

## Notes on the vocalizations of Spotted Woodcreeper (*Xiphorhynchus erythropygius*)

Peter Boesman

In the following we briefly analyze and compare song of the different races of Spotted Woodcreeper (*Xiphorhynchus erythropygius*). 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).

The song of all races is a series of 2-4 (occasionally 5) slowly delivered whistles, every whistle slightly lower pitched than the previous.

We can however distinguish two groups:

**“northern group”** (includes *erythropygius* and *parvus*)

Every whistle is pure (without burry or quavering tonal quality), downslurred with a small rise at the very beginning. Sonogram shape of all notes very similar (Fig. 1).

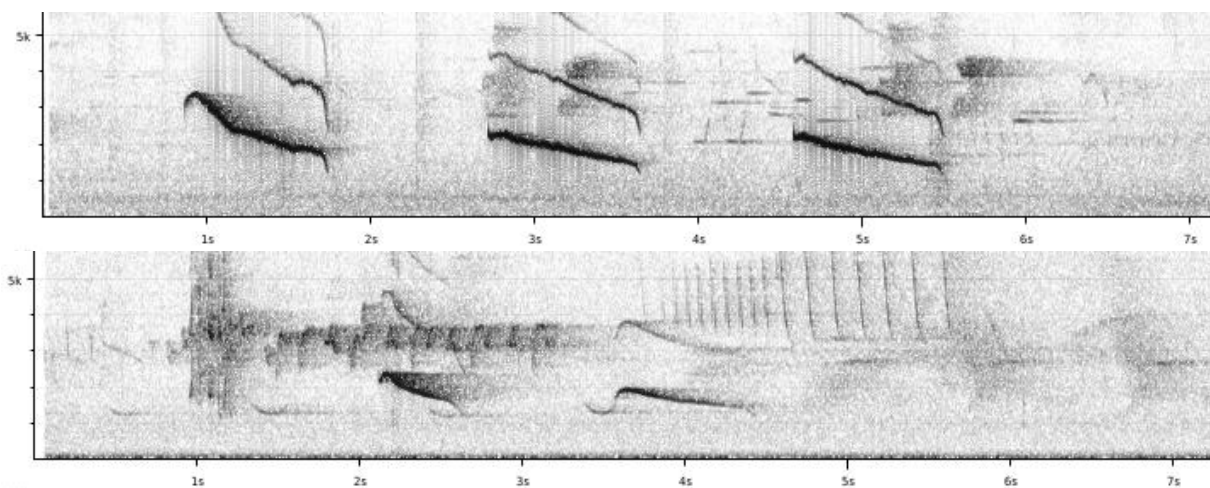


Figure 1: example of song of *erythropygius* (above) and *parvus* (below)

### Measurements:

Max. freq first whistle:	2400-2900Hz
Max. frequency second whistle:	2000-2300Hz
Frequency drop between first two whistles:	400-700Hz
Location of max. frequency in second whistle:	0.05-0.07s

**“southern group”** (including *aequatorialis*, *punctigula* and *insolitus*)

At least one whistle has a burry or quavering tonal quality (this is most outspoken in *aequatorialis* where all whistles are very quavering, so there is clearly a gradual trend here from N to S). The first whistle is downslurred with a rise at the very beginning, but the second and subsequent whistles are overslurred, sonogram shape of first and subsequent notes is thus quite different (Fig.2). Whistles on average higher-pitched than previous group, especially from second note onwards.

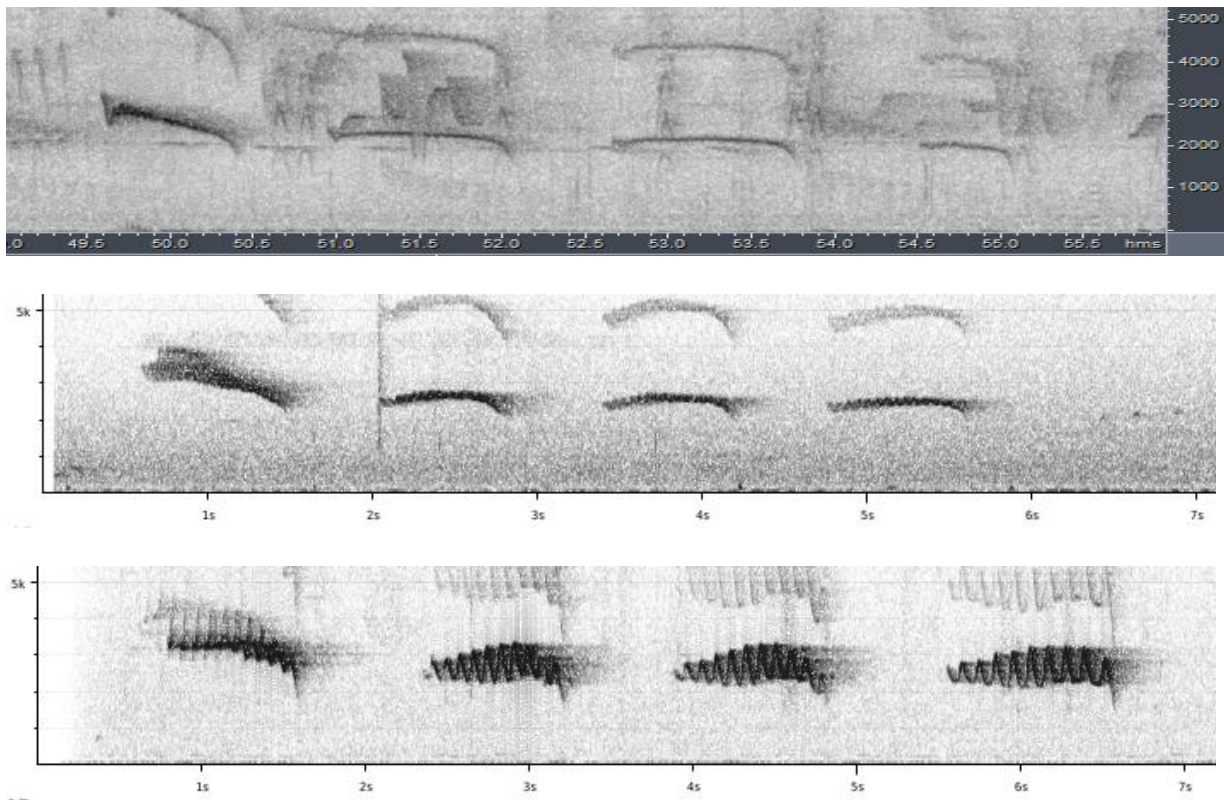


Figure 2: example of song of *punctigula* (above), *insolitus* (middle) and *parvus* (below)

**Measurements:**

Max. freq first whistle:	2900-3700Hz
Max. frequency second whistle:	2700-3300Hz
Frequency drop between first two whistles:	200-900Hz
Location of max. frequency in second whistle:	0.22-0.5s

Quantifiable differences in song are the max. frequency of the first whistle (slightly lower in northern group, score 1-2), max. frequency of second whistle (lower in northern group, score 2), location of max. frequency in second whistle (downslurred thus at very start in northern group, score 2 or 3) and qualitatively, the more burry notes of southern group (although this is clearly more outspoken in southern races). This leads to a total score according to Tobias criteria of 4 or 5.

Analysis of call may (or may not) reveal additional differences.

This note was finalized on 3rd 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

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