A Glossary Guide to Bird Calls and Songs in Dominica, WI

By Andrea Walker

Texas A&M University – Study Abroad Dominica
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Dr. Tom Lacher

Dr. Jim Woolley

Introduction

The island of Dominica has an area of 754 square kilometers[1] with 176 recorded bird species[3] present on the island. Dominica is also home to two endemic bird species -- the Jaco (Red-necked Parrot) and the Sisserou (Imperial Parrot) which are very significant to the island. The island itself is a relatively new and undisturbed location, making it ideal for birding. There are guides to the island's birds themselves, with information such as description, habitat and nesting; however no glossary to vocalizations is present. Birds can be seen and heard almost anywhere from a house's backyard to a beach, the dry scrub forest to the rainforest. Many birds are known to be active and vocalize in the early morning and at before dusk[2]. But many birds may also be seen and heard throughout the day as well.

I wanted to create a guide to bird calls and songs heard around Dominica, because they can be very unique, territorial and/or elaborate. During a three week stay in the Archbold Tropical Research and Education Center (ATREC) at Springfield, I recorded many calls. I also wanted to record calls and songs from different environments around the island. Other locations I went to and recorded include Morne Trois Pitons National Park, Cabrits National Park, and Morne Diablotin National Park.

In my guide I have identified the calls and included a description of the recorded call, location of the call, date recorded, type of call, any commentary I wanted to incorporate and images of both waveform and spectrogram of the call. I have also included calls heard and recorded but not identified. Any speculations about the mystery calls are stated in the discussion section. I was able to record calls from nine different species of birds; however, more than one type of call was recorded for several birds, making a total of twelve identified calls altogether and eleven unidentified calls as well.

Materials

Marantz Professional Portable Solid State Recorder Model PMD660

SHURE BG 4.0 Directional Microphone

Wind Shield (For Microphone)

Switchcraft Rapco “RSMCA” Balanced Line Mic Cable

Sennheiser HD201 Headphones

Plastic Bags (for waterproofing)

Nikon Binoculars 7x35 power

Raven Pro 1.3 Interactive Sound Analysis Software

USB cable

Methods and Site Descriptions

I would assemble the recording equipment and head out on the trail to listen for calls. I walked several trails around ATREC itself and in national parks around the island. I went out on the trails at ATREC at 5:30 or 6am to record the calls several times as well as staying on the veranda to listen for songs as well. I would walk, wait, and listen for an hour to an hour and a half in the morning recording sets.

When I walked down the Western L’etang Trail, I would walk until a clearing was visible, hopefully with edges of trees where birds are more likely to perch and interact. I would wait for activity or record calls being made. After several minutes of recording or waiting, I would move on and find a further clearing. As I walked I would also listen for sounds that would be good additions to the guide. At ATREC I also stayed on the veranda overlooking the butterfly gardens and hummingbird feeders. Here I would either wait for calls or target species to record

in the morning sets. At other times of the day I would dash and grab the equipment, assemble it and hope the call was still being made by the time I returned to the veranda. The other trail used in ATREC was the trail up to Bee House, where I used recording tactics akin to those described with L'etang Trail.

To record calls from different locations, I carried the equipment on several hikes in various parts of the island, which included Middleham falls on May 24, the West Trail in Cabrits National Park and Syndicate Trail in the Northern Forest Reserve on May 27, Freshwater and Boeri Lakes on May 29, and Boiling Lake on June 5. When hiking elsewhere, it was more hit or miss when recording calls, for there were several difficulties including timing, wet weather, precautions for safety of the equipment, or personal physical safety during the hikes (this included putting away the equipment to focus on slippery stairs or trails).

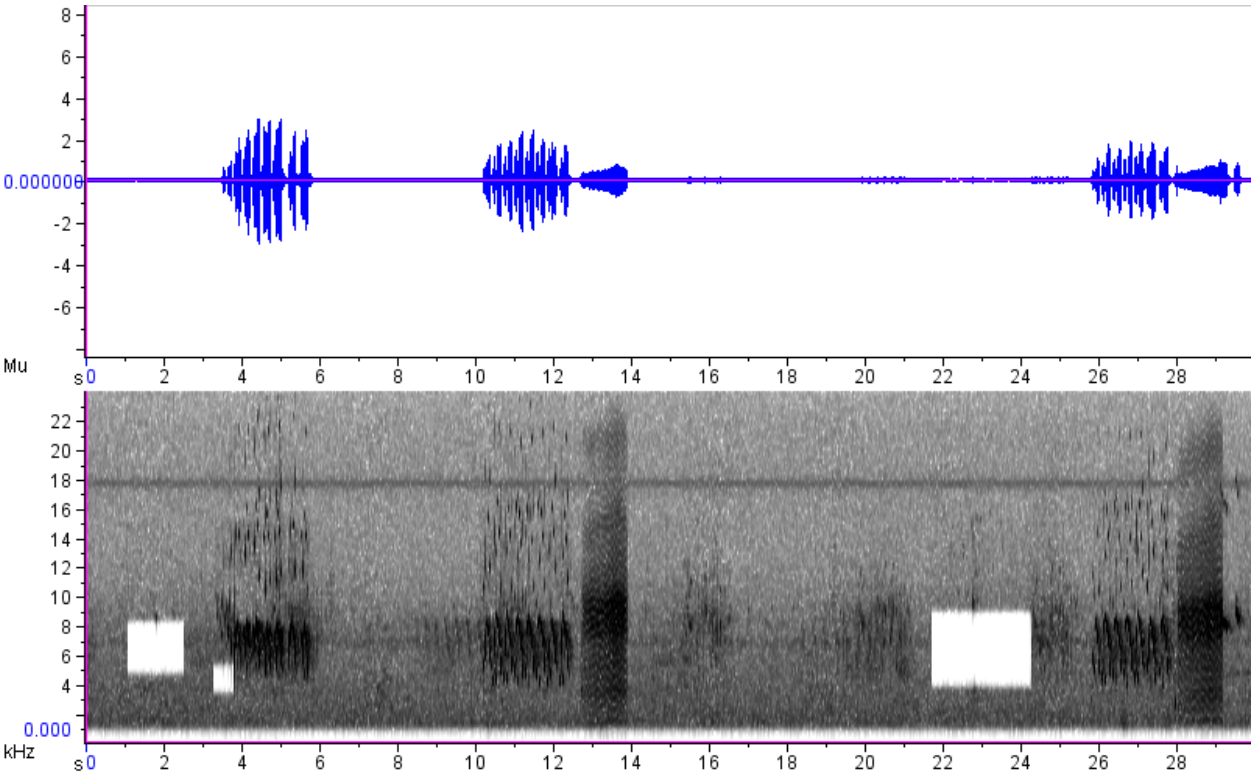
For each of the hikes I would stay on the trail carrying the equipment in my backpack until I heard a promising call, and would then assemble the recorder out of the waterproof baggies. For time's sake I would usually keep out the recorder after I took it out, disassembling it and putting it inside the baggies when the terrain became too difficult or if weather turned bad. To reduce the interference noise such as talking or wind I would try to stay behind the other hikers and block the wind with my body. When recording I would also point the microphone to the source of the sound and recorded at the highest quality of 48k samples per second with .wav format.

After recording the call, I would transfer the files onto the computer and edit them using Raven Pro 1.3. I would crop the sound to focus on the part I wanted to save and I would edit the sound files by marking selections and amplifying, filtering out interference noise like static and wind, and save the files as size 24-bit wav files.

Results

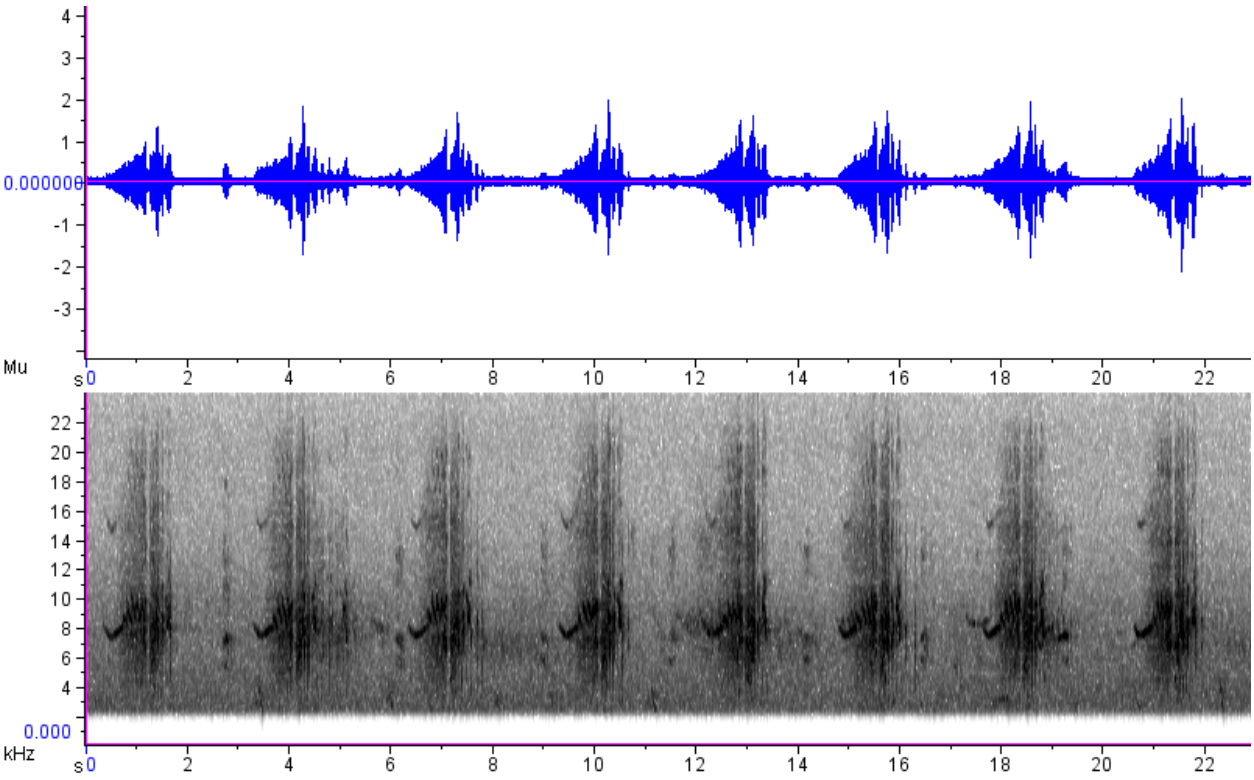
Lesser Antillean Bullfinch (*Loxigilla noctis*)

Recorded on the veranda the morning of May 25. This call is a distinctive set of several short peeps (usually nine or so) repeated over and over. This recording also shows an occasional mimic sound of mewing repeated after the initial peeps. This mewing mimic is believed to be a copy of the Brown Trembler's call. This call is very common and can be heard on a majority of the island.



