HANDBOOK OF THE BIRDS OF THE WORLD Alive

ORNITHOLOGICAL NOTES

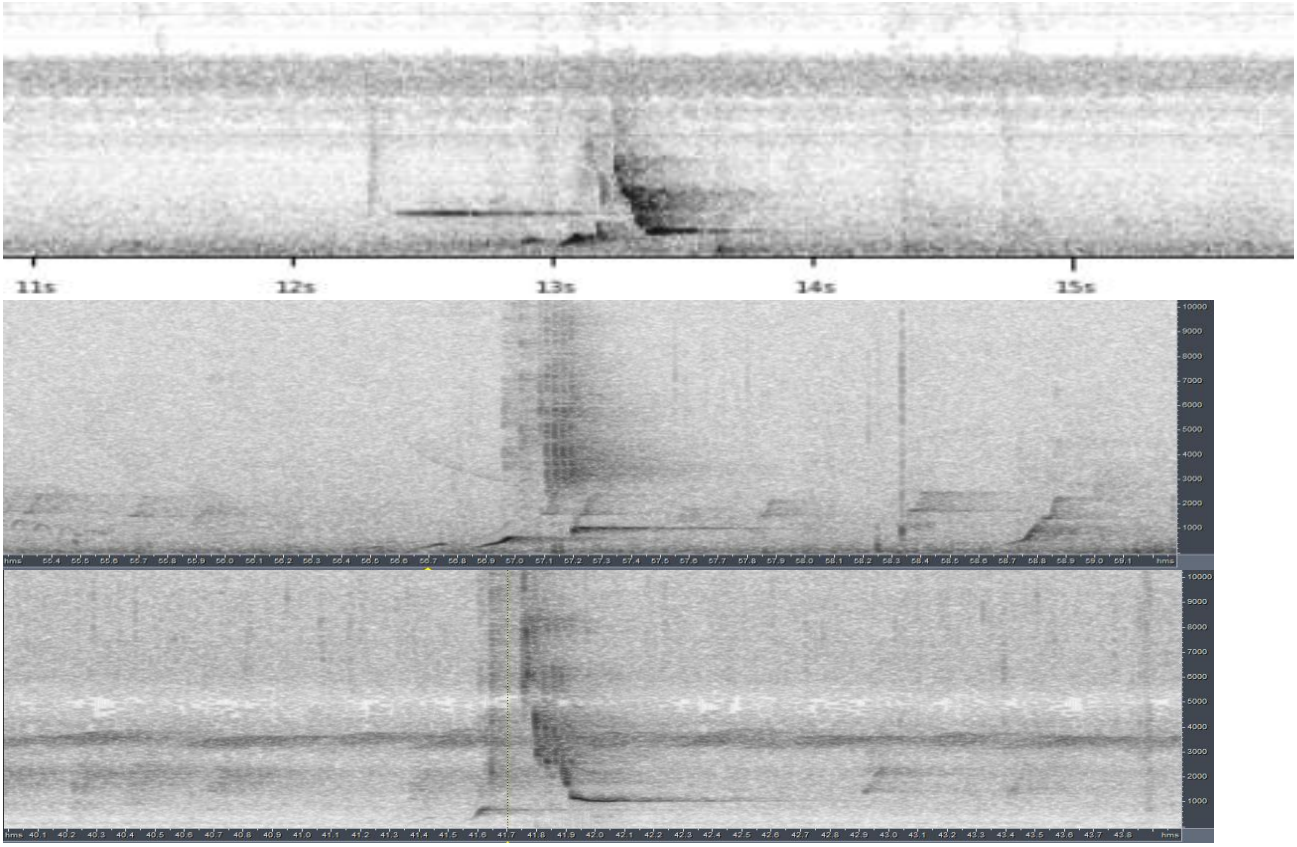
Notes on the vocalizations of Russet-backed Oropendola (*Psarocolius angustifrons*)

