HANDBOOK OF THE BIRDS OF THE WORLD Alive

ORNITHOLOGICAL NOTES

Notes on the vocalizations of Wedge-billed Woodcreeper (*Glyphorynchus spirurus*)

Peter Boesman

In the following we briefly analyze and compare voice of the different races of Wedge-billed Woodcreeper (*Glyphorynchus spirurus*). 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).

When comparing loudsong of the different taxa, we can distinguish the following four groups:

Central American/Chocó group (includes *G. s. pectoralis, G. s. pallidulus, G. s. subrufescens and G. s. integratus*).
Song is a series of 4-20 underslurred notes, increasing in amplitude and pitch (Fig.1).

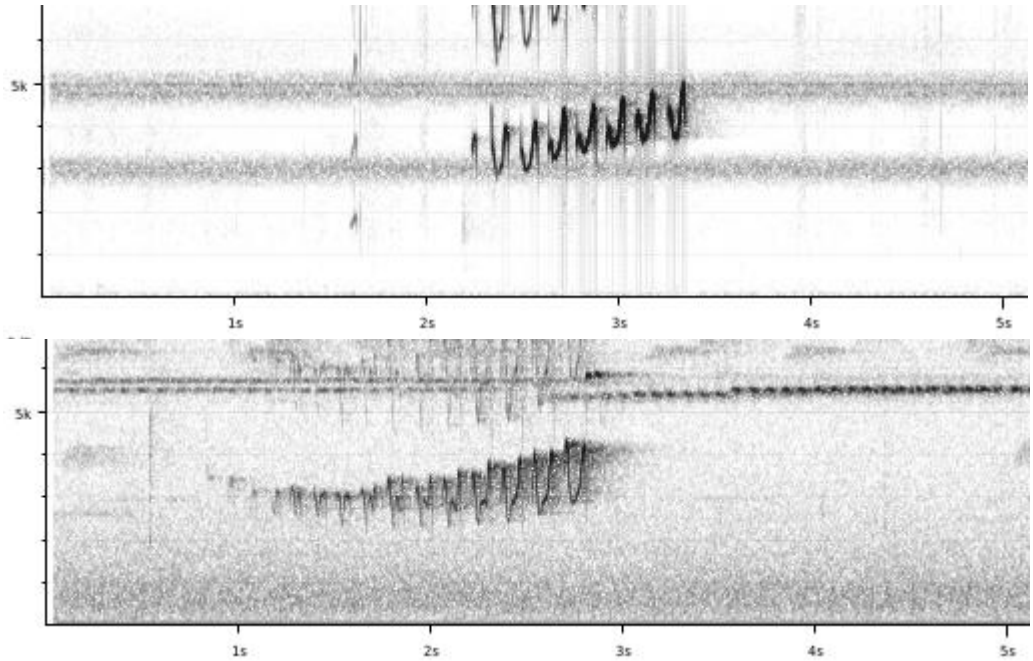


Figure 1: examples of song of Central American/Chocó group

Measurements:

Total length:	1.1-2.4s
Pace*:	0.12-0.14
Note length:	0.1-0.12s
Max freq:	4200-5200Hz
Min freq:	1800-2500Hz

(*: Pace expressed here as period, duration between 2 consecutive notes)

W and N Amazonian/Guianan group (includes *G. s. rufigularis, G. s. amacurensis, G. s. spirurus, G. s. coronobscurus* and *G. s. castelnaudii*).
Song is a series of 5-12 wheezy upslurred notes (more when excited), increasing in amplitude and pitch (with burry tonal quality in most of range) (delivered slower than previous group) (Fig. 2).