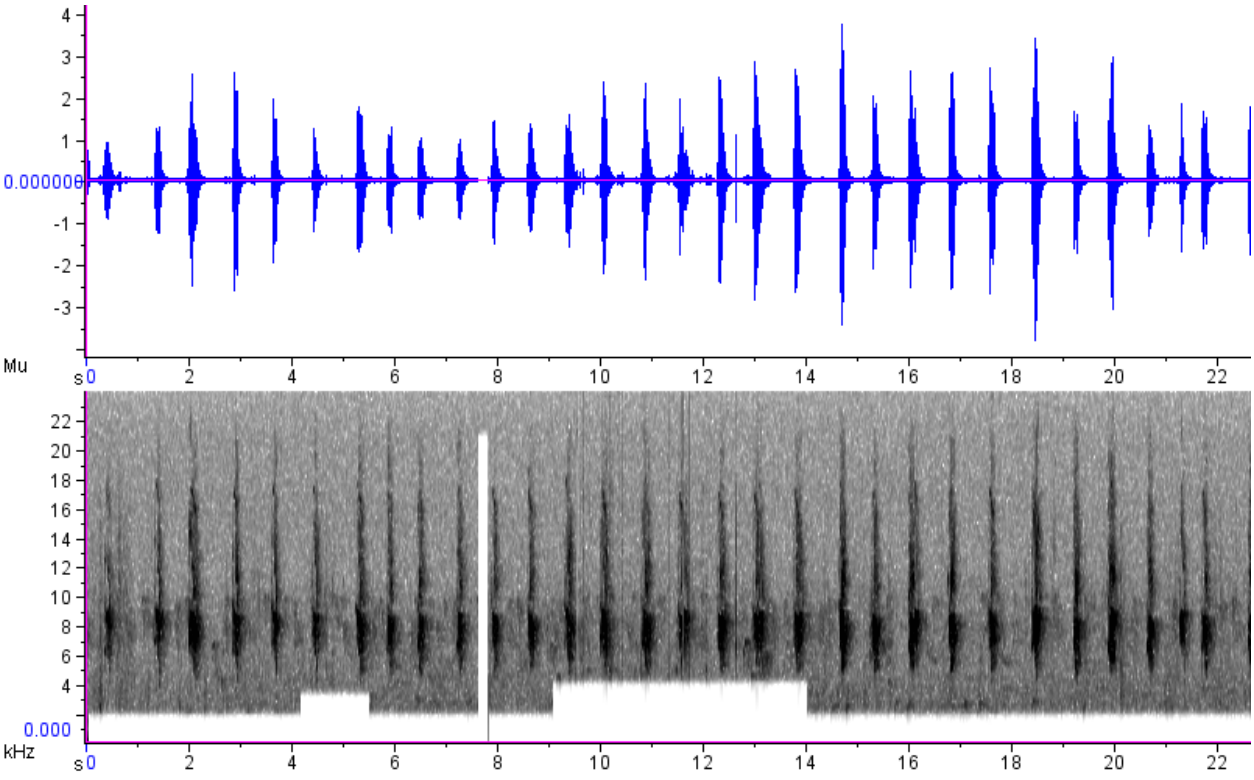
Bananaquit (*Coereba flaveola*)

Recorded on L'etang Trail the morning of May 23. This common Bananaquit call is a short crescendo of a high-pitched squeak followed immediately by repeated waves of high-pitched 'e' sounding noises. The Bananaquit is another bird found all over Dominica.



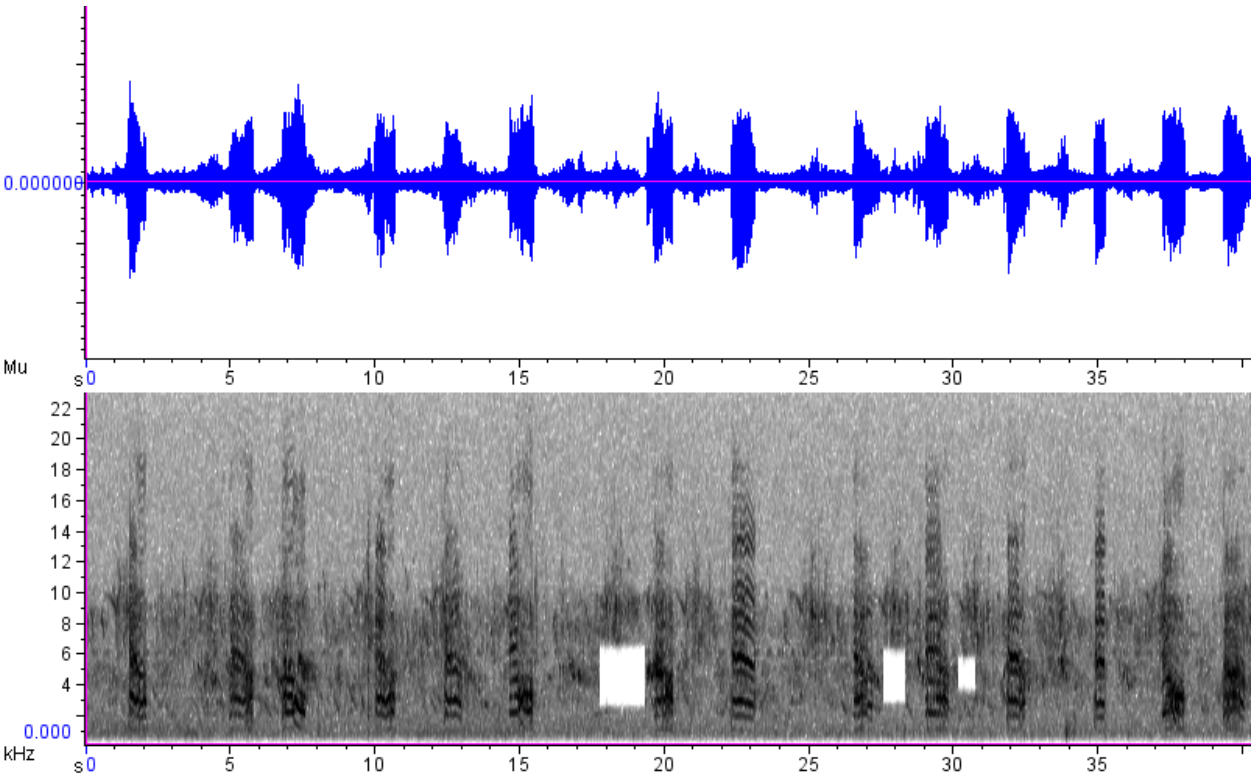
Bananaquit (Juvenile)

Recorded on L'etang Trail the morning of May 29. This is a recording of a juvenile Bananaquit peeping, on a branch in the open.



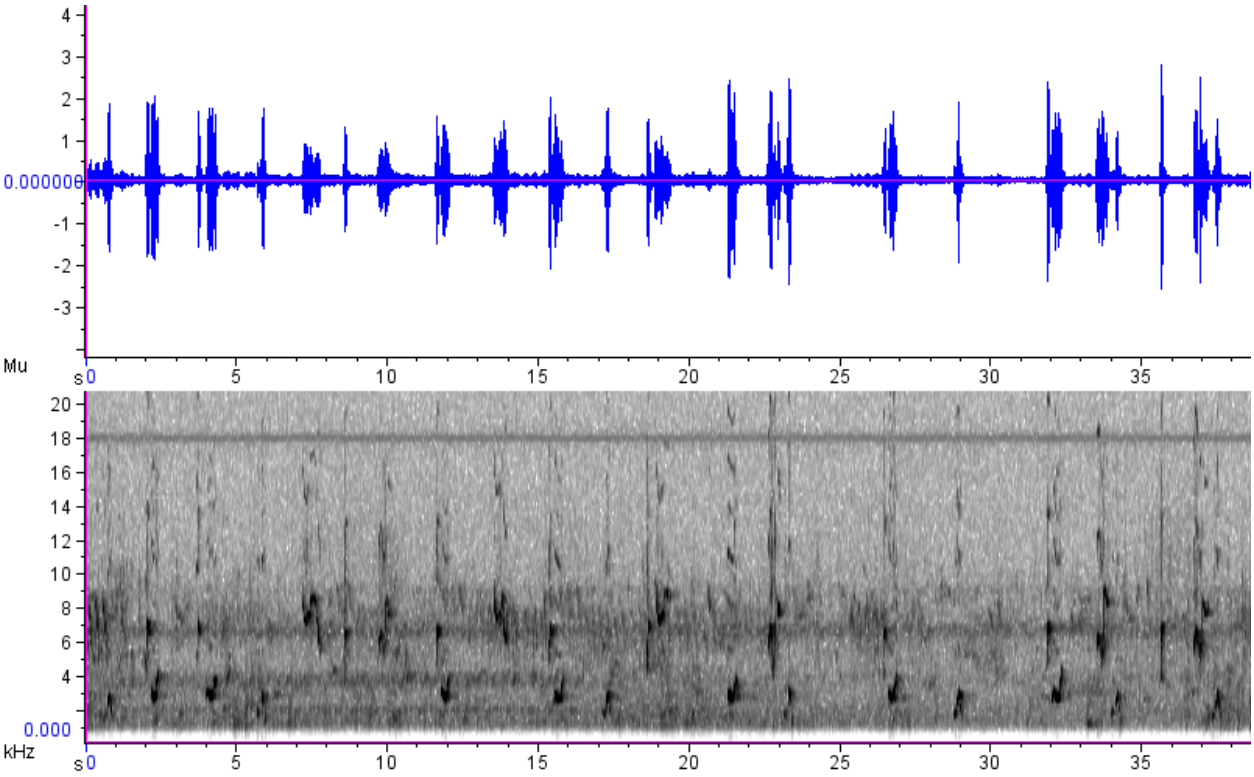
Brown Trembler (*Cincliotheria ruficauda*)

Recorded on the veranda the morning of May 26. This common Brown Trembler call is a stressed mewing sound repeated multiple times. It is mimicked by the Lesser Antillean Bullfinch in part.



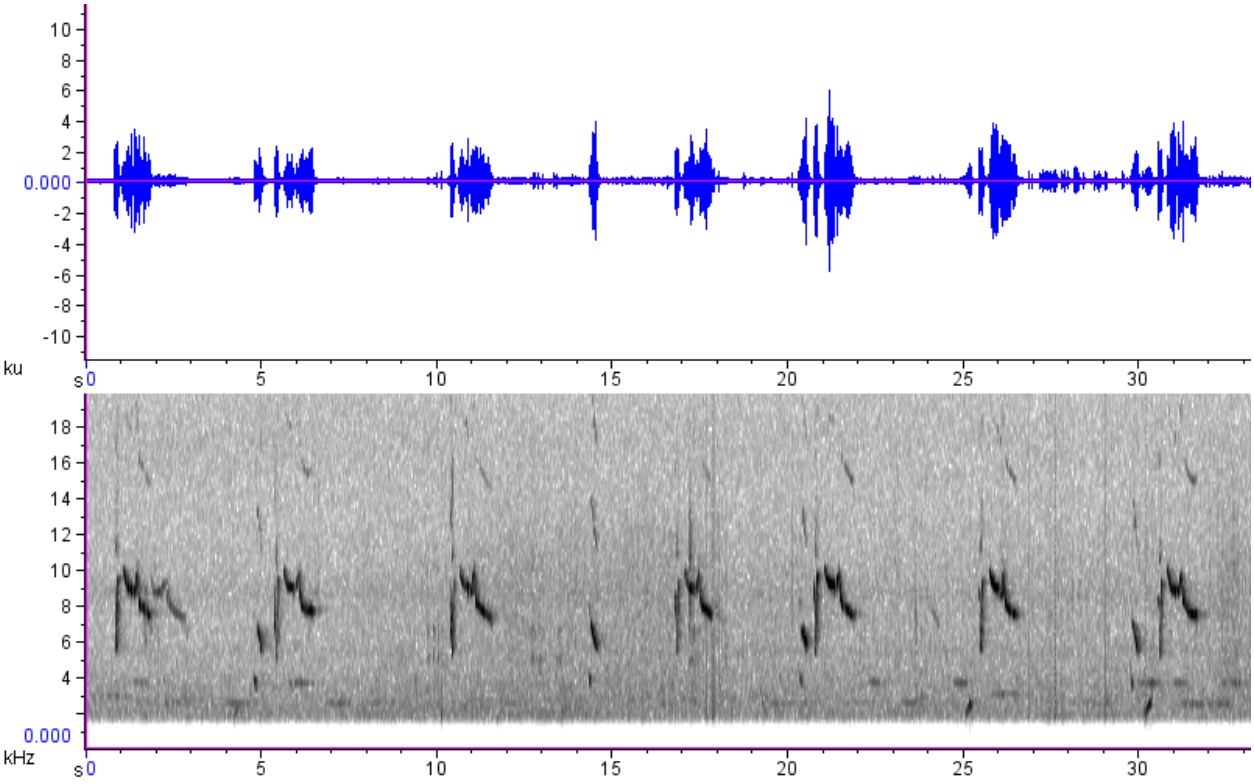
Brown Trembler (Song)