Peter Boesman

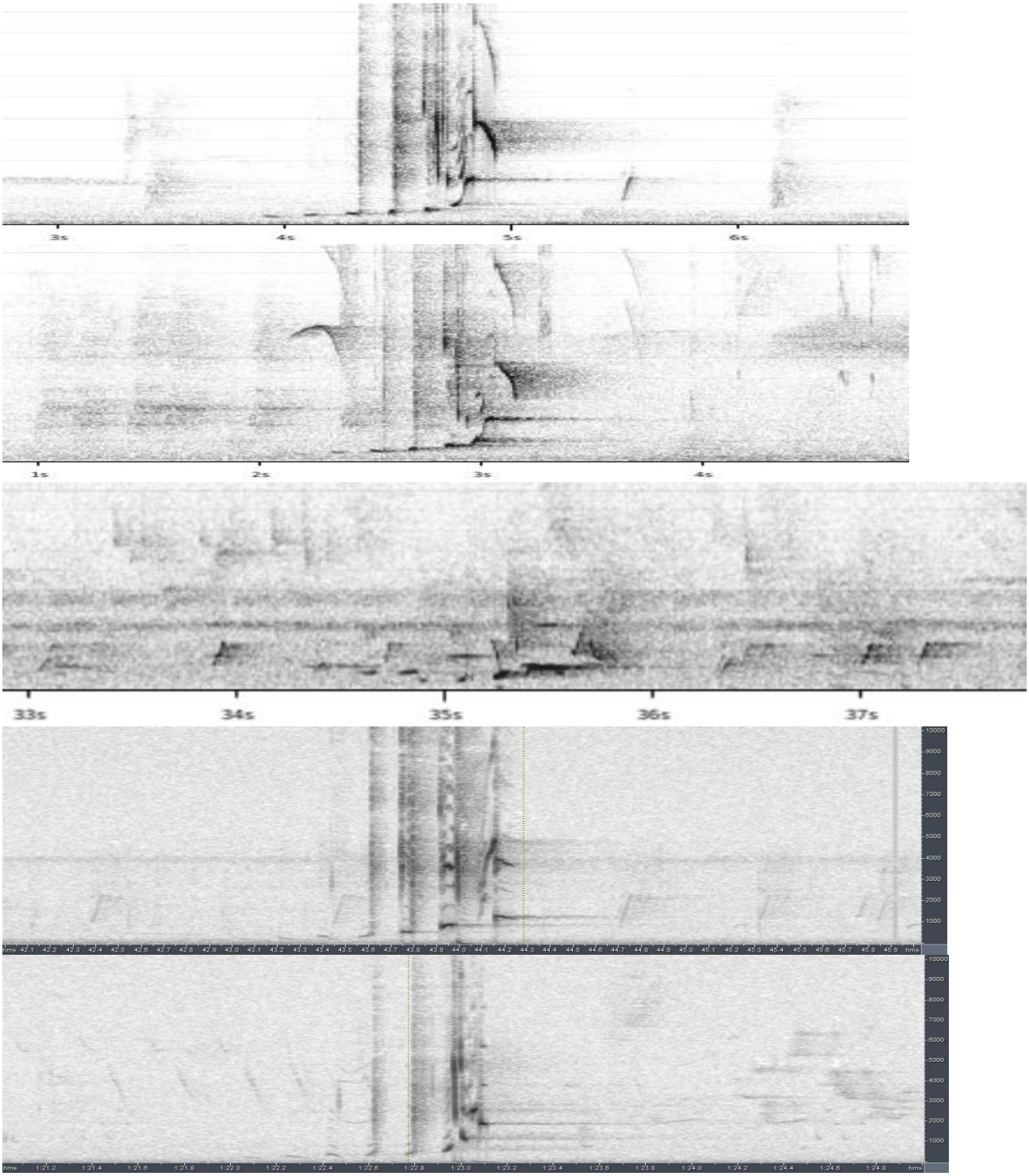
In the following we briefly analyze and compare voice of the different races of Russet-backed Oropendola (*Psarocolius angustifrons*). We also try to quantify the extent of any vocal differences using the criteria proposed by Tobias *et al.* (2010), as a support for taxonomic review. We have made use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

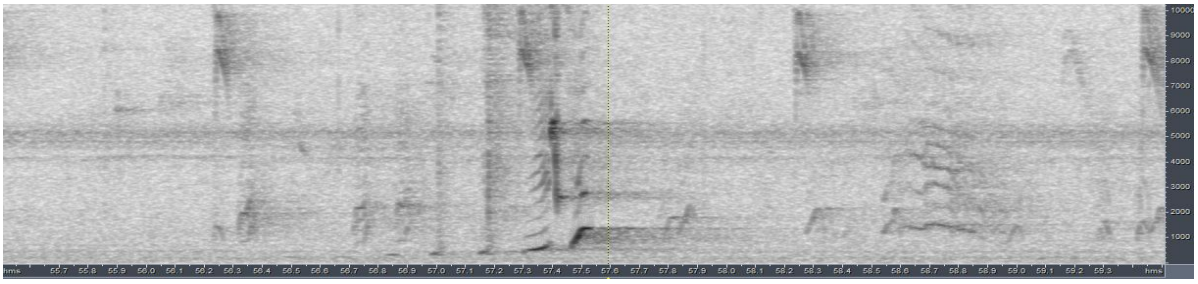
Display song typically is a short series of popping or bubbling notes with a final crescendo, accompanied by wing-beats. There are however regional differences. An overview per race, illustrated with sonograms:

neglectus (Sierra de Perijá (Colombia/Venez.), W Andes of Venezuela and E slope of E cordillera in Colombia
Display song consists of about 1-3 well spaced intro notes in crescendo with final explosive note consisting of a short rattling immediately followed by a melodious note.

