Notes on the vocalizations of Island Leaf-warbler (*Phylloscopus poliocephalus*)

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In the following we briefly analyze and compare voice of the different races of Island Leaf-warbler (*Phylloscopus poliocephalus*). 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).

With some twenty races recognized, distributed over many islands, this is a complex case. Present analysis should therefore be seen merely as a first attempt to differentiate taxa (or groups) by voice.

Group 1: Song has short spiky notes *becki* (Solomons)

bougainvillei (Solomons)

giulianettii (New Guinea):

poliocephalus (NW Papua)

everetti

Two sonograms are available from Rheindt & Hutchinson 2007 (BirdingASIA 7).

this seems to indicate a song closest to *poliocephalus* (rather spiky notes and a rising trend in pitch, but phrases somewhat longer in duration)

Group2: Song has repetitive elements

henriettae (N Moluccan)

waterstradti (N Moluccan)

ceramensis

Rheindt *et al.* (2007) indicate that several different phrases are alternated, and the middle phrase consists of repeated notes. *ceramensis* has thus similarities with both group 2 and group 3. Phrases seem to end often with a few repeated notes. The placement of *ceramensis* is thus less straightforward, forming a subgroup in its own (group 2.2).

Group3: song has rather long slurred notes

subgroup 3.1: notes often reaching 10kHz

maforensis(Numfor)

subgroup 3.2: notes staying below c 7kHz

misoriensis (Biak)(n=1 !)

avicola

Based on song, one can at least discern 3 groups, with further subgroups.

The most distinctive group is without any doubt *henriettae*/*waterstradti* with song being a short phrase repeated rather than an irregular warble. One could score this for number of repeats per song baud, and length of shortest phrase repeated (which would likely result in a vocal score of 3+3 = 6). *ceramensis*, as already mentioned, shows in part the same vocal features.

The two other major groups are differing in a more subtle way:

Group1: Song of *becki/bougainvillei/guilianettii* and to a lesser extent *poliocephalus/everetti* are characterized by a rapid, nervous delivery of short, spiky notes. This group could be scored vs the next group based on note length and frequency range per note (which would likely lead to a score of about $1+2=3$ or $2+2=4$). *poliocephalus/everetti* have a rising pitch trend in the song phrase, and could be considered a subgroup 1.2.

Group3: Song of the 3rd group is characterized by longer slurred notes with rather modest changes in frequency. Within this group *maforensis* further differs in reaching very high frequencies (which could give a score of about 2-3 vs others in this group). *misoriensis* with only a single recording seems to have the most slurred song, but more samples would be needed to quantify.

As already mentioned, *poliocephalus* is closer to the 3rd group than all other races of group 1 (subgroup 1.2).

A geographical plot of the 6 subgroups:

This gives a picture which is definitely not randomly scattered. Some hypothetical deductions:

Group 1.1 from PNG 'colonized' the Solomons and retained vocal properties.

Groups 1.2, 3.1 and 3.2 have more significant changes in voice, and may be the result of much earlier colonizations.

Group 2.1, being entirely different in voice structure, may have a totally different origin.

Group 2.2, being somewhat intermediate, has either an origin from PNG or from the Moluccans, or results from a hybridization??

Obviously, this is merely speculation purely based on vocal patterns...

We can conclude that there are several vocal groups which show significant differences. A more in depth study (with more recordings) would be needed to get a more precise picture, and is highly recommended.

This note was finalized on 6th 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

Rheindt, F.E., Hutchinson, R.O. (2007). A photoshot odyssey through the confused avian taxonomy of Seram and Buru (southern Moluccas). *BirdingAsia* 7: 18-38.

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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