Recorded on the veranda the morning of May 23. This is believed to be the song of the Brown Trembler. It is a longer song made up of several sounds. I was unable to decipher a repeated pattern to this call, as it seems to be made up of multiple pitches of squeaks in a combination of tempos and paces. There is a common slow-fast-fast, low-high-low note triple squeak as well as a ‘swee-swee’ sound followed immediately by another set of triple notes, fast-fast-fast, high-low-low note notes. This song was heard only once, after I pished to it in an avocado tree.



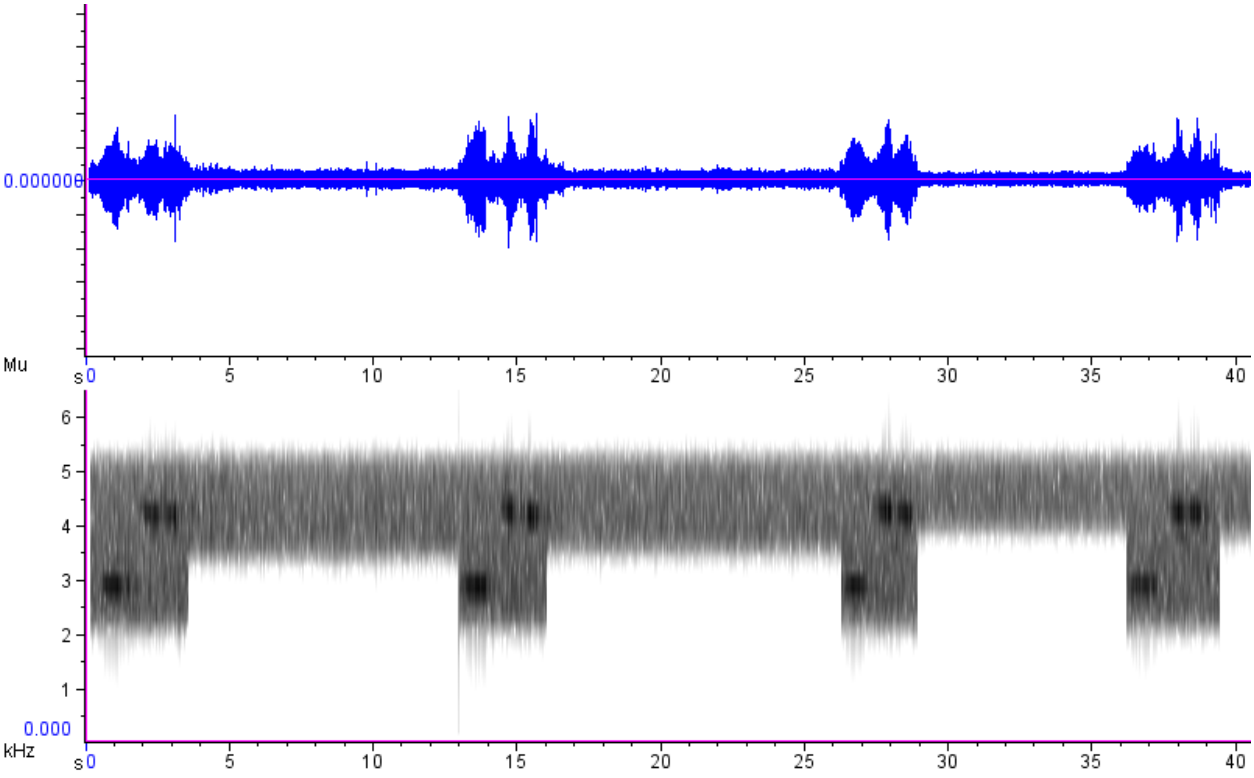
Pearly-eyed Thrasher (*Margarops fuscatus*)

Recorded on the hike from Boiling Lake, June 5. This call is a series of connected high-pitched whistles in sets of three. The sets are slow-fast-fast as the first two whistles sound almost meshed together. This bird is more private and concealed then much more common birds and was seen only twice in three weeks, both times at Boiling Lake.



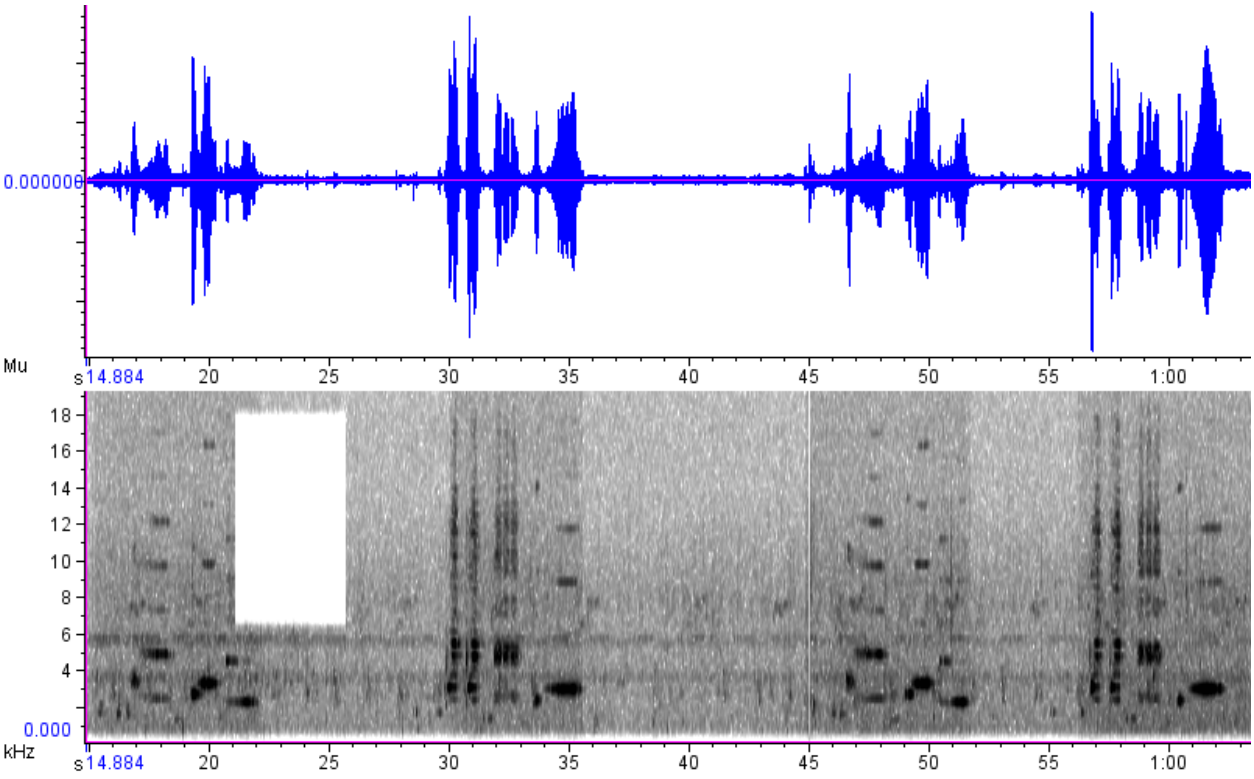
Rufous-throated Solitaire or Mountain Whistler (*Myadestes genibarbis*)

Recorded on the hike to Middleham falls, May 24. This recorded call is the mostdistinctive set of whistles sounding ‘slow-slow’. The second whistle can also broken down to two distinctive parts on occasion. This bird is most commonly heard instead of seen, and has a large repertoire of whistles. It is a very widespread bird in forest areas and pairs will often duet together as call-and-responses.



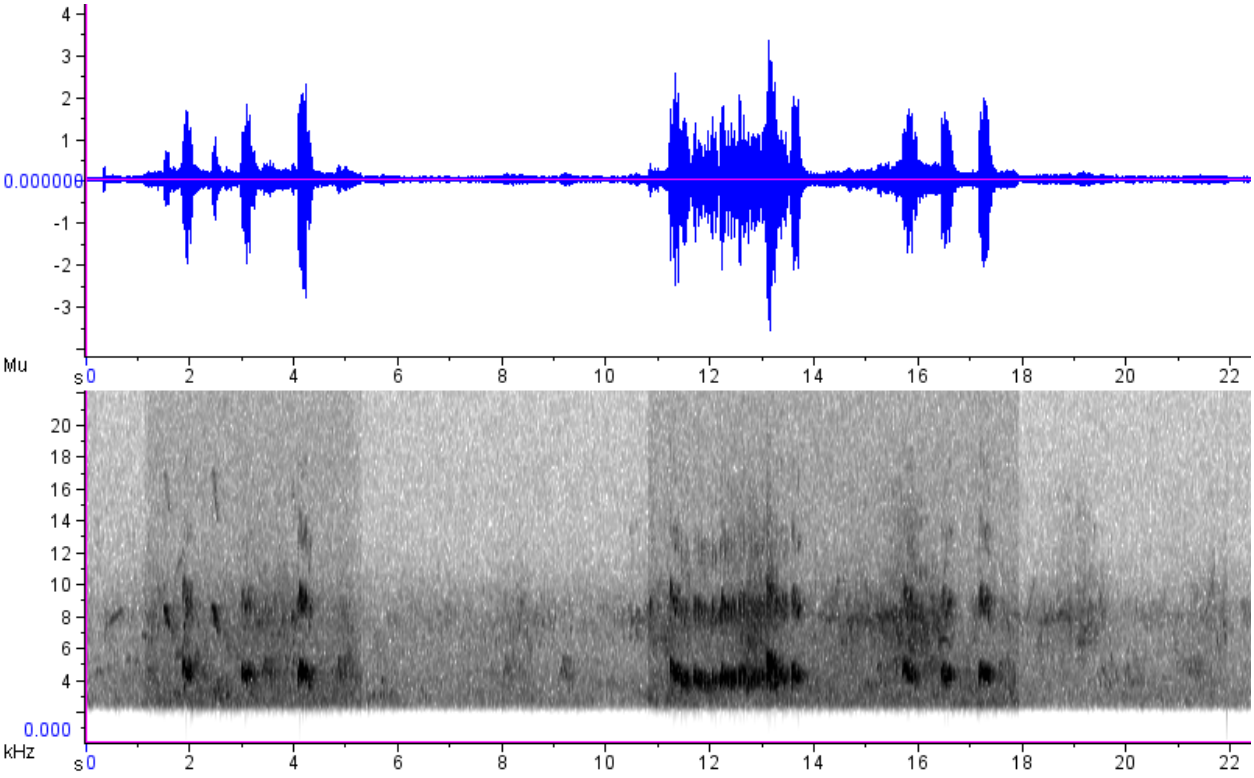
Rufous-throated Solitaire or Mountain Whistler (Territorial call)

Recorded on the hike back from Boiling Lake on June 5. This call is much more complex then the common double whistle of the Solitaire and is made up of two verses repeated over. The first part of the call comprises of three low quick notes immediately followed by a pair of short-long creaking mews. Then two pairs of two whistles sound, fast-slow, then slow-slow. The second part of the call starts out with two longer saw-like whistles, slow-slow, then a triple fast whistle is made and lastly a fast-slow whistle of finality.This is a territorial call of the Solitaire as it was seen perched with its mate high in a tree protecting their territory.