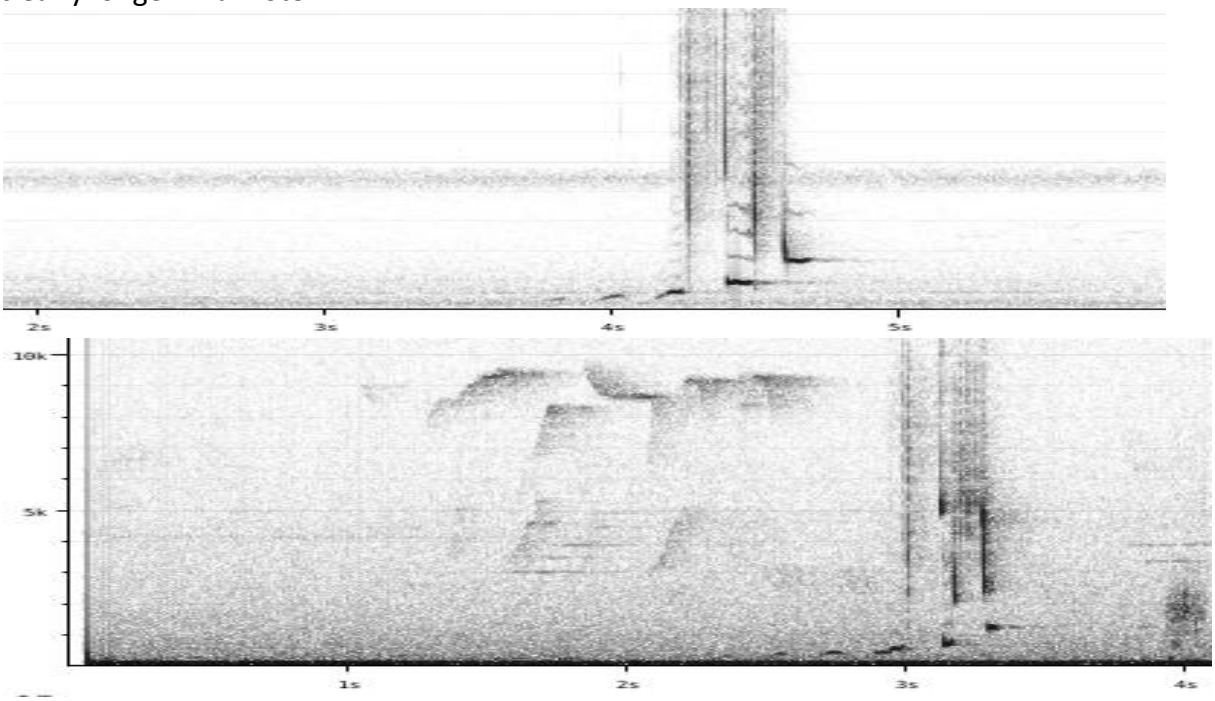


oleagineus (mountains and foothills of coastal N Venezuela)
Display song consists of about 5 well-spaced intro notes in crescendo with final longer high-pitched note ending abruptly, often with wing-noise in parallel.



