

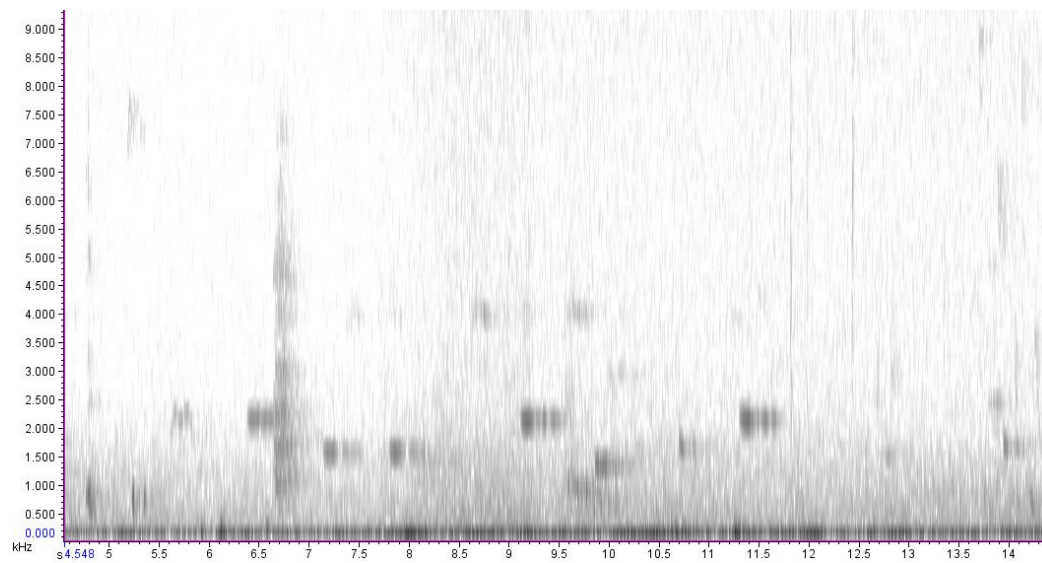
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Appendix One

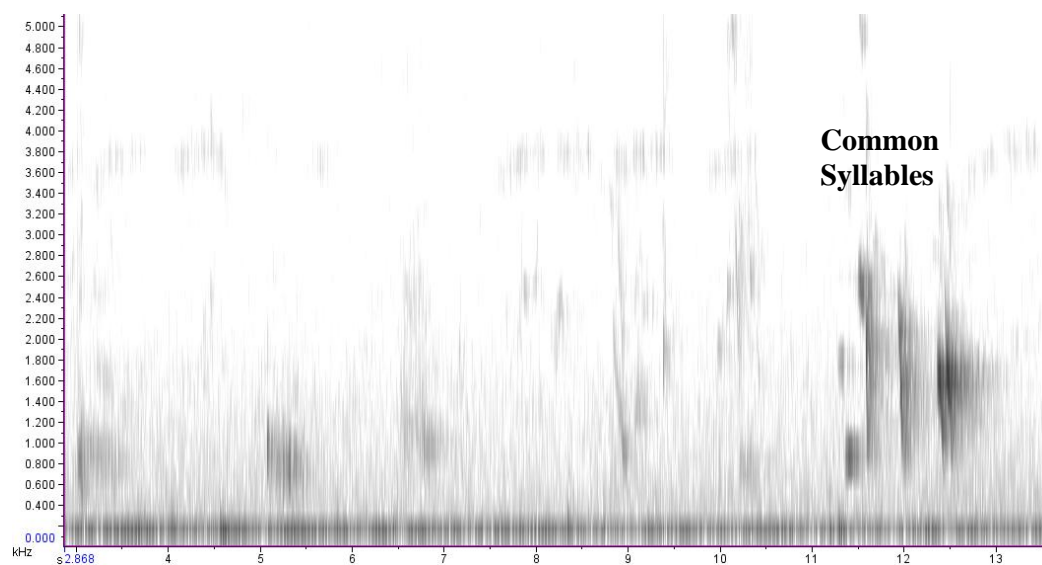
Appendix 1: 303 songs in 2.4 hours of recordings (48.5 hours of field sampling) from Tawharanui (For 3.3.1). Tawharanui Song Repertoire (10 different days).