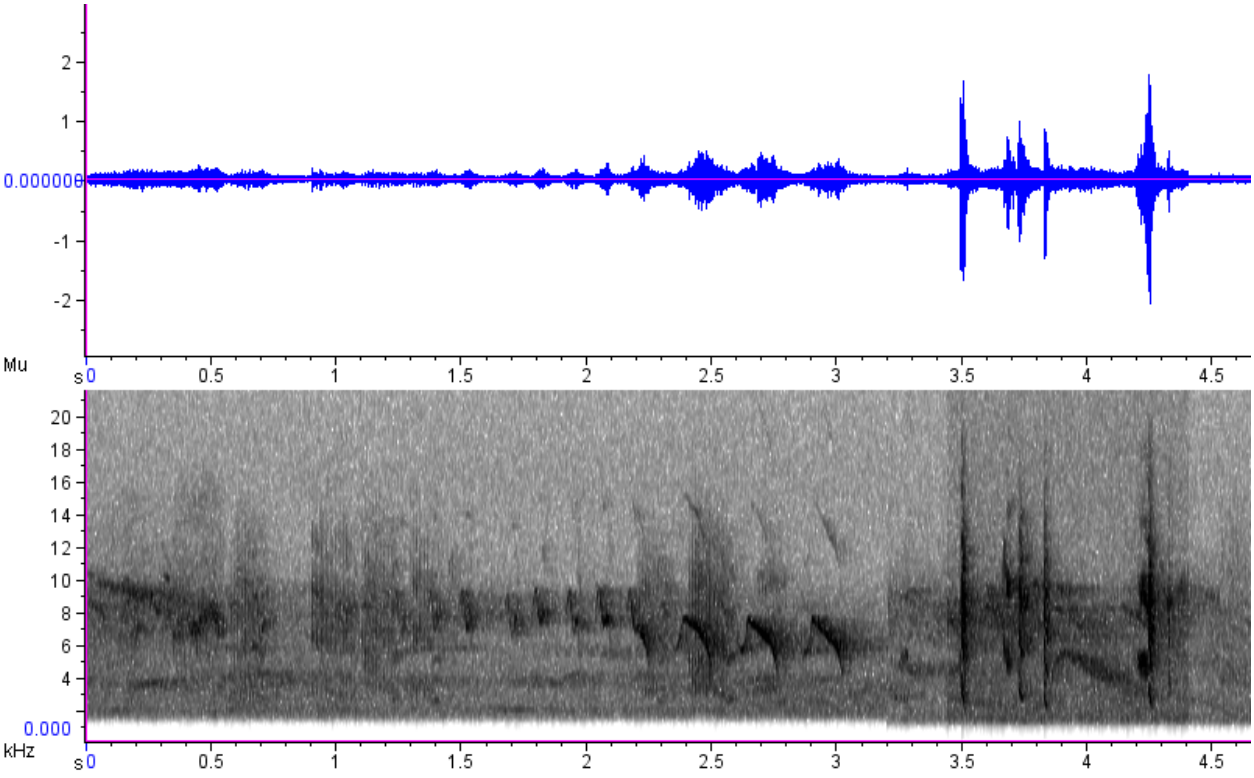
Grey kingbird (*Tyrannus dominicensis*)

Recorded on the veranda the morning of May 26. This Kingbird's call is composed of differing lengths of spurts. The spurts sound like a fast squabbling 'peet-er-ee'. This bird was seen and heard perched on palms in open clearings around Springfield, but not seen much elsewhere.



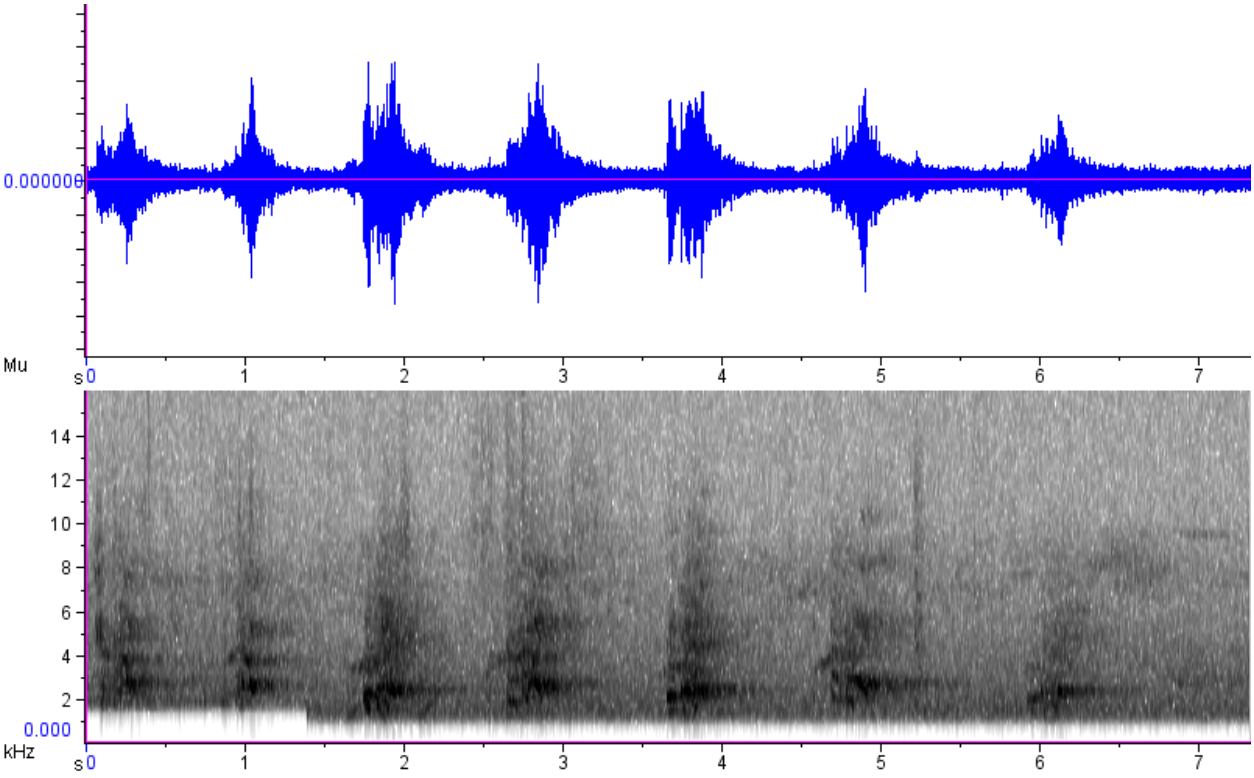
Purple-throated Carib (*Eulampis jugularis*)

Recorded on the veranda overhanging the nectar feeders the morning of May 26. Hummingbirds of Dominica do not often make sound when they are by themselves. This call was recorded as a pair of hummingbirds squeaked at one another in a competition for the nectar feeder. The sound is several clicks repeated in a very rapid annoyed fashion. The fluttering of their wings can also be heard in the background.



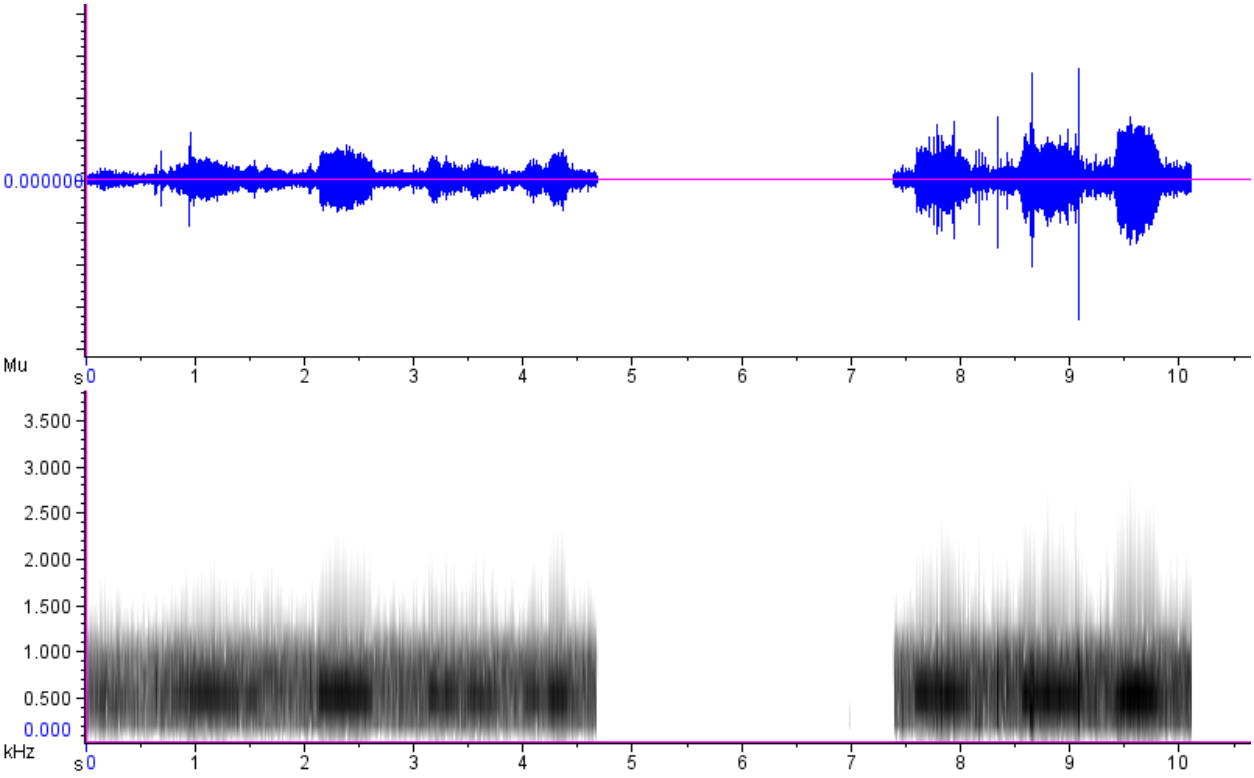
Jaco or Red-necked Parrot (*Amazona arausiaca*)

Recorded near Syndicate trail's overlook on May 27. This is the flight call of one of the two endemic parrots of Dominica. The sound is multiple croaking squawks. With this specific call, the parrot was flying away from the microphophone and you can hear an auditory reduction with the later squawks.