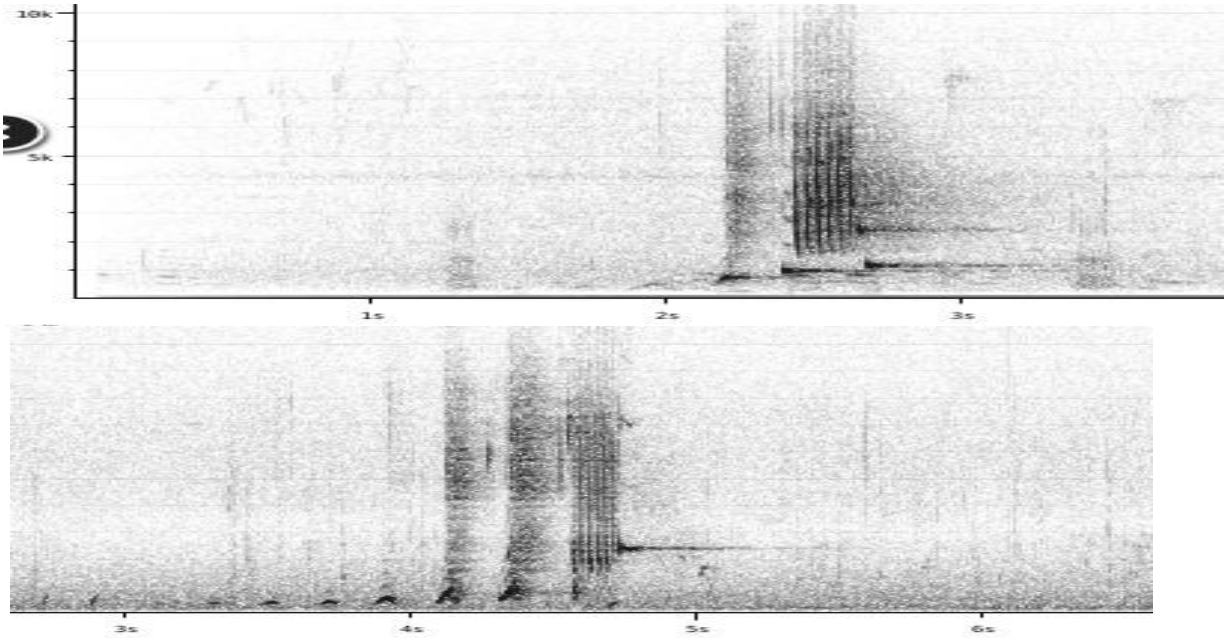


salmoni (W & C Andes of Colombia)
Display song consists of well-spaced intro notes in crescendo (as in *oleagineus*) but lacks a clearly longer final note.

