

## Notes on the vocalizations of Slaty-capped Shrike-vireo (*Vireolanius leucotis*)

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In the following we briefly analyze and compare voice of the different races of Slaty-capped Shrike-vireo (*Vireolanius leucotis*). 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).

Song of all races is structurally the same: a single loud melodious whistle endlessly repeated. This whistle is however slightly different among races (fig. 1):

### *V. l. mikettae* (W Colombia (S of R San Juan) and W Ecuador (S to NW Azuay))

n=8	range	average	SD
start freq.	2700 - 3100Hz	2876Hz	176Hz
end freq.	1760 - 2300Hz	2141Hz	163Hz
freq. drop in main part	0 - 120Hz	54Hz	40Hz
length	0.66 - 0.84s	0.75s	0.06s

### *V. l. leucotis* (S Venezuela (Bolívar, Amazonas) and the Guianas S to N Brazil (N of Amazon); extreme S Colombia (SE Nariño), E Ecuador and N Peru (S to San Martín)).

n=15	range	average	SD
start freq.	2500 - 2920Hz	2705Hz	152Hz
end freq.	1750 - 2000Hz	1892Hz	65Hz
freq. drop in main part	200 - 470Hz	360Hz	84Hz
length	0.48 - 0.65s	0.55s	0.06s

### *V. l. simplex* (E Peru (Huánuco S to Ayacucho and Cuzco) and NC Brazil S of Amazon (R Purús E to R Tocantins, S to NW Mato Grosso))

### *V. l. bolivianus* (SE Peru (Cuzco) S to NC Bolivia (La Paz, Cochabamba and Santa Cruz)).

n=12	range	average	SD
start freq.	2500 - 3000Hz	2718Hz	172Hz
end freq.	1530 - 1950Hz	1693Hz	118Hz
freq. drop in main part	350 - 700Hz	560Hz	145Hz
length	0.42 - 0.86s	0.60s	0.12s

### Effect size calculation:

	<i>mikettae</i> vs. <i>leucotis</i>	<i>mikettae</i> vs. <i>simplex</i>	<i>leucotis</i> vs <i>simplex</i>
end freq.	2.0	3.15	2.07
freq. drop	4.65	4.76	1.69
length	3.33	1.58	0.53

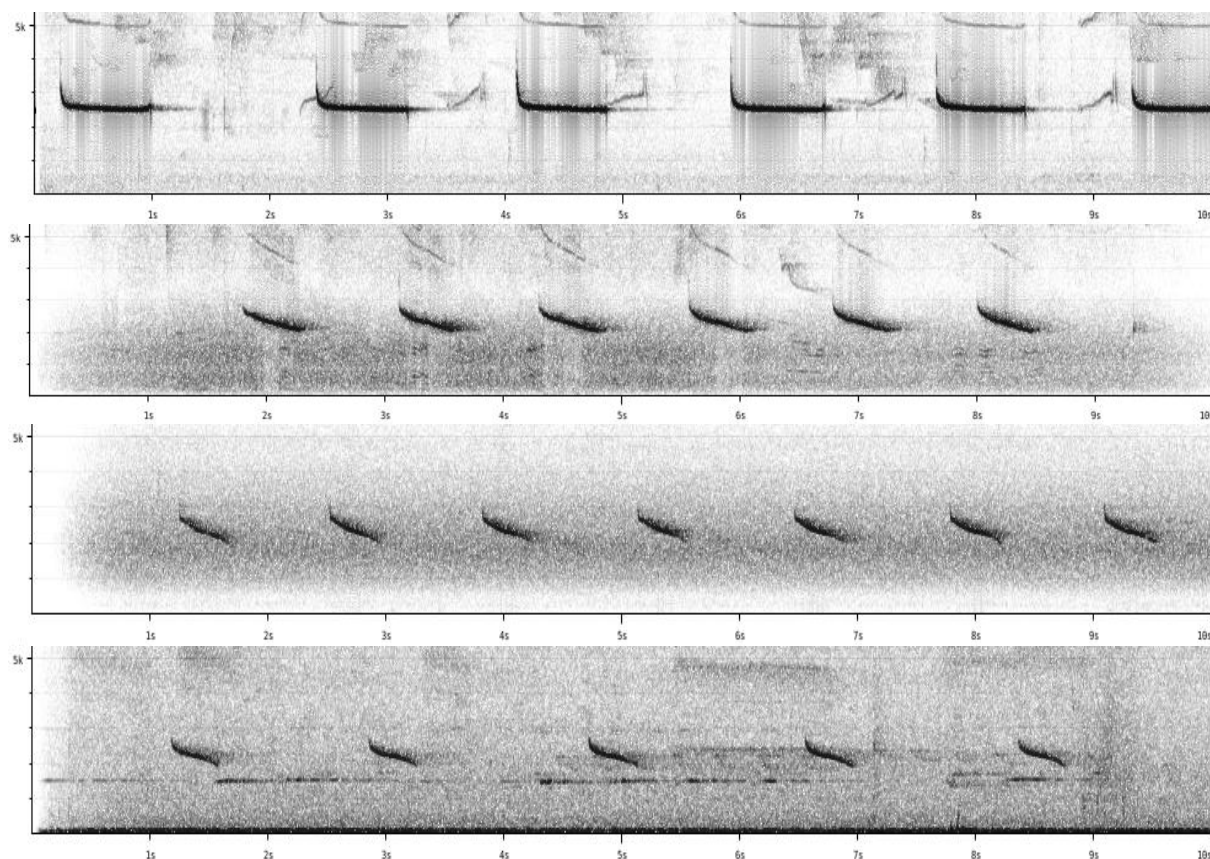


Figure 1: top to bottom: typical example of song of *mikettae*, *leucotis*, *simplex* and *bolivianus*.

When applying Tobias criteria, this translates in the following vocal scores:

	<i>mikettae</i> vs. <i>leucotis</i>	<i>mikettae</i> vs. <i>simplex</i>	<i>leucotis</i> vs <i>simplex</i>
end freq.	2 (just)	2	2 (just)
freq. drop	2	2	1
length	2	1	1
TOTAL VOCAL SCORE	4	4	3 (just)

*mikettae* has a whistle which hardly drops in pitch (between about 10% and 90% of its length), as a consequence reaches not that low frequencies. Whistle is also longer in length.  
-> total score of 4 vs both other races

*leucotis* is closer to *simplex*/*bolivianus*, but its whistle drops less in frequency, and as a consequence doesn't reach that low frequencies, although there is some overlap.  
-> total score 3 at most (may be reduced to 2 with larger set of recordings)

This note was finalized on 19th October 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.

### Recommended citation

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