

Notes on the vocalizations of Grey-crowned Flycatcher (*Tolmomyias poliocephalus*)

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In the following we briefly analyze and compare voice of the three different races of Grey-crowned Flycatcher (*Tolmomyias poliocephalus*). 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).

Most common vocalizations are either a repeated single overslurred note, or a repeated series of 4-5 notes which gradually rise in pitch. The latter can be considered song, and is given both at dawn and during the day.

In the following, we compare this 4-5 note 'song' of the 3 races.

klagesi (C & E Venezuela (N Amazonas, Bolívar, Delta Amacuro))

A series of 4 notes, which consistently rise in pitch and become louder. Note shape changes from rather flat to irregularly overslurred. All recordings very similar:

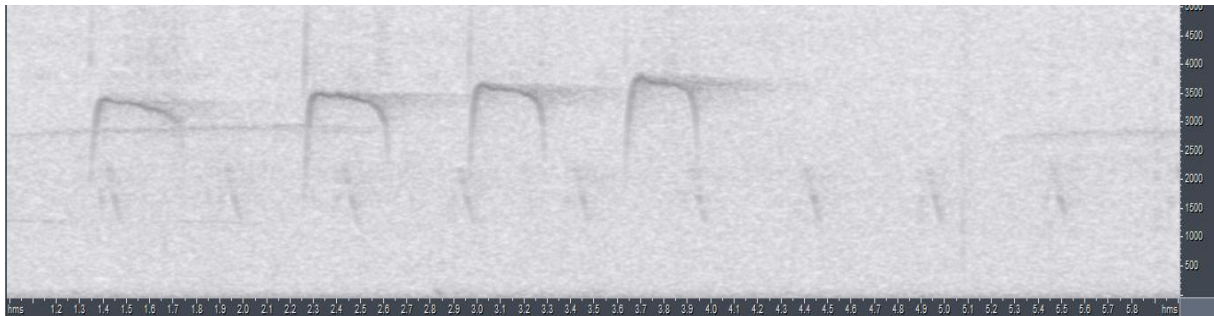


Measurements:

total length	2.97-3.38s
start max. freq.	3100-3700Hz
end max. freq.	4300-4560Hz
freq. rise	860-1350Hz
freq. range	1600-2200Hz
max note length	0.32-0.38s

sclateri (the Guianas through E Amazonian Brazil to N & C Bolivia; also isolated population in coastal E Brazil (Pernambuco S to Espírito Santo))

A series of 4 notes, without clear pattern. Sometimes close to previous group, sometimes all rather flat whistles. In general, this taxon seems to utter less frequently this note series (based on available recordings):



Measurements:

total length	2.61-3.12s
start max. freq.	3280-3400Hz
end max. freq.	3700-3900Hz (up to 4500Hz in Suriname)
freq. rise	420-520Hz (up to 1000Hz in Suriname)
freq. range	1200-2000Hz
max note length	0.31-0.36s

poliocephalus (SW Venezuela (S Amazonas), E & SE Colombia, E Ecuador, E Peru, and W Brazil (W Amazonas E to right bank of lower R Negro and Tefé))

A series of 4-5 whistles, of which typically the last two ones are distinctly bisyllabic (with second syllable usually highest in frequency).



Measurements:

total length	3.0-4.5s
start max. freq.	2600-3100Hz
end max. freq.	3100-3700Hz
freq. rise	400-850Hz
freq. range	1100-1600Hz
max note length	0.36-0.42s

From the above it is clear that song is structurally similar, with slight differences in note shape.

klagesi seems to reach the highest frequencies with the highest rise in frequency between first and last note. A recording from Suriname (XC7616) however is indistinguishable from *klagesi*. The confusing situation of *klagesi* vs *sclateri* thus remains after checking here their voice. We would need more recordings to evaluate if there is another dividing line than the one suggested by the subspecies geographical distribution (Amazon river?), or whether there is rather a clinal variation.

poliocephalus is more easily recognized, because of the bisyllabic last notes. This also leads to slightly higher length of the longest note (score 2). Furthermore, frequencies tend to be lower (score 2). When applying Tobias criteria, this would lead to a total vocal score of about 4.

This note was finalized on 19th August 2015, using sound recordings available on-line at that moment. We would like to thank in particular the many sound recordists who placed their recordings for this species on XC.

References

Tobias, J.A., Seddon, N., Spottiswoode, C.N., Pilgrim, J.D., Fishpool, L.D.C. & Collar, N.J. (2010). Quantitative criteria for species delimitation. *Ibis* **152**(4): 724–746.

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