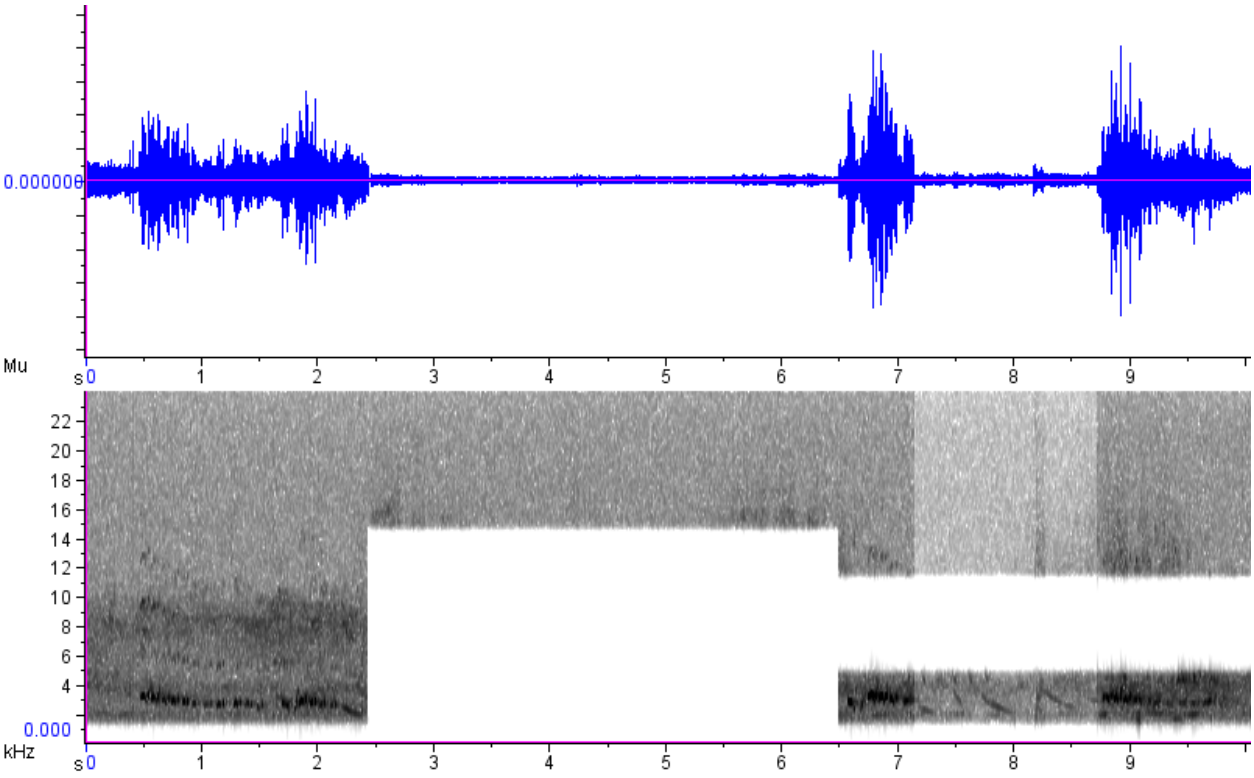
Zenaida Dove (*Zenaida aurita*)

Recorded at the L'etang trail on May 29. The phrasing of this call sounds like a stretched out low 'whoo-ooh-ooh-ooh' cooing sound. This call can be difficult to pick apart at first when other more noisy calls of other birds are being made, but it has a lower pitch so it is still audible. This cooing was heard at several locations, including the forests.



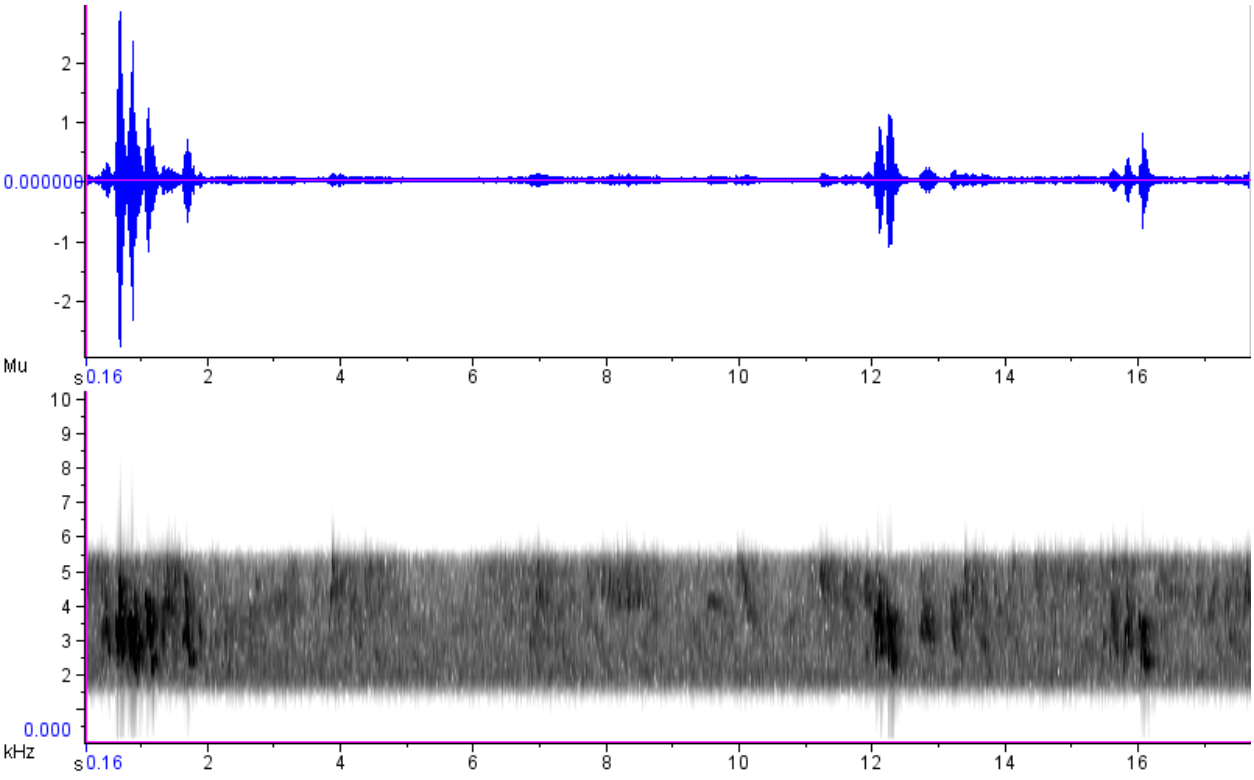
Mystery Call One

Recorded in the morning on Bee House Trail May 31. This call sounds like cascading burbles, a rapidly repeated fluctuating ‘peep’ing sound.



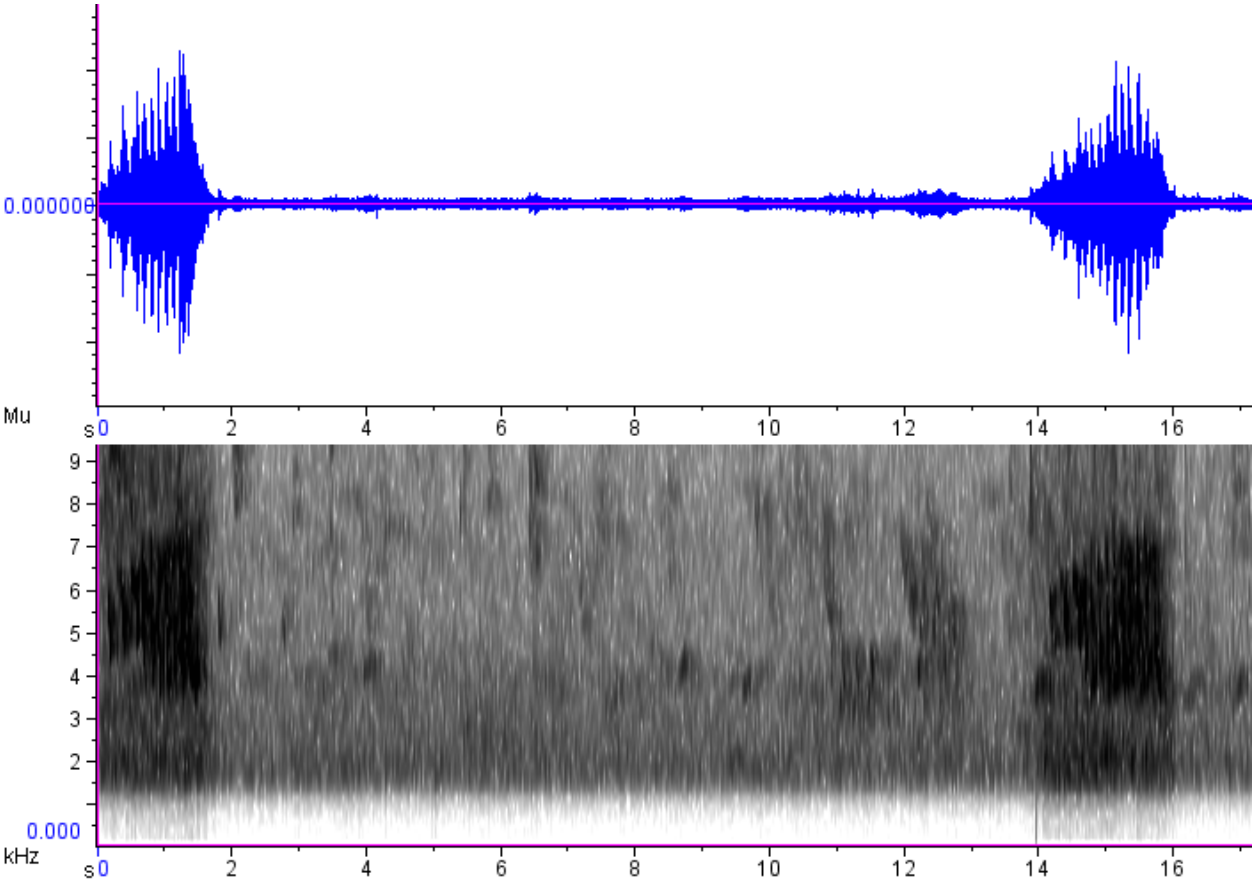
Mystery Call Two

Recorded at the veranda May 28. This call is composed of sets of chirps, from two to six chirps in sets and clusters.