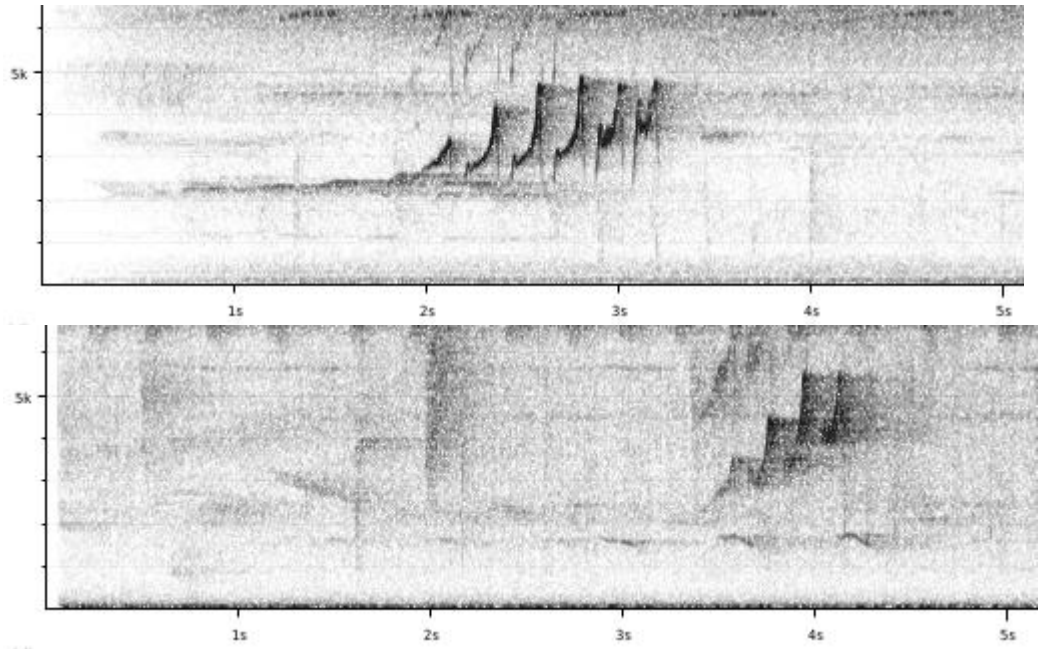
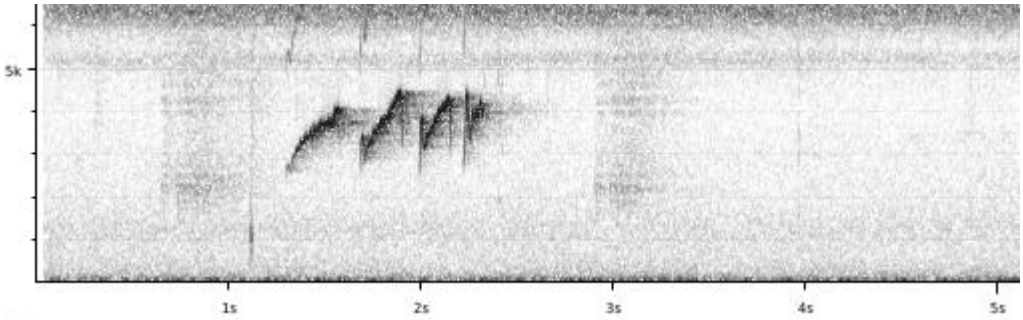


Figure 2: examples of song of W and N Amazonian/Guianan group

Measurements:

Total length:	1.0-2s
Pace:	0.17 - 0.22
Note length:	0.13- 0.17s
Max freq:	4800-6000Hz
Min freq:	1800-2200Hz

SW Amazonian group (*G. s. albigularis*).
Song is a series of 2-5 wheezy upslurred notes (more when excited), increasing in amplitude and pitch (Fig.3).



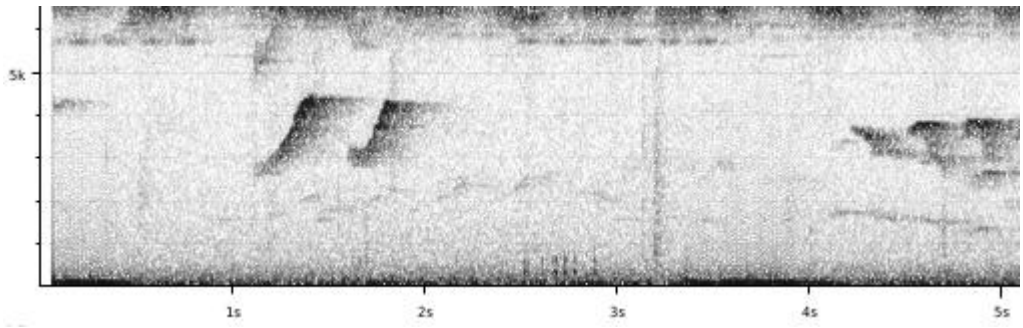


Figure 3: examples of song of SW Amazonian group

Measurements:

Total length:	0.7-1.1s
Pace:	0.22 - 0.35
Note length:	0.22- 0.38s
Max freq:	3600-4400Hz
Min freq:	1900-2400Hz

SE Amazonian group (S of river Amazon and E of river Madeira) (includes *G. s. inornatus* *G. s. paraensis* and *G. s. cuneatus*).
Song consists of 2 overslurred notes, with emphasis on the first note which is slightly longer and higher in pitch (sometimes only this first note is given). (Shape of note in *cuneatus* is slightly different)

