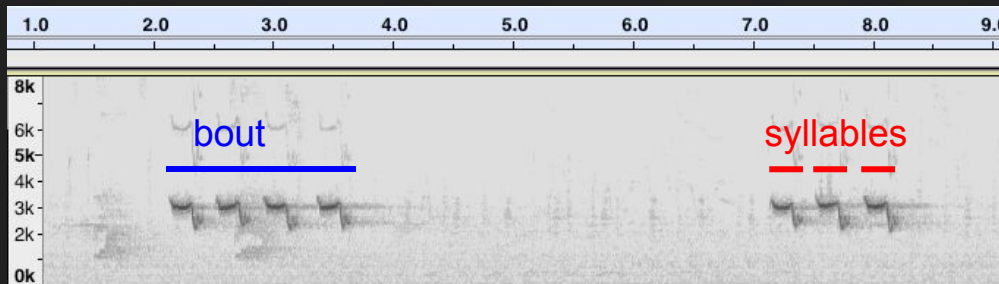
# The Effects of urbanization on the songs of Tufted Titmouse and Black-Capped Chickadee

Sofia Lima  
BSCI 3965-02  
17 April 2019

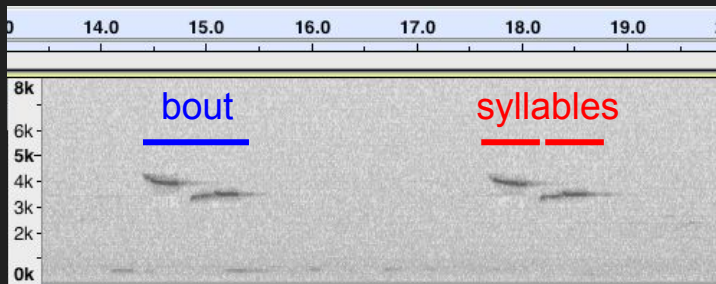


# Typical Bouts

Tufted Titmouse 2-4 syllables



Black-Capped Chickadee 2 syllables



# Tufted Titmouse Background

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# Tufted Titmouse Background

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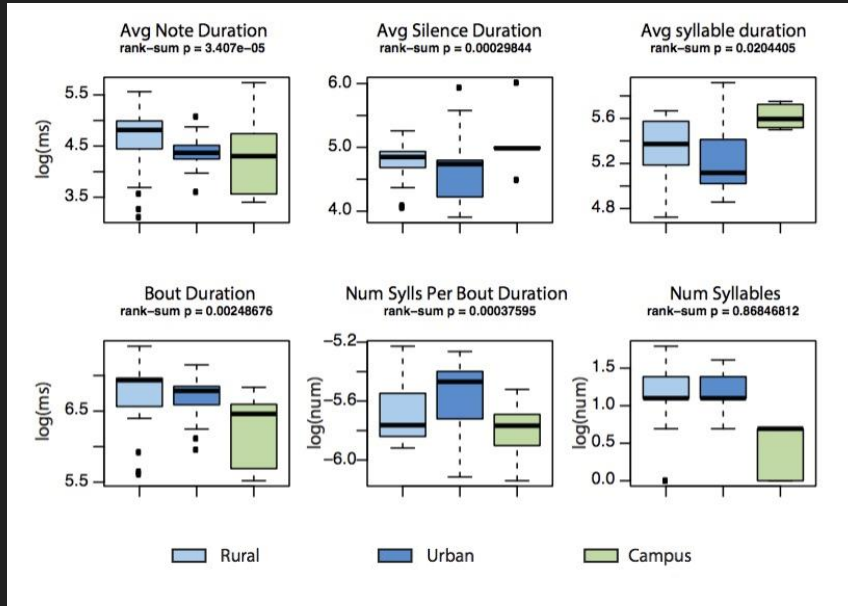
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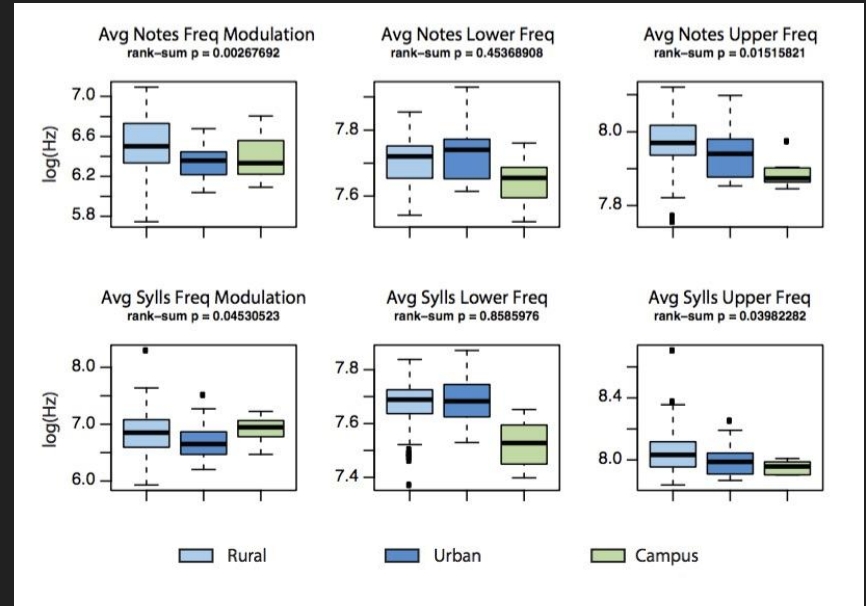
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# Tufted Titmouse Results

Urban birdsongs are shorter, but more rapid.



