

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-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
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4. a buzzy "krrr" (3 recordings)

length	0.25-0.29s
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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!".

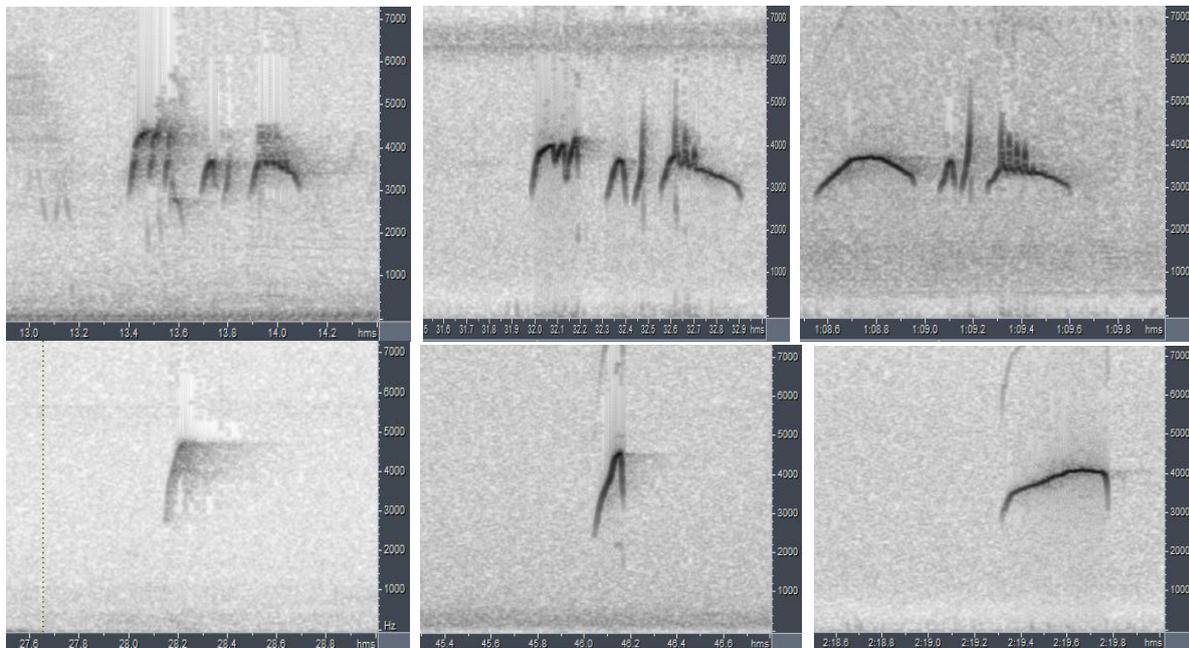


Figure 1: from top to bottom: dawn song of *M.sagrae lucaysiensis* (left), *M.s. sagrae* (middle) and *M.stolidus dominicensis* (right), commonest day-time call of *M. sagrae* (left and middle) and *M. stolidus* (right)

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

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