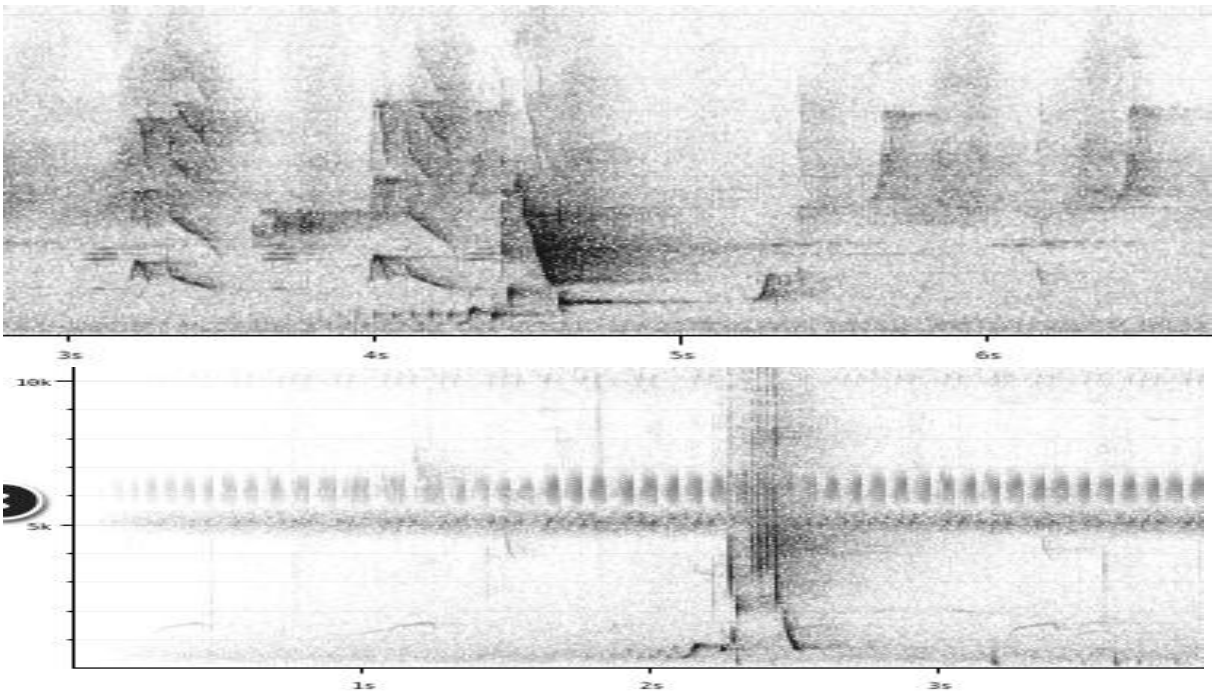


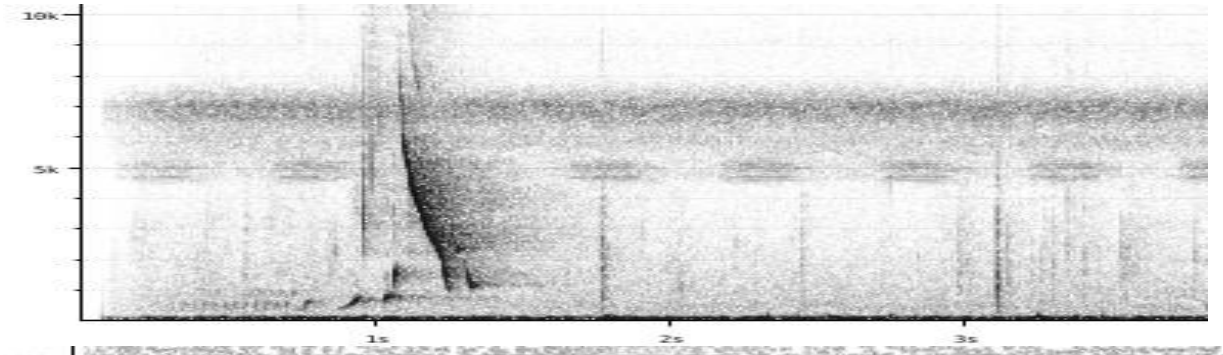
sincipitalis (W slope of E Andes of Colombia)
No recordings of song in XC and ML.

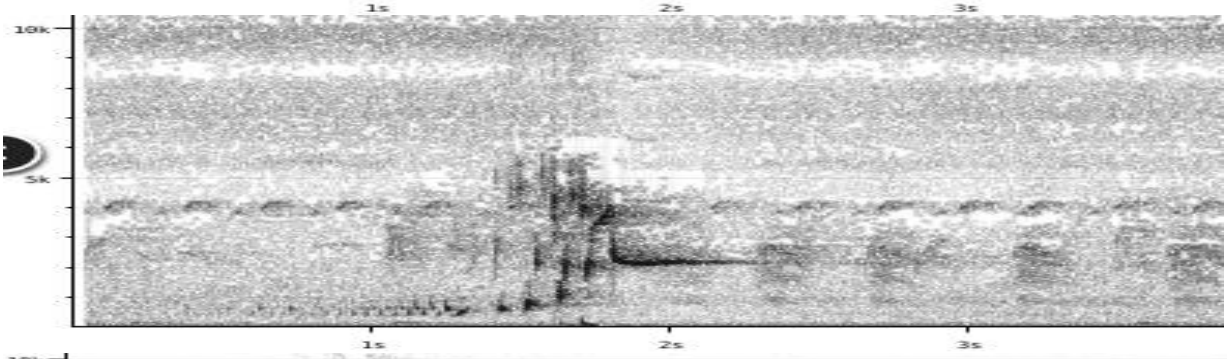
atrocastaneus (W slope in Ecuador)
Display song consists of well-spaced intro notes in crescendo (as in *oleagineus*) but lacks a clearly longer final note. End notes combined with rattling wing noise



alfredi (E Andean slopes and foothills from SE Ecuador S to Peru and C Bolivia)
Display song consists of a low-pitched rolling trill (very faint dot-like intro notes) switching to longer notes in crescendo and rising pitch followed by a steeply downslurred explosive whistle reaching again low frequencies (*c* 1-2kHz)




