

## Notes on the vocalizations of Olive-brown Oriole (*Oriolus melanotis*)

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In the following we briefly analyze and compare voice of the two races of Olive-brown Oriole (*Oriolus melanotis*). 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).

We have located recordings of race *finschi* from Wetar, and of race *melanotis* from both Timor and Roti. We have measured a number of basic sound parameters and calculated effect sizes:

### *finschi* (n=10)

Song often consists of a single loud whistle, which often rises in pitch before dropping. Sometimes whistle is preceded by one or (rarely) a few very short notes (Fig. 1).

	range	Average	Standard Dev.
min.freq.	580 - 1600Hz	889Hz	298Hz
max. freq.	2300 - 3150Hz	2821Hz	277Hz
freq. range	1430 - 2500Hz	1930Hz	340Hz
min. phrase length	0.32 - 0.75s	0.50s	0.14s
max. phrase length	0.35 - 0.86s	0.61s	0.25s
shortest note length	0.025 - 0.46s	0.24s	0.19s
longest note length	0.35 - 0.50s	0.44s	0.07s
# notes/phrase	1 - 3	1.7	0.85

### *melanotis*(n=10)

Song typically consists of one or a few short notes followed by a slightly longer loud whistle, which typically drops abruptly in pitch about halfway (thus sounding bisyllabic) (Fig. 1).

	range	Average	Standard Dev.
min.freq.	520 - 960Hz	717Hz	139Hz
max. freq.	1520 - 2500Hz	1906Hz	308Hz
freq. range	850 - 1870Hz	1190Hz	289Hz
min. phrase length	0.52 - 0.98s	0.77s	0.14s
max. phrase length	0.55 - 1.00s	0.80s	0.15s
shortest note length	0.03 - 0.18s	0.10s	0.04s
longest note length	0.24 - 0.54s	0.40s	0.09s
# notes/phrase	2 - 5	3.0	0.9

Main differences in basic parameters are:

	effect size	score
max. freq.	3.12	2
freq. range	2.35	2
min. phrase length	1.93	1
shortest note length	1.02	1
#notes/phrase	1.49	1

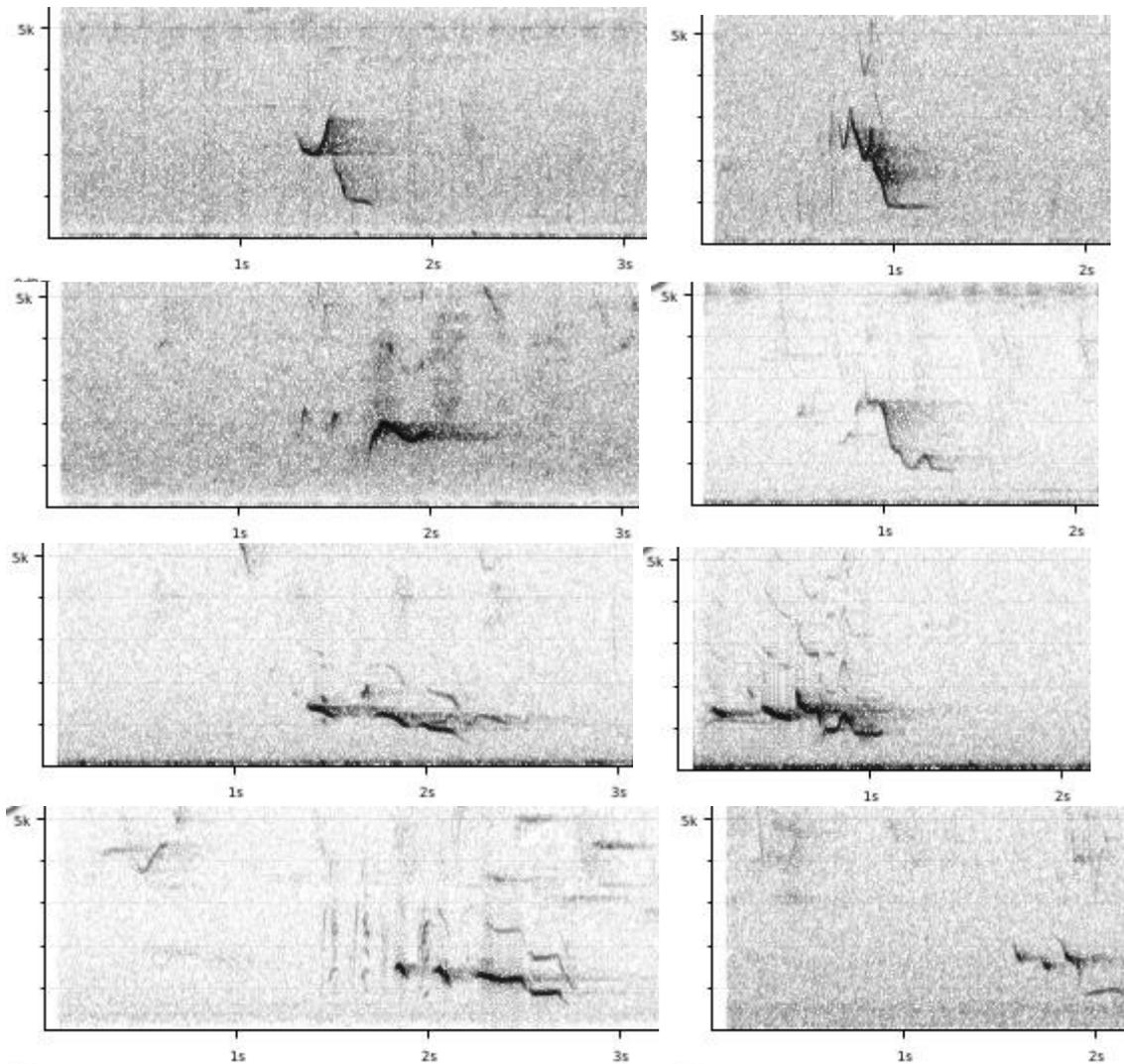


Figure 1: examples of song of race *finschi* (top four sonograms) and race *melanotis* (bottom four sonograms)

Unlike *finschi*, song phrase of *melanotis* apparently never consists of a single long whistle, whistles don't reach as high frequencies as *finschi* and lack the rather typical (irregular) overslurred shape of *finschi*, resulting in a smaller frequency range.

When applying Tobias criteria, this would lead to a total score of 3-4 (depending whether we consider max. freq. and freq. range independent or not).

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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.

### Recommended citation

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