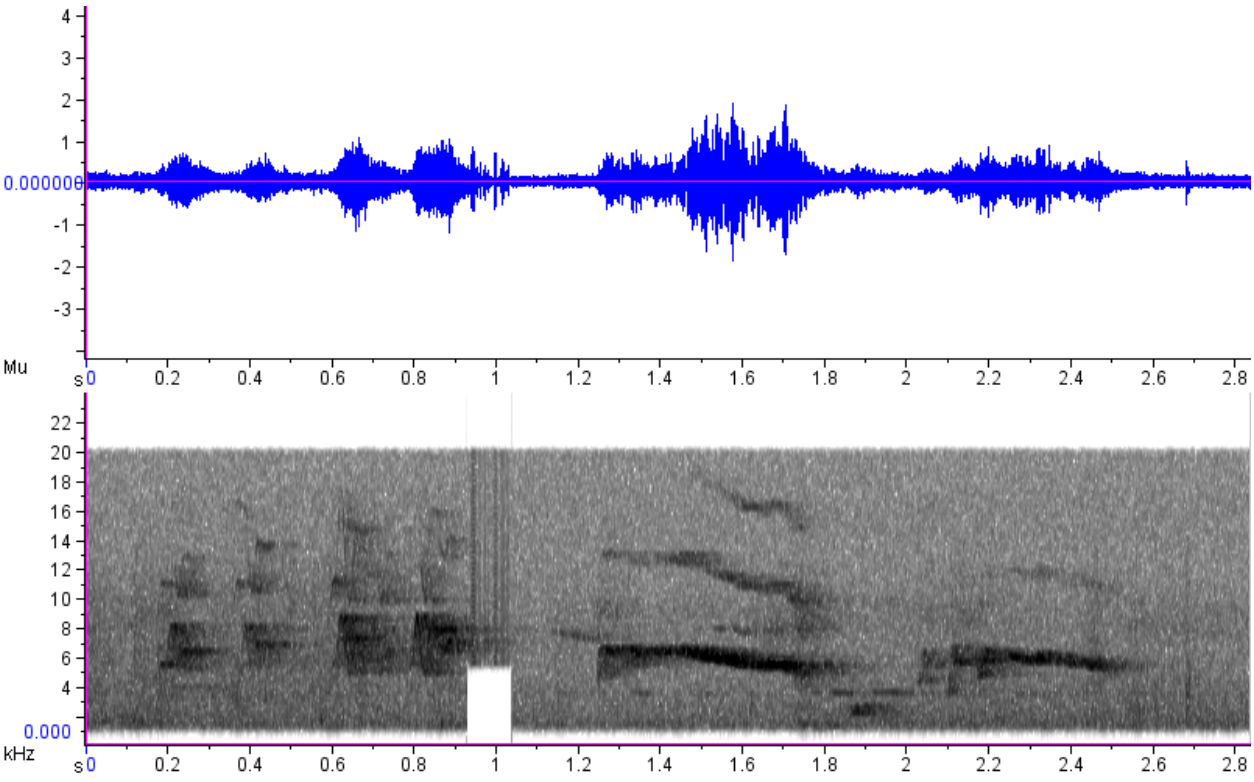
Mystery Call Three

Recorded on Syndicate Trail May 27. This call is consists of two parts sung one after the other. This first part is a set of three higher-pitched peeps immediately followed by about seven to eight rapidly stuttered peeps or squeaks.



Mystery Call Four

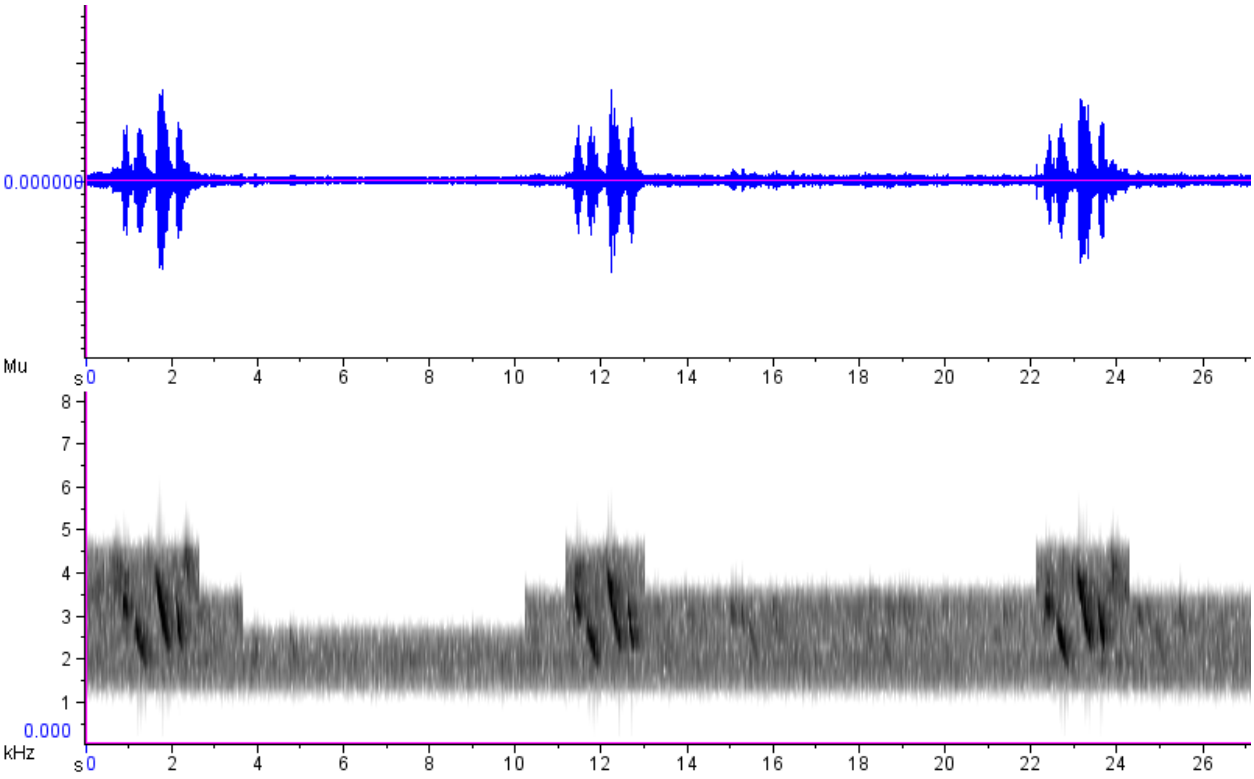
Recorded at Boeri Lake May 29. This call is a three part series. The first part is made up of four squeaks equally spaced apart. Then there are two whistles, the first of which is higher in tone and longer in length then the second whistle, which is shorter and wavers in tune a bit.



Mystery Call Five A

Recorded in the morning at Bee House on May 31. This call consists of three parts, either with or without a last crescendo. The beginning of this call is a ‘teeter’ two syllabic peeps followed immediately by the middle sound of a fast paced ‘tee’ sound. The ending consists of a longer high-pitch crescendo after a double ‘peep-peep’ in a ‘peep-peep-pureep’ as last syllable crescendos. The shorter call ending simply skips the crescendo ‘pureep’ sound.

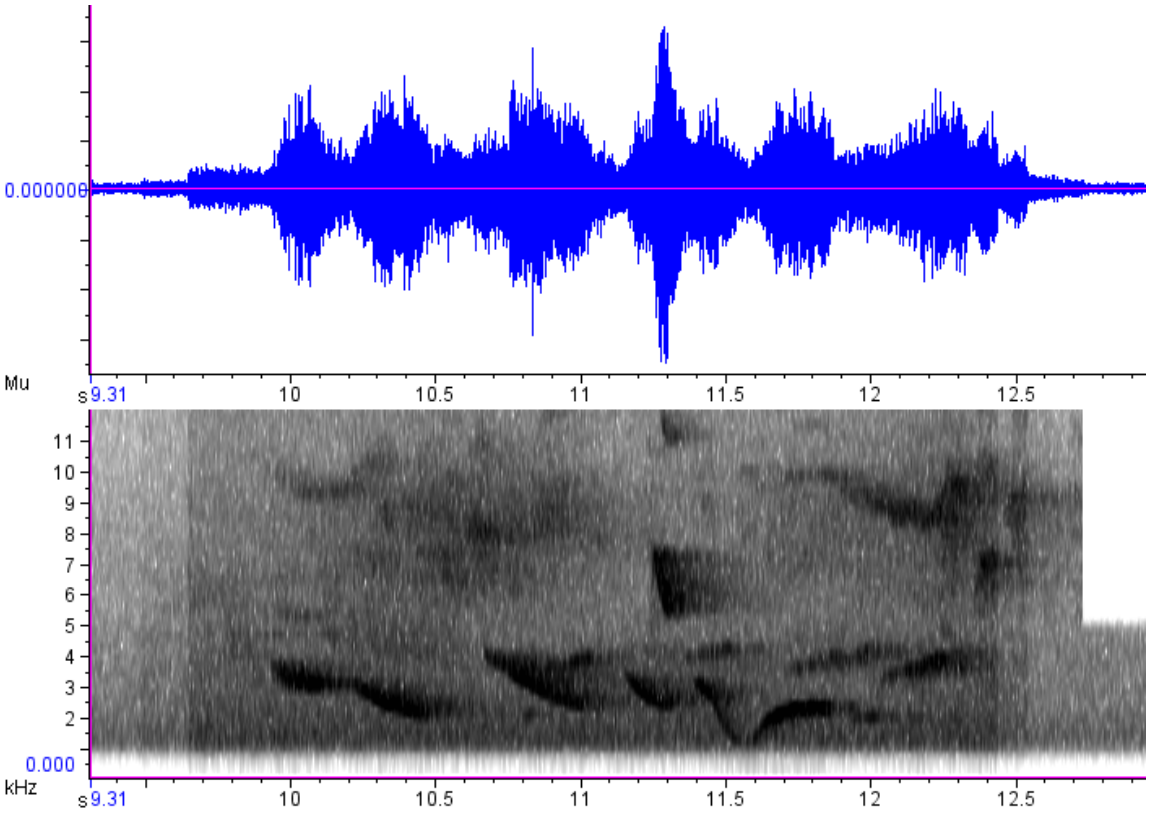
(Normal short call without last ‘pureep’ sound)



Mystery Call Five B

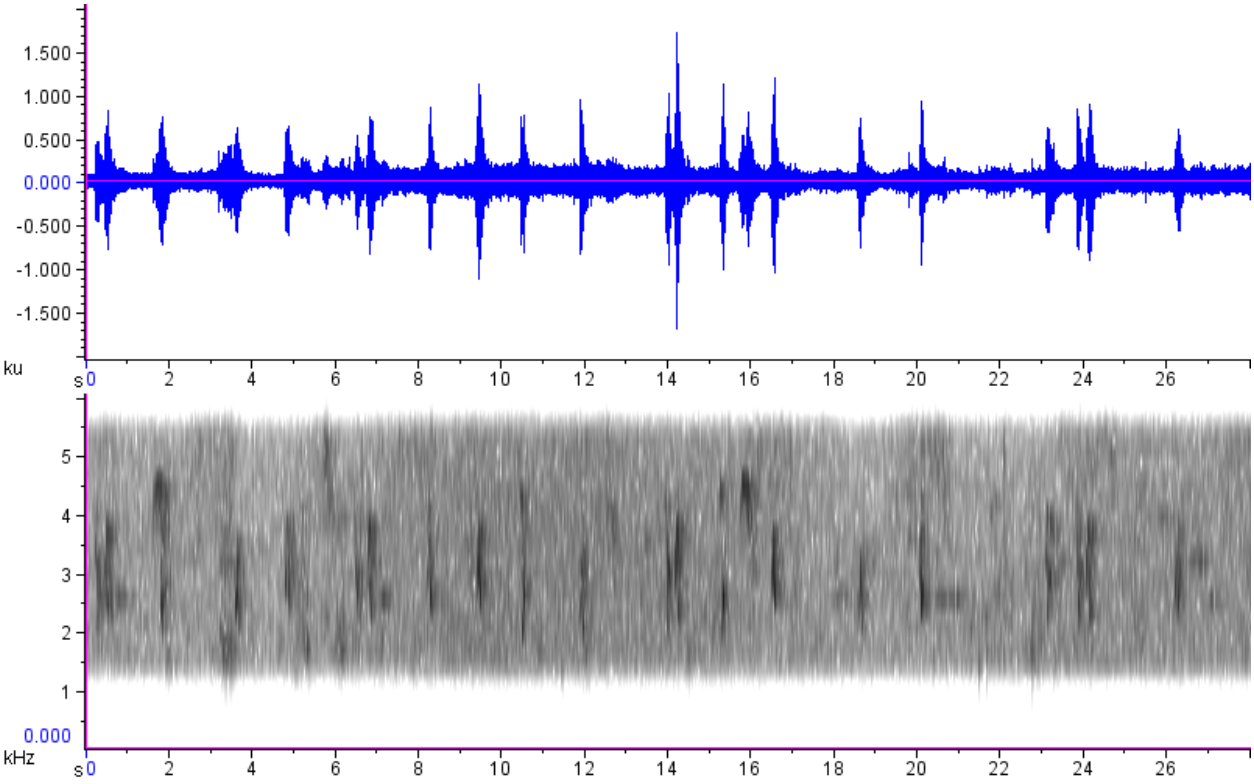
Recorded at Syndicate Trail May 27. Call description same as above.