10k
5k
1s
2s
3s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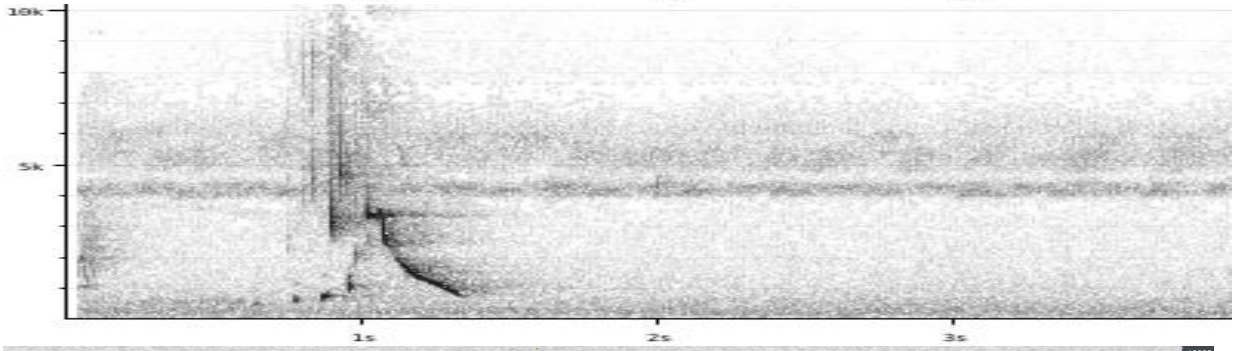
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