NON-BREEDING SEASON

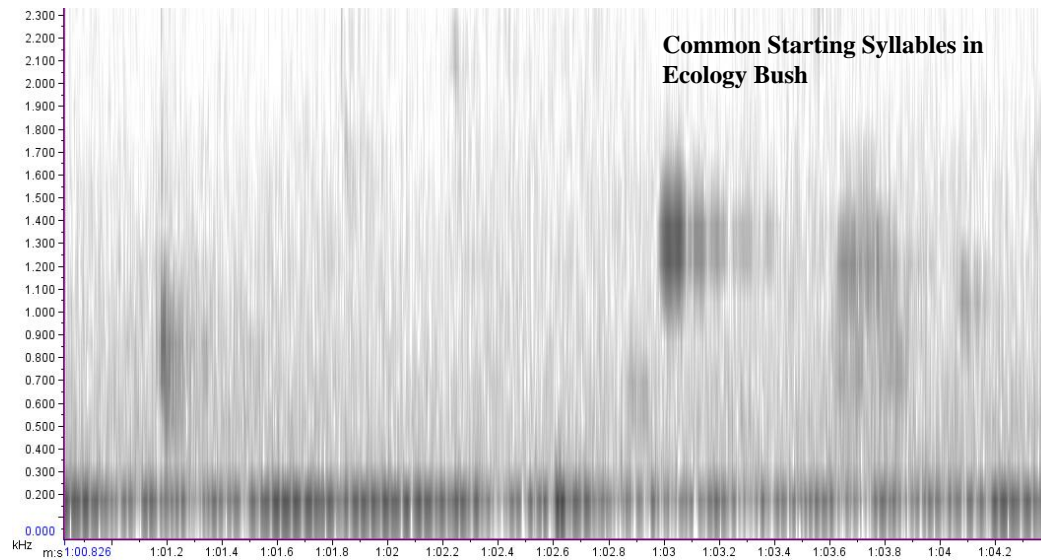
Song 1. July 20th 2010.



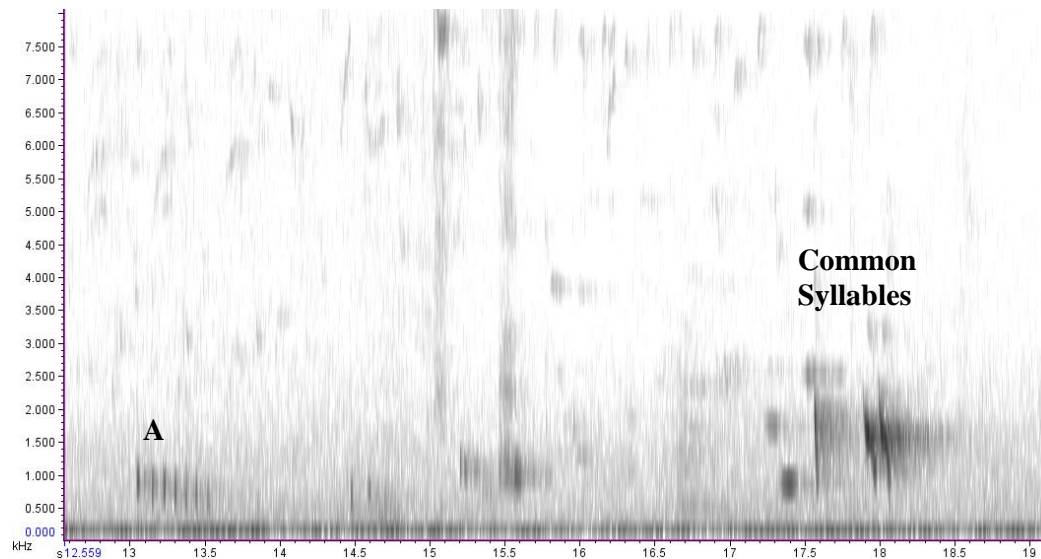
Song 2. July 20th 2010 (13.00h). 003-2010-09-09 00_28_43. Song at Ecology Bush, Tawharanui Regional Park. Sung by WM-BG (a female: I.D: D192062). The area marked 'common syllables' is a group of syllables that is common at Ecology Bush, but a group of syllables that vary.



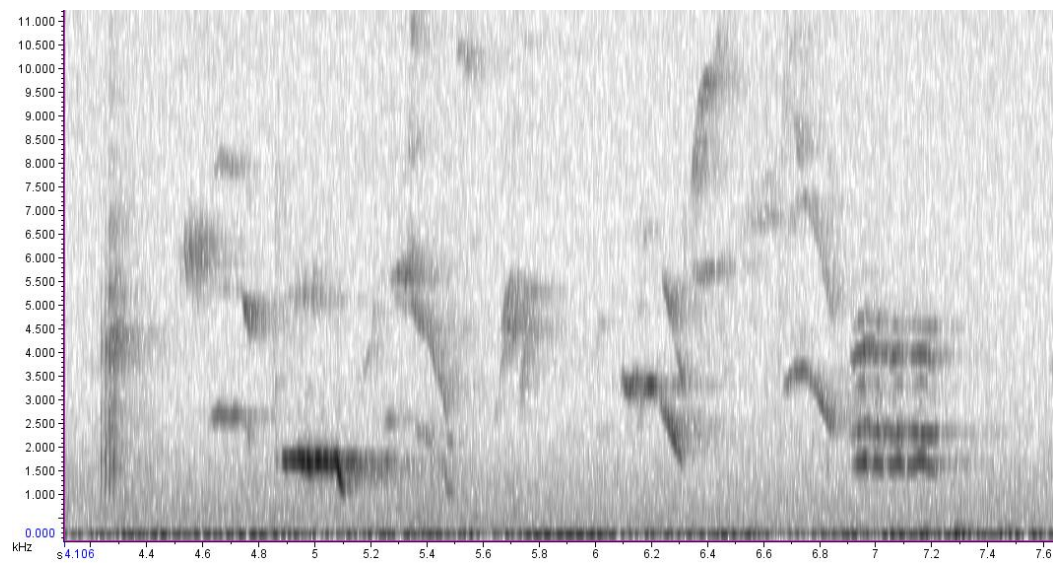
Song 3. July 20th 2010 (13.00h). 003-2010-09-09 00_28_43 (2). Ecology Bush, Tawharanui Regional Park. The part at the end is a common group of syllables heard around Ecology Bush, usually at the start of a song but sometimes heard on its own, as a whole song in its own right i.e. preceded by and followed by a 3 second silent interval.



