

Notes on the vocalizations of Chestnut-belted Gnateater (*Conopophaga aurita*)

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In the following we briefly analyze and compare voice of the different races of Chestnut-belted Gnateater (*Conopophaga aurita*). 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 all races is a long trilled series of notes, and there seem to be two groups which are vocally distinct (Fig. 1).

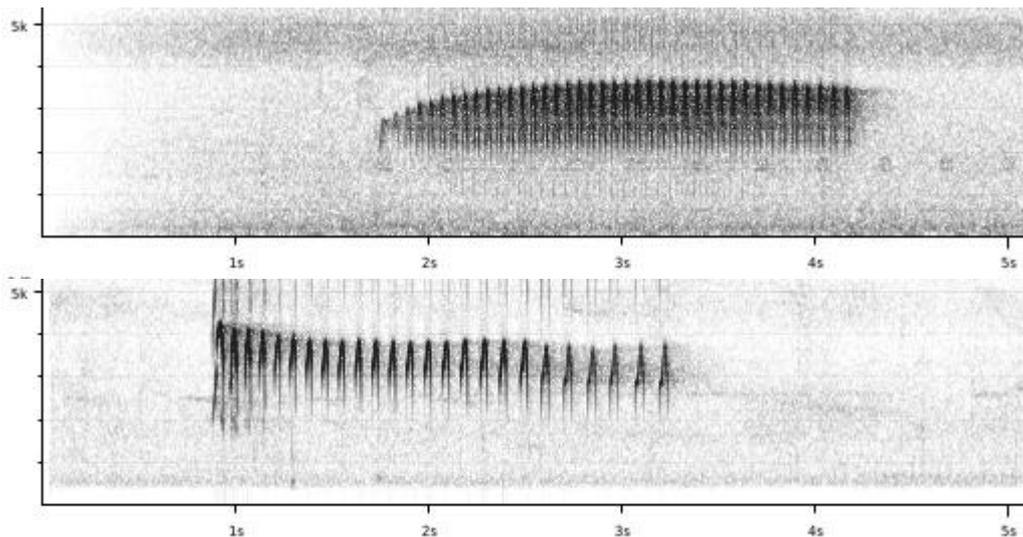


Figure 1: Top to bottom: Typical loudsong from E Ecuador (*occidentalis*) and SE Amazon (*snehlageae*)

We have measured some basic sound parameters:

Group 1: *snehlageae/pallida* (n=4)

max. freq.	3650-4300Hz
note length	0.04-0.05s
pace	0.095-0.105 (measured as period,duration between 2 subsequent notes)
total length	1.94-3.3s
intro notes	no clear introductory notes, sometimes slightly dropping in pitch at start

Group 2: other races (*australis, occidentalis, aurita*, song from Palmari may be *inexpectata?*) (n=6)

max. freq.	3200-4000Hz
note length	0.026-0.035s
pace	0.054-0.06
total length	1.7-4s
intro notes	1-4 introductory notes which <u>rise</u> gradually in pitch at start

There is a clear difference between *snethlageae/pallida* and other races:

Song pace of both groups is remarkably stable, and is much slower in *snethlageae/pallida* (almost half the speed, score 3), with longer notes (score 2). Furthermore, there are no initial rising notes in the song of *snethlageae/pallida*.

The latter possibly also slightly higher in frequency, but more samples needed, and score probably only 1.

If we consider pace and note length independent, than vocal difference leads to a quantified total score of 5.

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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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