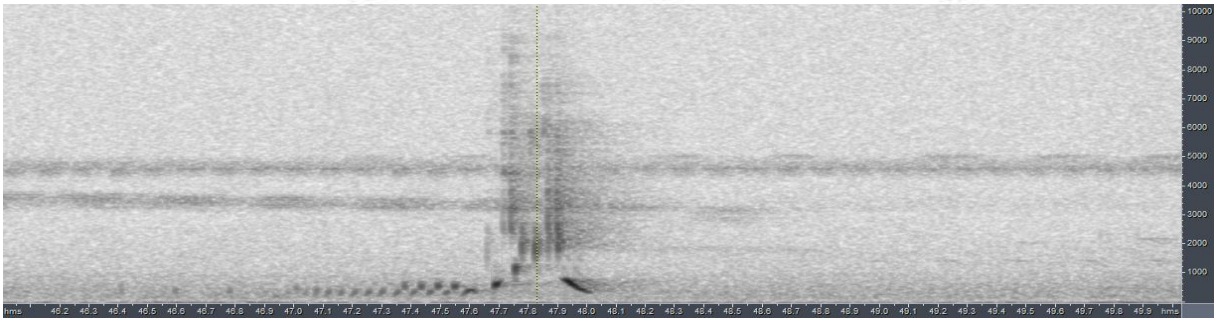
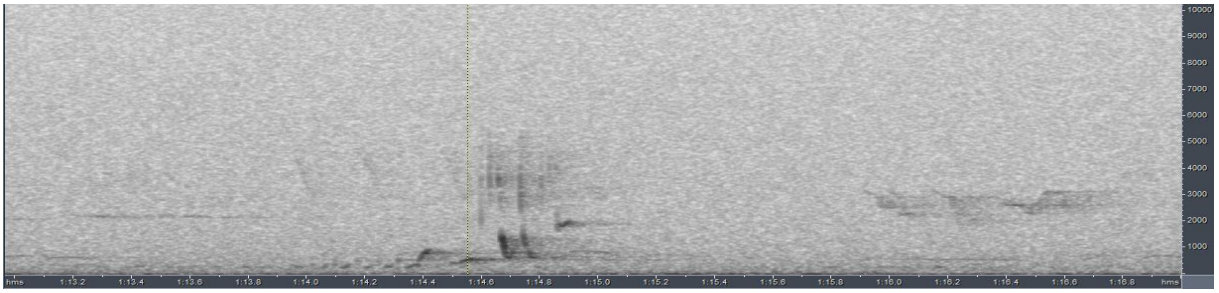
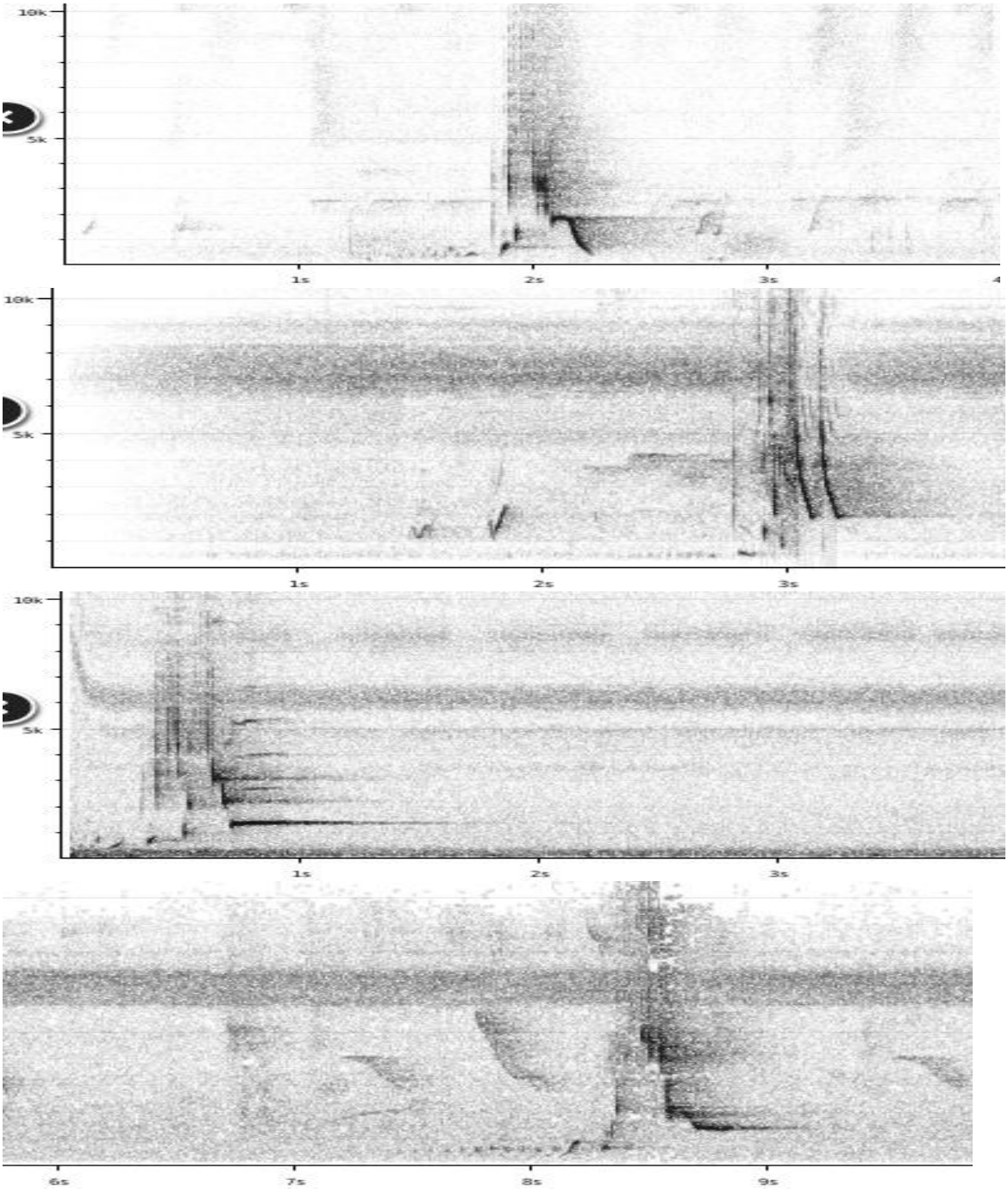
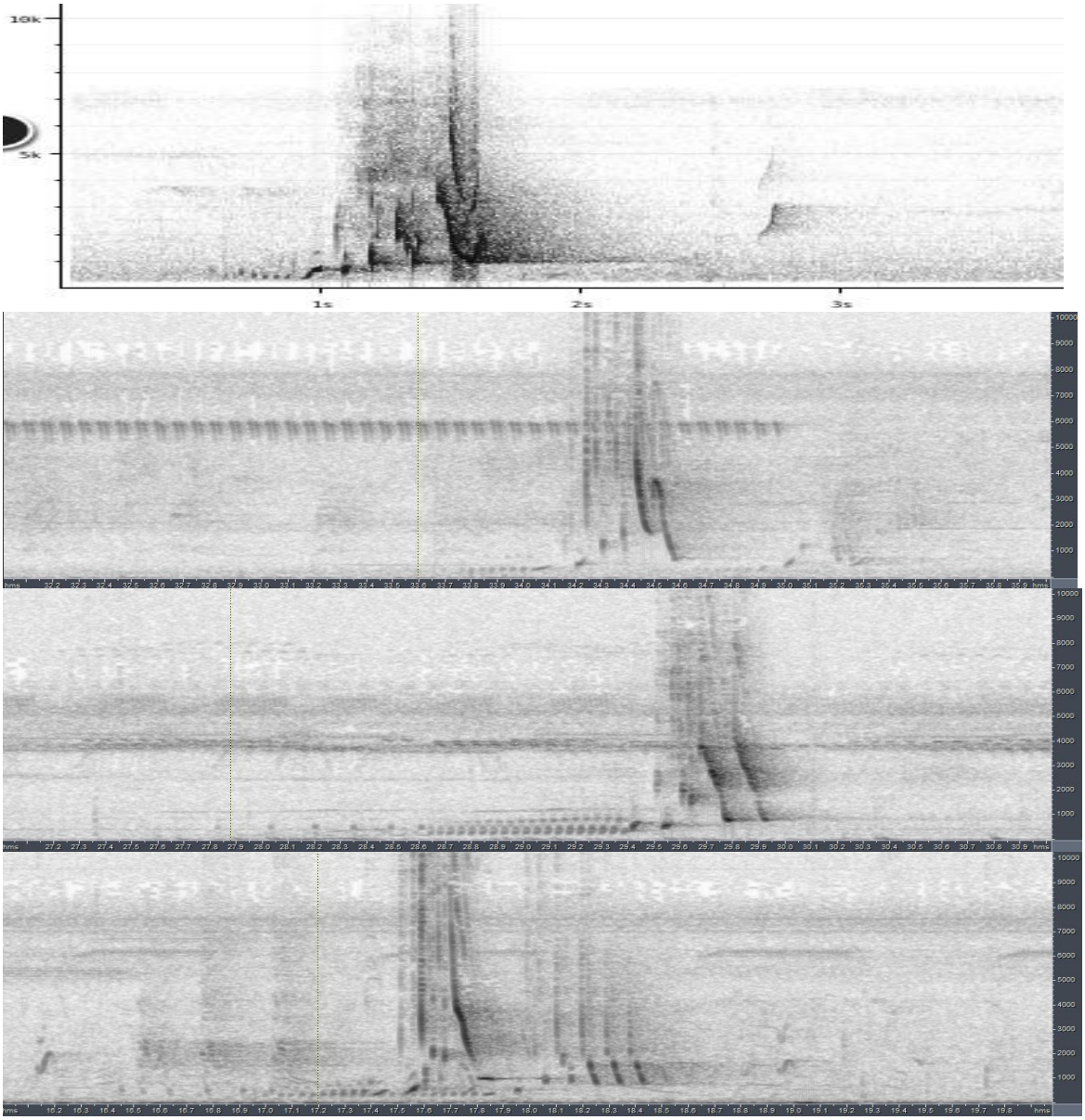