(A close-up of the alternate ending, ‘pureep’ crescendo. Note the extra peaks on the waveform.)



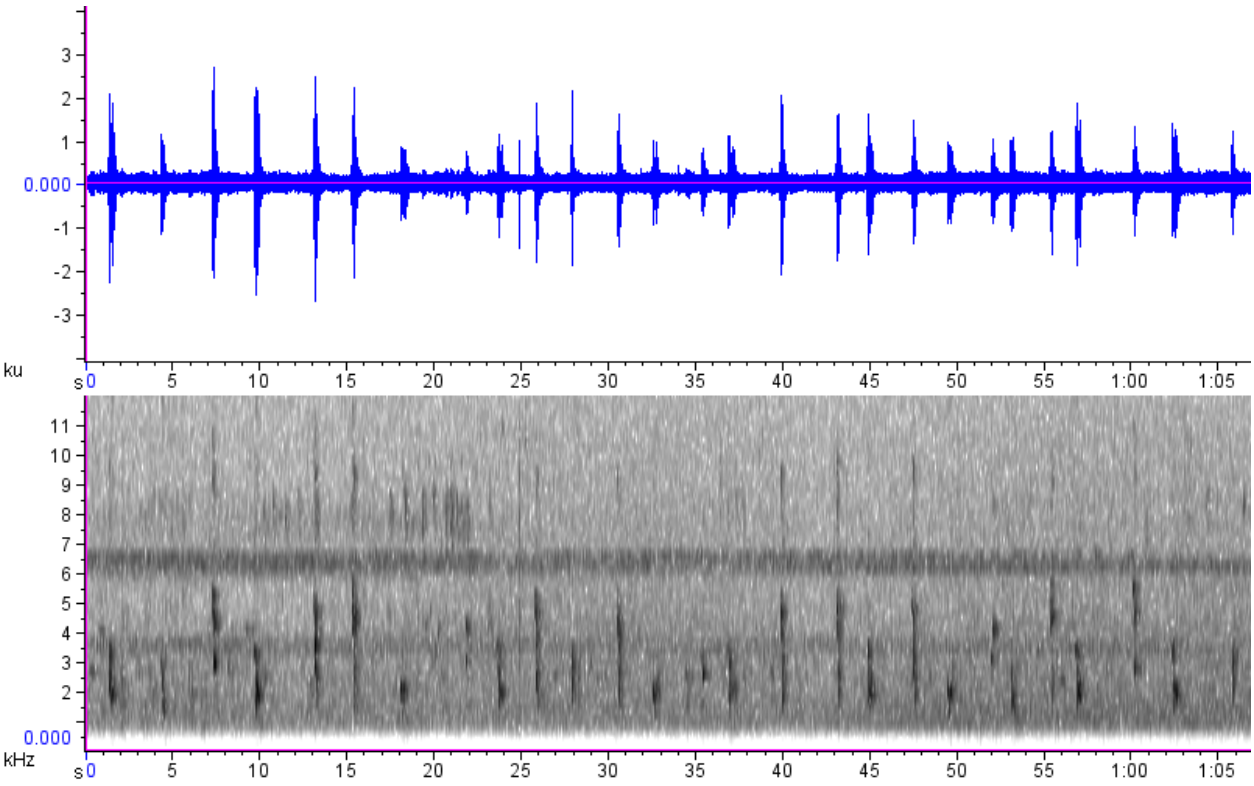
Mystery Call Six

Recorded on Syndicate Trail May 27. This call is a mixture of spaced out peeps and squeaks. They are fast paced but spread out, as single peeps as opposed to double or triple sounds. However, the peeps have two syllables most times. This call has similar structure and pitch to Mystery Call Seven.



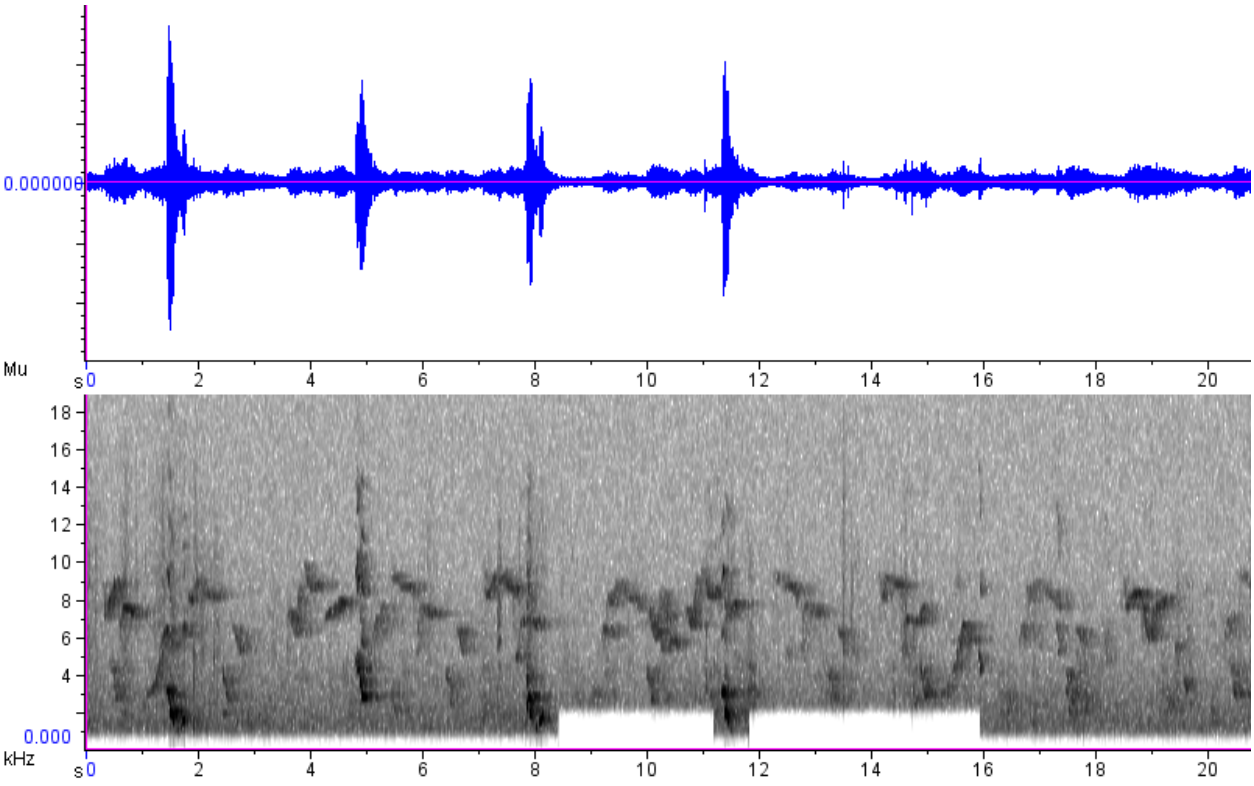
Mystery Call Seven

Recorded on L'etang Trail on May 23. This call is made up of evenly spaced peeps and squeaks. Some peeps sound similar to a rapid 'chirrup'. This call has similar structure to Mystery Call Six. This call is believed to be from the same species of bird as call Eight.



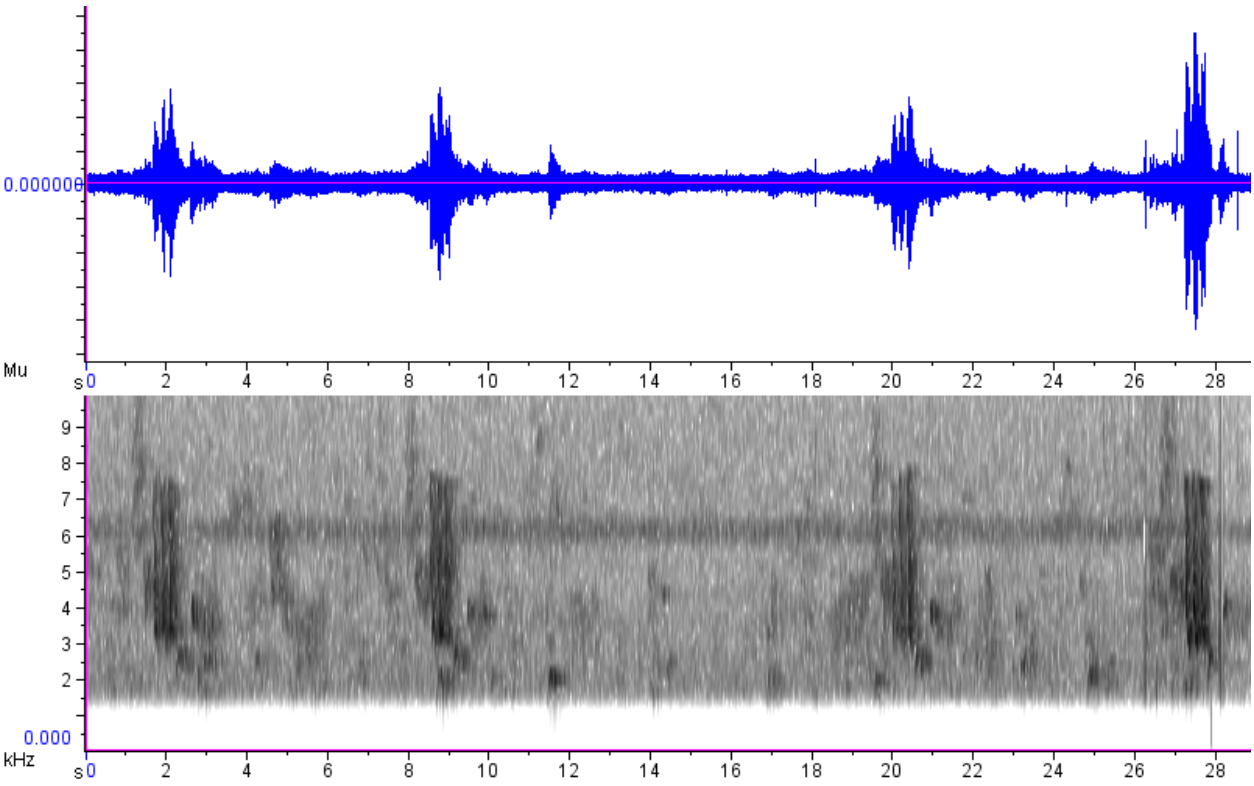
Mystery Call Eight

Recorded on the veranda May 28. This call is made up of two parts, an outer high-pitched squeaking part that is almost inaudible, and a lower middle part. The middle part is sandwiched between the high squeaks and sounds like a fast warbling ‘chirrup’. The call sounds ‘high-low-high’. It has fairly unorganized structure and pattern, and can be hard to decipher. This call is believed to be from the same species of bird as call Seven. Part way through the call, the ‘chirrup’ sound is not made anymore.