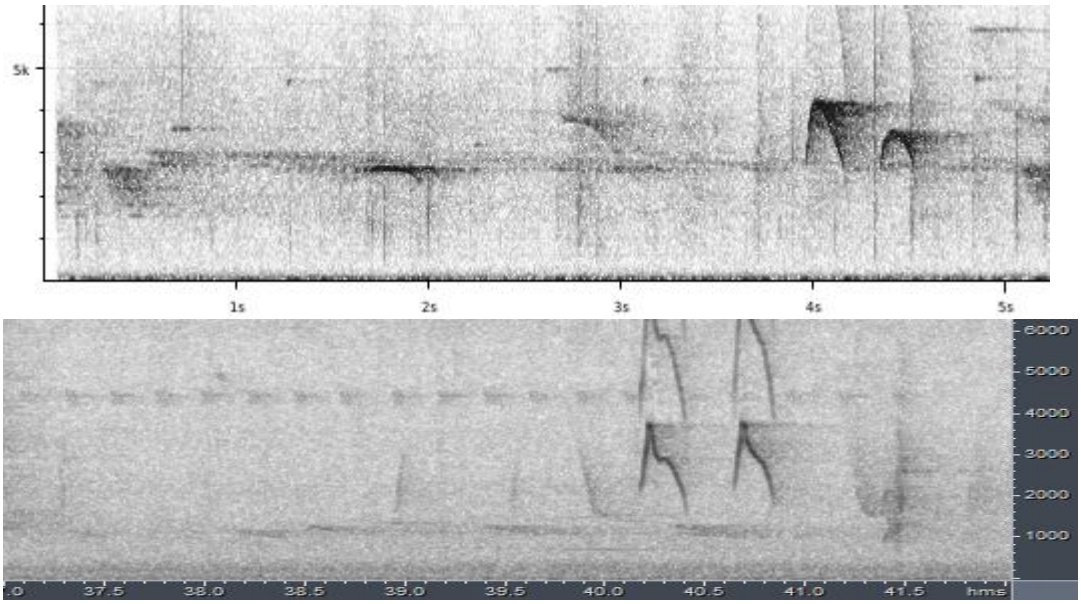


Figure 4: example of song of SE Amazonian group (and *cuneatus*, below)

First note length: 0.17-0.24s with max freq 3700-4400Hz and min freq 1700-2800Hz
Second note length 0.14-0.2s with max freq 3400-3800Hz and min freq 1700-2600Hz

What appeared at first to be a simple case with SE Amazonian group being highly distinct having a song of only 2 notes, is less straightforward due to the intermediate SW Amazonian group, which retains the tonal quality of W and N Amazonia, but has much less notes, and thus overlaps for this parameter with the SE Amazonian group. To the ear it is clearly closer to W and N Amazonia, but quantification of the basic sound parameters is not precise enough to reflect this.

'Central American/Chocó group' vs. 'W and N Amazonian/Guianan group'
Main differences are pace, note length and shape (the latter longer upslurred notes and slower delivery), but differences rather small.

'Central American/Chocó group' and 'W and N Amazonian/Guianan group' vs. SE Amazonian group
Main differences are number of notes, total song length, rising vs. decreasing pitch and note shape, which are all very different.

'W and N Amazonian/Guianan group' vs. 'SW Amazonian group'
Main differences are note length, number of notes, total length, and max. frequency.

'SW Amazonian group' vs. 'SE Amazonian group'
Main differences are pitch ratio first/last note and note shape.

While we have identified 4 vocal groups which all have their specific properties, it would seem that differences change gradually from NW to SE, starting in Central America with a fairly long rising series of rapidly delivered short notes, gradually changing into fewer longer notes at slowerpace, reaching as little as 2 notes south of the Amazon, and losing all of the other properties in SE Amazon and SE Brazil, where song has completely changed into 2 overslurred notes which slightly drop in pitch.
Whether this gradual change is step-wise per subspecies or clinal (due to gene flow between races) can only be analyzed when more recordings become available.

For now, we can only conclude that the SE Amazonian and Atlantic forest group are highly distinctive in comparison with all other races as a single group, which would lead to high scores when applying Tobias criteria, but given the gradual vocal change of the latter group, this would not reflect reality.

This note was finalized on 2nd April 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 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.

Recommended citation

Boesman, P. (2016). Notes on the vocalizations of Wedge-billed Woodcreeper (*Glyphorynchus spirurus*). *HBW Alive Ornithological Note* **80**. In: *Handbook of the Birds of the World Alive*. Lynx Edicions, Barcelona. (retrieved from http://www.hbw.com/node/931974 on 15 July 2016).