Notes on the vocalizations of Stolid Flycatcher (*Myiarchus stolidus*) and La Sagra's Flycatcher (*Myiarchus sagrae*)

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In the following we briefly analyze and compare voice of Stolid Flycatcher (*Myiarchus stolidus*) and La Sagra's Flycatcher (*Myiarchus sagrae*). 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).

Both species have a dawn song, a commonly-heard day-time call and several interaction or excitement calls (Fig. 1). Vocabulary of both species is thus quite extensive. We have therefore made a quick inventory and analysis of the entire vocabulary.

*M. sagrae*

1. **dawn song** (4 recordings)
   - length: 0.69-0.98s
   - length 1st note: 0.09-0.14s
   - # of notes: 4-6
   - min. freq.: 2350-2600Hz
   - max. freq.: 4400-5200Hz
   - freq. range: 1850-2800Hz

2. **a short upslurred "whit!" call** (15 recordings)
   This seems to be the primary day-time call
   - Length: 0.075-0.15s
   - min. freq.: 2200-2600Hz
   - max. freq.: 4800-5180Hz
   - freq. range: 2200-2800Hz

3. **a burry "krrri"** (3 recordings)
   - length: 0.21-0.28s
   - min. freq.: 2600-3500Hz
   - max. freq.: 4600-5300Hz

4. **a subdued "wi-ri-ri"** (2 recordings)
   - length: 0.24-0.40s
   - min. freq.: 1900-2400Hz
   - max. freq.: 4600-4660Hz
   - # notes: 4-5

and other vocalizations only found once.
**M. stolidus**

1. **dawn song** (4 recordings)
   - length: 0.99-1.16s
   - length 1st note: 0.36-0.49s
   - # of notes: 3-5
   - min. freq.: 2170-2600Hz
   - max. freq.: 5000-5500Hz
   - freq. range: 2500-3300Hz

2. **a long overslurred whistled "weew"** (6 recordings)
   This seems to be the primary day-time call (possibly with the next one just a burry variant)
   - Length: 0.36-0.62s
   - min. freq.: 2300-2800Hz
   - max. freq.: 3340-4450Hz
   - freq. range: 540-1900Hz

3. **a long burry overslurred "wheerrr"** (3 recordings)
   - length: 0.37-0.53s

4. **a buzzy "krrr"** (3 recordings)
   - length: 0.25-0.29s

   similar to vocalization type 3 of *sagrae*, but base frequency much more pronounced

   and other vocalizations only found once, such as a short "wi-di" and a harsh "chik!".

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**Figure 1:** from top to bottom: dawn song of *M. sagrae lucaysiensis* (left), *M. sagrae* (middle) and *M. stolidus dominicensis* (right), commonest day-time call of *M. sagrae* (left and middle) and *M. stolidus* (right)
It is clear from this short analysis that the day-time vocabulary of both species is quite different.

If we compare the primary day-time call, than obviously difference in length (score 3) and frequency range (score 2-3) leads to a total score of 5-6 by applying Tobias criteria.

Dawn song of both species shows similarities in that the two ending notes are very similar, but both songs can be told apart because *M. stolidus* always starts with a drawn-out whistle. Differences here are length of first note (score 3) and total length of song phrase (score 2).

Primary day-time call is equally important (cfr. e.g. the *Zimmerius* cases), for which overall vocal score is about 5.

Extensive play-back experiments have been carried out in the past (Lanyon 1667) to determine responses, and this was used to define species limits of the *Myiarchus* genus in the West-Indies. His work was probably the basis to re-elevate to species-rank *M. stolidus* and *M. sagrae*, different from prior arrangements by Hellmayr (1927) and Bond (1956).

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References


Recommended citation