HANDBOOK OF THE BIRDS OF THE WORLD Alive

ORNITHOLOGICAL NOTES

Notes on the vocalizations of Ornate Antwren (*Myrmotherula ornata*)

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In the following we briefly analyze and compare voice of the different races of Ornate Antwren (*Myrmotherula ornata*). 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 Ornate Antwren is a short high-pitched trill initiated with one or more longer notes. Some trills however lack these introductory notes, and it is not clear if these are 'short songs' or a vocalization with a different function.

We have only measured what appeared to be 'full songs' with at least one longer introductory note (Table 1).

	hoffmannsi (n=5)	*meridionalis/ atrogularis(n=5)*	*ornata/ saturata(n=4)*
# notes	9-21	13-24	11-13
length 1st note	0.08-0.1s	0.07-0.1s	0.08-0.1s
max. freq. in trill	6100-7700Hz	6400-7500Hz	6300-7000Hz
max. freq. lowest note	4100-5400Hz	5000-5900Hz	5400-5800Hz
fastest pace over 5 notes (s)	0.074-0.09	0.07-0.091	0.1-0.137
total length	0.86-1.6s	1.06-2.35s	1.34-2.03s
frequency drop in trill	1500-3300Hz	1200-1600Hz	800-1600Hz
number of long intro notes	1 (with typically frequency spike at start)	1 (with usually round overslurred shape)	2 with stuttering start

Table 1: measurement of basic sound parameters for races of Ornate Antwren (Myrmotherula ornata)

From Table 1 we can deduct that there are slight differences in voice of typical loudsongs (Figure 1):

hoffmannsi has the largest frequency drop towards the end of the trill (score 1 or 2) and has a single long introductory note with usually spiky shape (score 1)

ornata/saturata has typically a stuttering start to the trill with two long introductory notes (score 2) and a slower pace in the trill (score 1 or 2).

meridionalis/atrogularis has the single introductory note (although more rounded overslurred) from *hoffmannsi* but much less frequency drop, more like *ornata/saturata*.

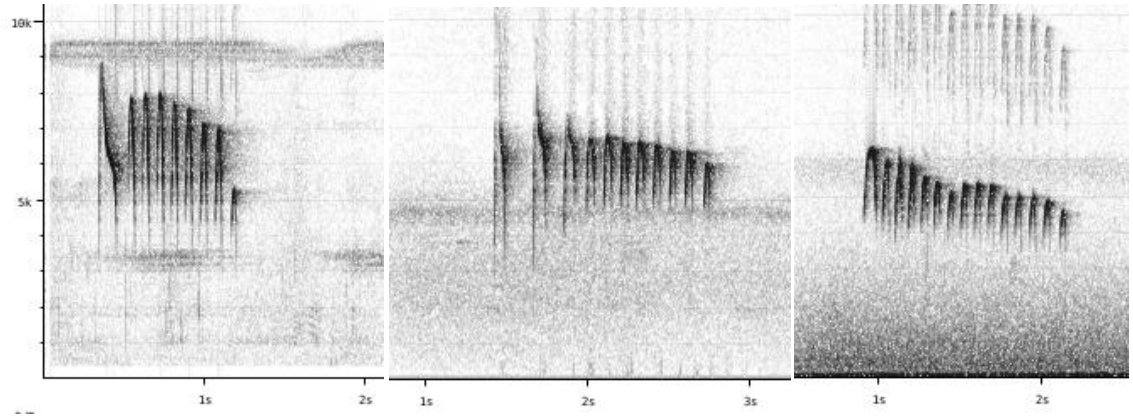

Figure 1: example of song for respectively hoffmannsi, ornata/saturata and meridionalis/atrogularis

All in all, it would seem that the typical loudsongs of the three groups are fairly distinctive, with a score of about 2-3 each vs. both other groups.

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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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