

## Notes on the vocalizations of Yellow-green Tyrannulet (*Phylloscartes flavovirens*) and Olive-green Tyrannulet (*Phylloscartes virescens*)

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In the following we briefly analyze and compare voice of Yellow-green Tyrannulet (*Phylloscartes flavovirens*) and Olive-green Tyrannulet (*Phylloscartes virescens*). 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).

Song of these two closely related Tyrannulets is poorly documented, with only recently more recordings of *P. virescens* becoming available, while Yellow-green Tyrannulet (despite occurring in the city park of Panama City !) still needs much better documentation of voice. Only a quick comparison is needed to conclude song of both species is quite different:

### *P. virescens* (n=8)

Song is a phrase of some 8-10 well-spaced short notes, the first 2-3 quite crisp, the subsequent ones monotonous staccato "twink!..twink!..tsik..tsik..tsik..tsik...tsik" (Fig. 1).

Length	2.13-4.6s
# of notes	7-10
pace	0.30-0.48
max. freq.	4830-5840Hz
low max. freq.	2690-3800Hz

### *P. flavovirens* (n=3)

Presumed song is a variable number of short fairly-high-pitched trills "trri...trri...trr" or alternatively a single trill followed by a buzzy note (?) (Fig. 1).

Length	0.13-1.6s
# of notes	3-14 (in bursts of 3-7 notes)
pace	0.04-0.055
max. freq.*	3730-4000Hz
low max. freq.	2400-2500Hz

\*: max. freq. of fundamental, which in case of *flavovirens* can be very weak in amplitude.

*P. virescens* differs in basic parameters such as e.g. total song length (score 2), pace (score 4), max. frequency (score 2) etc.

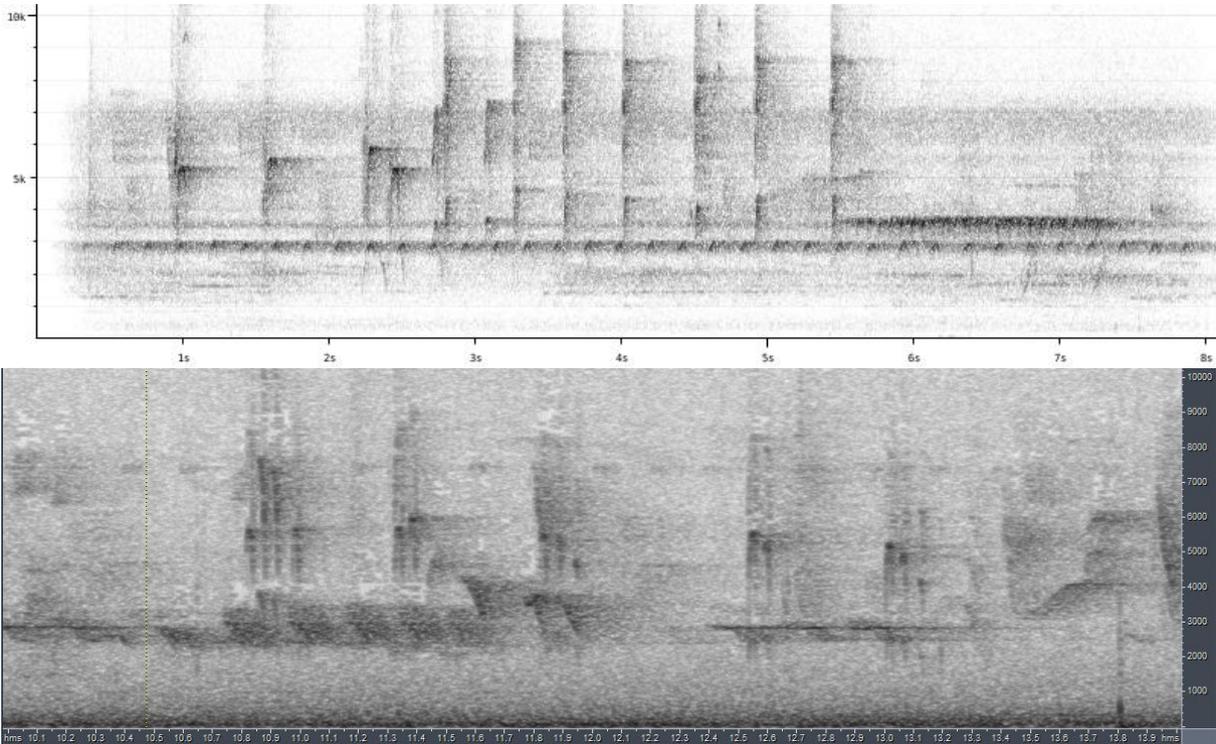


Figure 1: typical song of *virescens* (top) and on a very different time scale *flavovirens* (bottom)

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## 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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