Notes on the vocalizations of Tawny Antpitta (*Grallaria quitensis*)

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In the following we briefly analyze and compare voice of the different races of Tawny Antpitta (*Grallaria quitensis*). 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).

There are only a few recordings available for the races other than *quitensis*. Based on these, it appears that loudsong of the 3 races is quite different (Fig. 1):

- *quitensis*: 3 evenly spaced notes 'tip..tuu..tuu'
- *atuensis*: 3 notes, last note after shorter pause bisyllabic and rising 'tip..tuu.tuee'
- *alticola*: 4 notes, last 3 notes in rhythmic sequence 'tip..pur..whe-tuu'

![Figure 1: from top to bottom: loudsong of quitensis, atuensis and alticola](image)

We have made some measurements for some basic sound parameters, with following results:
### ORNITHOLOGICAL NOTES

<table>
<thead>
<tr>
<th></th>
<th>quitensis ((n=8))</th>
<th>atuensis ((n=3))</th>
<th>alticola ((n=1))</th>
</tr>
</thead>
<tbody>
<tr>
<td># notes</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>min. pause</td>
<td>0.26-0.35s</td>
<td>0.18-0.24s</td>
<td>0.05s</td>
</tr>
<tr>
<td>max. note length</td>
<td>0.17-0.23s</td>
<td>0.32-0.34s</td>
<td>0.25s</td>
</tr>
<tr>
<td>min note length</td>
<td>0.10-0.16s</td>
<td>0.14-0.2s</td>
<td>0.11s</td>
</tr>
<tr>
<td>max. freq.</td>
<td>1960-2200Hz</td>
<td>2400Hz</td>
<td>1980Hz</td>
</tr>
<tr>
<td>min. mid freq.</td>
<td>1800-1900Hz</td>
<td>2050-2100Hz</td>
<td>1500Hz</td>
</tr>
</tbody>
</table>

Assuming a larger sample size confirms these data, scoring would give:

- **atuensis** differs from **quitensis** by long and rising end note (score 2) and higher pitch (score 1). Total score 3.
- **alticola** differs from **quitensis** by a 4 note song with short pauses between last 3 notes (score 4) resulting in a rhythmic phrase, and also by reaching lower frequencies (score 1). Total score 5.

*Figure 2: from top to bottom: commonest call of quitensis, atuensis and alticola*
As the most common call note also seems to differ between the 3 races (Fig. 2), with especially _atuensis_ very different, we have made also here some measurements:

**QUITENSI** *(n=5)*
- total length: 0.21-0.24s
- min. freq.: 850-1200Hz
- max. freq.: 4400-5200Hz
- freq. range: 3600-4050Hz
- note shape: a modulated start followed by a downslurred whistle

**ATUENSI** *(n=2)*
- total length: 0.63-0.64s
- min. freq.: 1800Hz
- max. freq.: 3450Hz
- freq. range: 1650Hz
- note shape: a long very burry start followed by an underslurred whistle

**ALTICOLA** *(n=3)*
- total length: 0.31-0.32s
- min. freq.: 1800-2300Hz
- max. freq.: 2200-3300Hz
- freq. range: 400-1000Hz
- note shape: a smooth downslurred whistle

Main differences of _atuensis_ vs. _quitensis_: _atuensis_ has longer note length (score 3), smaller frequency range (score 2-3) and lower max. frequency (score 1-2), and a very distinct note shape. -> total score 5-6

Main differences of _atuensis_ vs. _alticola_: _atuensis_ has longer note length (score 3), higher frequency range (score 2), and a very distinct note shape -> total score 5

We can thus conclude that there are major vocal differences between all three races, both in loudsong and call note.

This note was finalized on 13th July 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: Roger Ahlman, Nick Athanas, Peter Boesman, Allen Chartier, Oswaldo Cortes, Niels Krabbe, Dan Lane, Bernabe Lopez-Lanus, John V. Moore, Leonardo Ordoñez, Bob Planqué, Jeisson Poveda, Andrew Spencer, Mark Todd and Willem-Pier Vellinga.
References


Recommended citation