

Notes on the vocalizations of McConnell's Flycatcher (*Mionectes macconnelli*)

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In the following we briefly analyze and compare voice of the different races of McConnell's Flycatcher (*Mionectes macconnelli*). We also try to quantify the extent of any vocal differences using the criteria proposed by Tobias *et al.* (2010), as a support for taxonomic review. We have made use of sound recordings available on-line from Xeno Canto (XC) and Macaulay Library (ML).

Vocal differences between the 2 northern races (*roraimae* and *macconnelli*) have already been analyzed by Hilty & Ascanio (2014), but this study did not look at all races and populations.

We are doing this analysis here:

Guianan/Amazonian birds (*M. m. macconnelli*)

Song at lek is a variable series of harsh buzzy notes "rree..rree..rree..rree.." (Fig. 1).

Call is a peculiar nasal descending call followed by a nasal trill "kyaw..jujujujuj".

song N of Amazon (including Amapa):

max. note length	0.17-0.22s
min. pause.	0.09-0.15s
lowest freq.	1300-1530Hz
Note shape:	completely buzzy, at bottom frequencies nicely overslurred

song S of Amazon river:

max. note length	0.23-0.31s
min. pause.	0.09-0.13s
lowest freq.	1380-1470Hz
Note shape:	Every note is in fact a composite of some 3-8 well-articulated notes, bottom frequencies are slightly rising

Tepui birds (*M. m. roraimae*)

Song sounds like a jumbled chatter, but when closely looking it is quite similar in structure to *macconnelli* S of river Amazon but less orderly and especially in the beginning almost without clear pauses

max. note length	0.24-0.26s
min. pause.	0s at start about 0.10s towards end
lowest freq.	1000-1100Hz
note shape:	Every note is a composite of several notes, but much less orderly than in <i>macconnelli</i> S of Amazon, bottom frequencies irregular

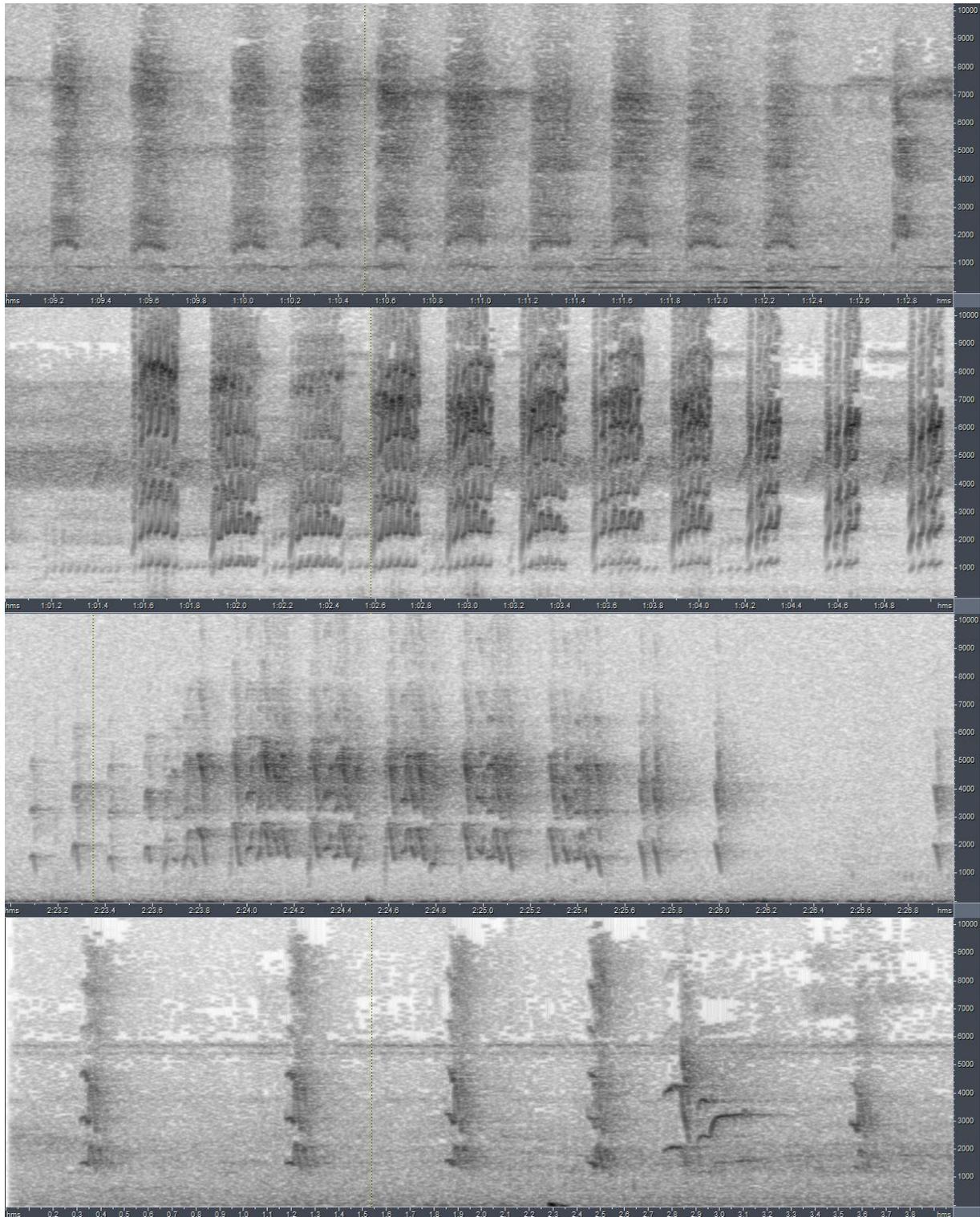


Figure 1: from top to bottom: typical song of *macconnelli* N of Amazon, *macconnelli* S of Amazon, *roraimae* and *peruanus*

Andean foothill birds (*M. m. peruanus* and part of *M. m. macconnelli* ??)

Song is a series of well-spaced short nasal burry notes, occasionally interspersed with a completely different querulous note (described in Schulenberg *et al.* as tequila? or teeola?). This song with a two note structure reminds somewhat Ochre-bellied Flycatcher *M. oleaginus* (as a matter of fact, 2 recordings from SE Peru in ML said to be *macconnelli* are in fact *oleaginus*)

max. note length	0.10-0.13s
min. pause.	0.20-0.58s
lowest freq.	1350-1830Hz
note shape	very different from all previous, without a buzzy frequency-continuum
special note length	0.37-0.44s

One recording (ML135255) is like a fast version of song of *macconnelli* race S of Amazon (max. note length 0.15s). This is quite intriguing. Could it be that in this group, this type of vocalization is rather a call??

Conclusion:

There are clearly 4 vocal groups.

Song of *macconnelli* of the Guianan/Amazonian region is readily identified as pertaining either to birds N or S of the Amazon, because of the composite vs buzzy note structure (score 1-2), and the longer max. note length in the south (score 1-2). When applying Tobias criteria, the total score for vocal difference between these 2 populations would be about 3.

roraimae is most similar to *macconnelli* S of Amazon, but is readily identified by the more chaotic delivery of composite notes with no clear pause at first (score 2-3). Notes also reach lower frequencies (score 2). Total score about 4.

Song of Andean foothill birds (*peruanus*) is very different in structure, and as such differs in many basic parameters: different note lengths (score 2-3), a two-note structure (score 2) and much larger pauses (score 3). Total score about 5-6.

(There is however some reservation, due to one deviating recording, closer to *macconnelli*)

It seems important to further investigate this, as this taxon having structurally the most deviating song, seems a good candidate for elevation to species status.

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