angustifrons (E Andean foothills from S Colombia S to NE Peru and W Brazil (Amazonian lowlands)
Display song consists of a low-pitched rolling trill (very faint dot-like intro notes) switching to longer notes in crescendo and rising pitch followed by a steeply downslurred notes reaching again low frequencies (*c* 1-2kHz)





From the above examples of display song, we can conclude that there is quite a bit of variation, also within races. A few common features of several groups however become apparent:
oleagineus: about 5 well-spaced intro notes in crescendo with final longer high-pitched note ending abruptly, often with wing-noise in parallel.
neglectus: about 1-3 well spaced intro notes in crescendo with final explosive note consisting of a short rattling immediately followed by melodious note. Song thus the shortest of all races.
alfredi/angustifrons: a low-pitched rolling trill (very faint dot-like intro notes) switching to longer notes in crescendo and rising pitch followed by a steeply downslurred explosive whistle reaching low frequencies (c.1-2kHz)
salmoni/atrocastaneus: well-spaced intro notes in crescendo (as in *oleagineus*) but lacking a clearly longer final note. In *atrocastaneus* combined with rattling wing noise.

As a side remark, it should be noted that racial identity is not always clear from location, e.g. a 'border-case':
Parque Nacional Natural Cordillera Los Picachos, Finca Andalucia (Caqueta): *neglectus or angustifrons?* Based on voice this would rather be *angustifrons*

We can conclude that:

Song of *alfredi/angustifrons* (n>20) is easily recognized by the initial rolling trill (a vocal difference which can easily be quantified as number of intro notes (score 3), initial pace of intro notes (3) and/or average length of intro notes (2)).

Song of *neglectus* (n=4) is easily recognized by the very short song (<0.8s *vs* > 0.9s) with just 1-3 intro notes (*vs* 5 or more) (Vocal score *vs* all other races are 2-3 both for length and # of notes).

oleagineus vs. *salmoni/atrocastaneus* is less straightforward as the introductory part is similar. The final part is so variable that we would need more samples to prove consistent differences. The case is further complicated by the absence of any recordings from *sincipitalis* to check whether these form a 'bridge' between the 2 groups. In any case, it would seem that application of Tobias scoring will not lead to high scores between these 2 groups.

Examination of call notes could provide additional information.

This is obviously a rather complex case, but this short analysis proves there are indeed clear vocal differences between several groups. Further work is highly recommended.

This note was finalized on 14th July 2016, 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 and ML.

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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