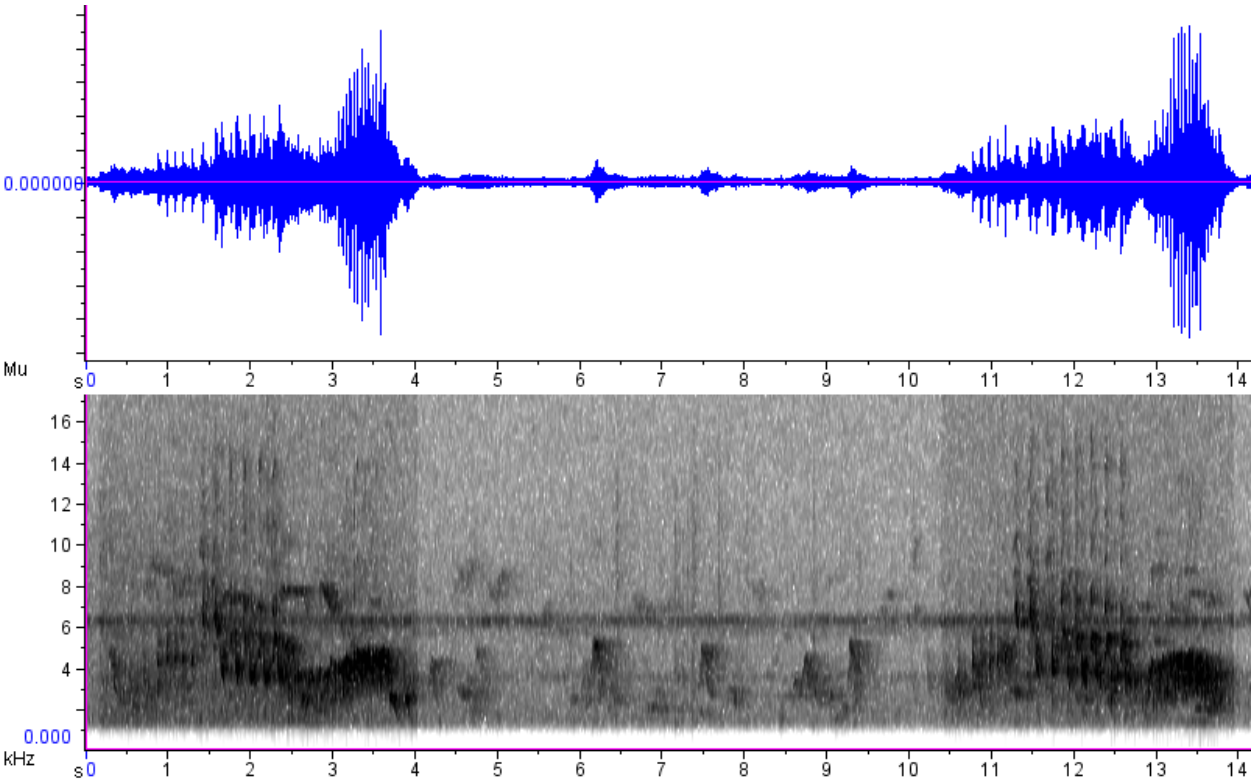
Mystery Call Nine

Recorded in the morning at L'etang Trail May 23. Mystery Call Nine consists of a series of three fast peeps followed by a low note and then a higher note for a total of three parts in this repeated call.



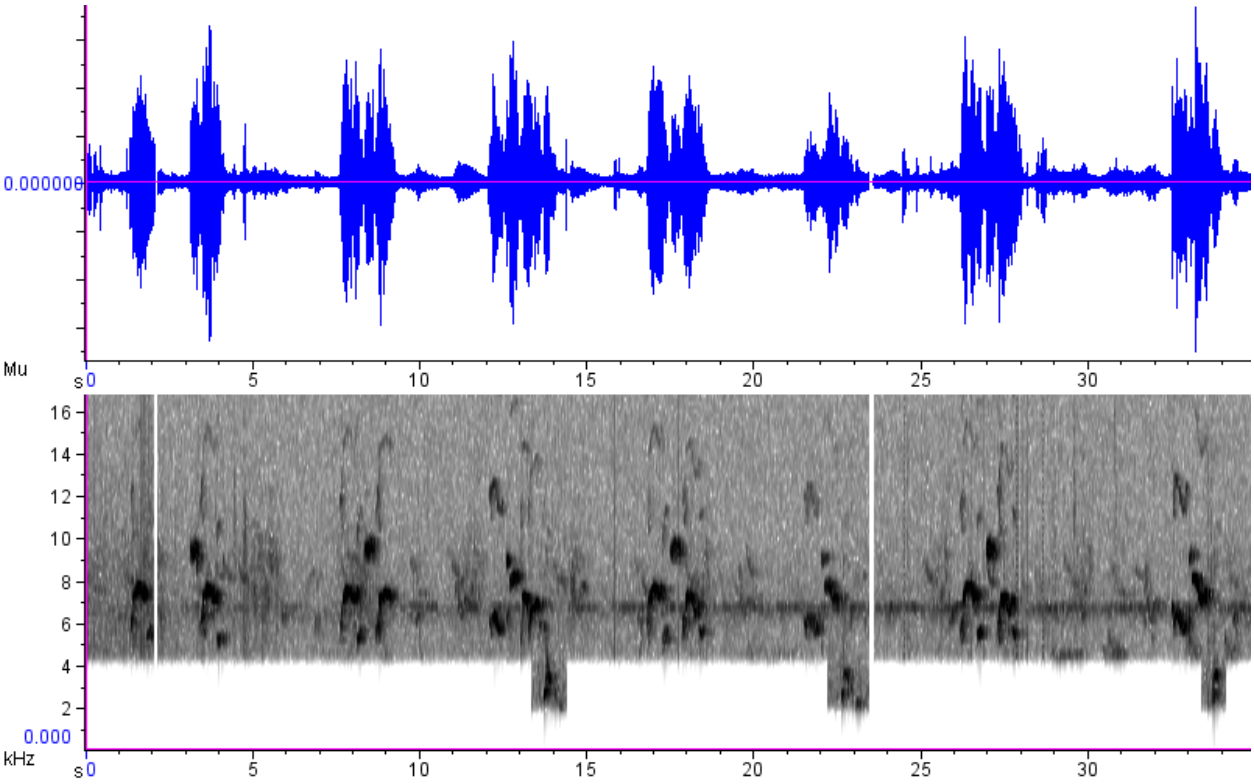
Mystery Call Ten

Recorded in the morning at L'etang Trail May 23. I believe this call sounds the most complex and is made up of several parts per cluster of song. There are four parts to this call, the first two being peeping clicks followed by a crescendo of burbles and a last double peep occasionally. The first set of peeping is fairly faint and is followed by the louder peeping of the second set of peeps. These peeps are trailed by a crescendo of squeaky burbles. The fourth part to this call is not always made, and is a simple lower toned double peeping sound.



Mystery Call Eleven

Recorded on L'etang trail the morning of May 23. This call at first seemed to be from the Rufous-throated Solitaire, however upon closer inspection it didn't have the whistle-pitch quality the Solitaire exhibits. I'm not sure whether the three lower sets of squeaks (as seen in the spectrogram) are part of the high-pitched peep-like whistles or not. The main sounds of the call are made up of disorganized peep-like whislings in sets of two to five, often alternating pitch as low-high, low-high or vice versa.



Audio CD Track Listing

Identified Calls

1. Lesser Antillean Bullfinch (*Loxigilla noctis*)
2. Bananaquit (*Coereba flaveola*)
3. Bananaquit - Juvenile
4. Brown Trembler (*Cincliotheria ruficauda*)
5. Brown Trembler - song
6. Pearly-eyed Thrasher (*Margarops fuscatus*)
7. Rufous-throated Solitaire (*Myadestes genibarbis*)
8. Rufous-throated Solitaire - territorial
9. Gray Kingbird (*Tyrannus dominicensis*)
10. Purple-throated carib (*Eulampis jugularis*)
11. Red-necked (Jaco) Parrot (*Amazona arausiaca*)
12. Zenaida Dove (*Zenaida aurita*)

Unidentified Calls

13. Mystery 1
14. Mystery 2
15. Mystery 3
16. Mystery 4
17. Mystery 5A
18. Mystery 5B
19. Mystery 6
20. Mystery 7
21. Mystery 8
22. Mystery 9
23. Mystery 10
24. Mystery 11
25. Bonus Track (West trail no editing)
26. Bonus Track (no editing)

Discussion

Birds call and sing to communicate to other birds, claim territory, find mates, and many other reasons. I have identified several common calls made by Dominican birds and recorded many I was unable to identify. On the hikes around Dominica and at ATREC many other birds were seen, however their songs weren't recorded (unless the call has been classified as a mystery). Birds were often seen actively foraging, which is one reason the call was not being made. Birds that were seen commonly foraging include the Yellow Warbler (*Dendroica petechia*), Black-faced Grassquit (*Tiaria bicolor*), Antillean Crested Hummingbird (*Orthorhyncus cristatus*) and the Black-whiskered Vireo (*Vireo altiloquus*).

After I cleaned up the mystery calls I searched the Macaulay Library, an online sound and video catalog[4]. Even after extensive searching there I was still unable to identify the calls.

With the unidentified calls I found several similarities within calls six and seven. At first I even questioned if the calls were from the same species of bird. Eventually I decided they were indeed different calls, from different species. The frequency of both calls range from one to six kHz and appeared to have the same approximate length between peeping sounds. However, when listening to the physical sound there is an audible difference in that call Seven has a slightly wider frequency and sounds more syllabic when compared to call Six.

After more comparison, I strongly believe that Mystery Calls Seven and Eight are from the same species of bird. I originally believed that part of call Eight included high pitched chattering squeaks that were being displayed prominently on the spectrogram. However, after listening through the calls another time, I picked out the 'chirrup' sound common in both files. This suggests that the high-pitched frequency squeaks are made by a different species of bird.

However when I worked in Raven to separate out the chattering from the 'chirrup' sound, the squeaking wasn't distinct enough to identify either.

An interesting way to update or restructure a project similar to this would be to focus on birds known to have a very large repertoire of calls, such as songbirds or the Rufous-throated Solitaire, which is known to have over eleven calls[3]. Another way to structure a project using calls would be to play a recorded call and watch for a response or reaction from the same or different species of bird, in the form of behavior or call-response.

Acknowledgements

I would like to thank my professors, Dr. Woolley and Dr. Lacher, for teaching me the software, for encouragement, and being patient out on the trail as I repeatedly fell in the back waiting for the birds. I also want to thank Clement 'Clem' James for sharing his knowledge of Dominican birds in general and especially on the Jaco's call and behavior.

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