Urban birdsongs are at lower frequency.



# Black-Capped Chickadee Background

Urban birdsongs  
are higher  
frequency.

from LaZerte SE. (2015).  
Sounds of the city: The effects  
of urbanization and noise on  
mountain and black-capped  
chickadee communication.  
*Dissertation.*

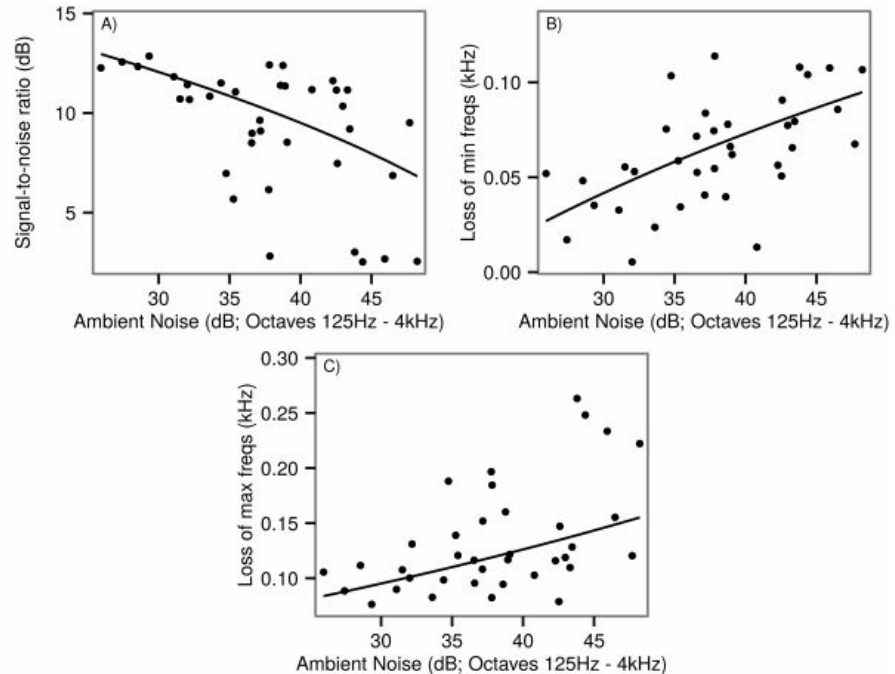
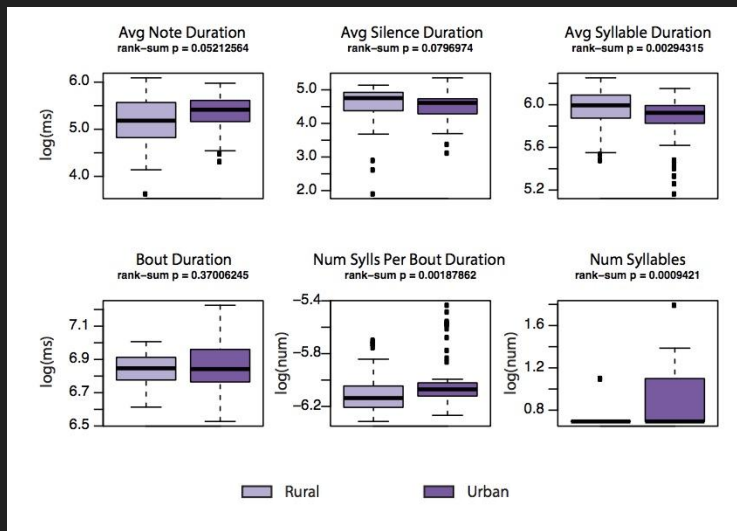


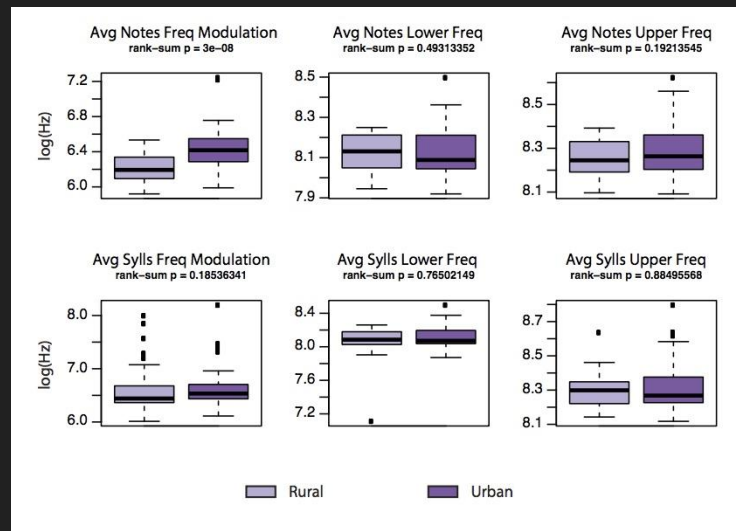
Figure 2.3: Among songs, *ambient noise* is associated with a reduction in signal-to-noise ratio (A), and with increases in the loss of minimum (B) and maximum (C) frequencies. Points are averaged raw values for each site. Lines represent model averaged relationships between the explanatory and the response variable.

# Black-Capped Chickadee Results

Urban birdsongs are shorter, but more rapid.



No difference in frequency.







Thank you!  
Questions?