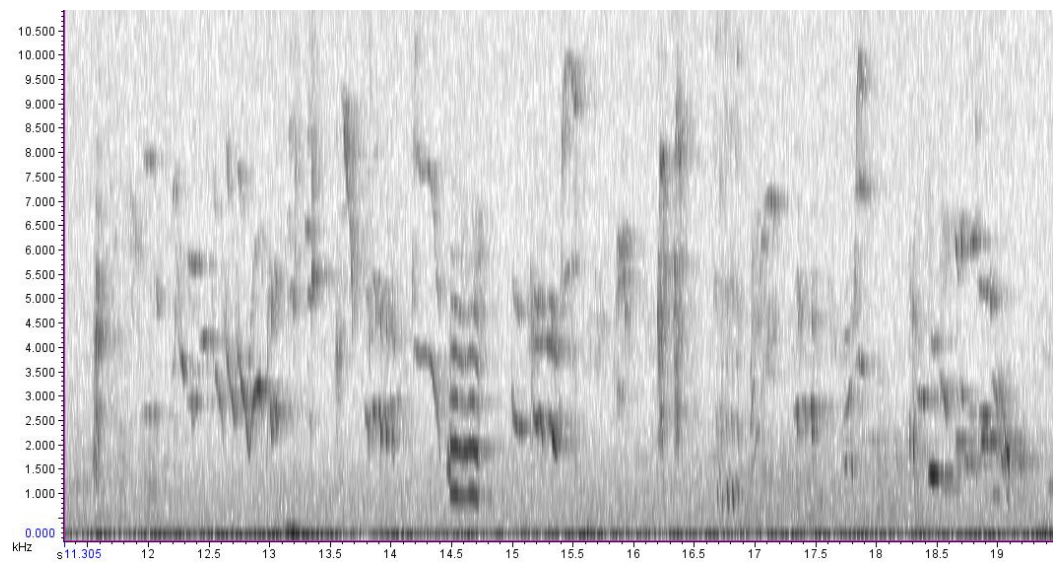
Song 4. July 20th 2010 (13.00h). 004-2010-09-09 00_28_43. Ecology Bush, Tawharanui Regional Park. (kokokok syllable at c. 13-13.5s – 'A').



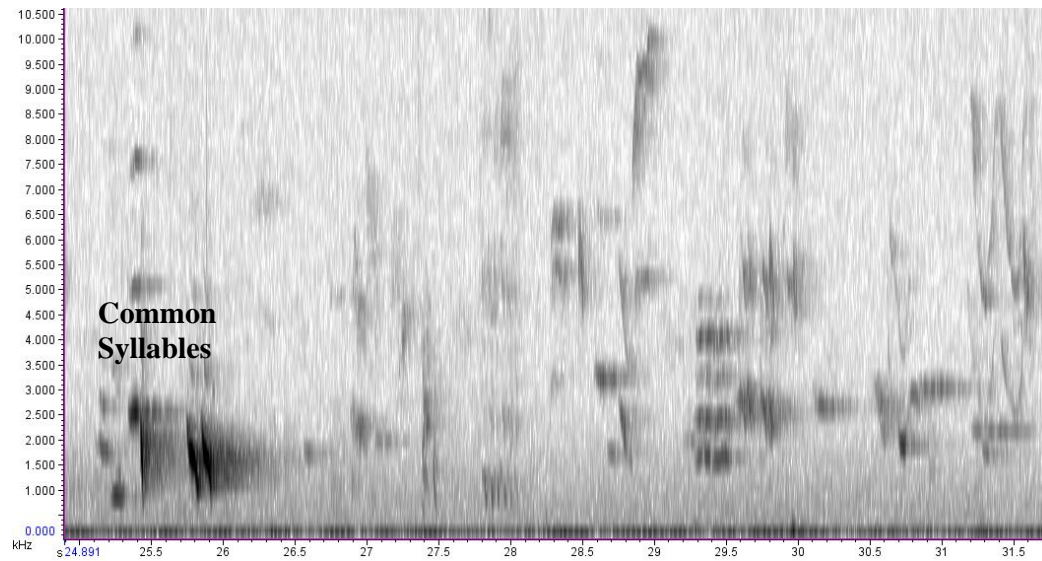
Song 5. July 20th 2010 (13.00h). 005-2010-09-09 00_28_43. Trilly song interspersed with low frequency syllables and harmonic syllables, heard at Ecology Bush, Tawharanui Regional Park.



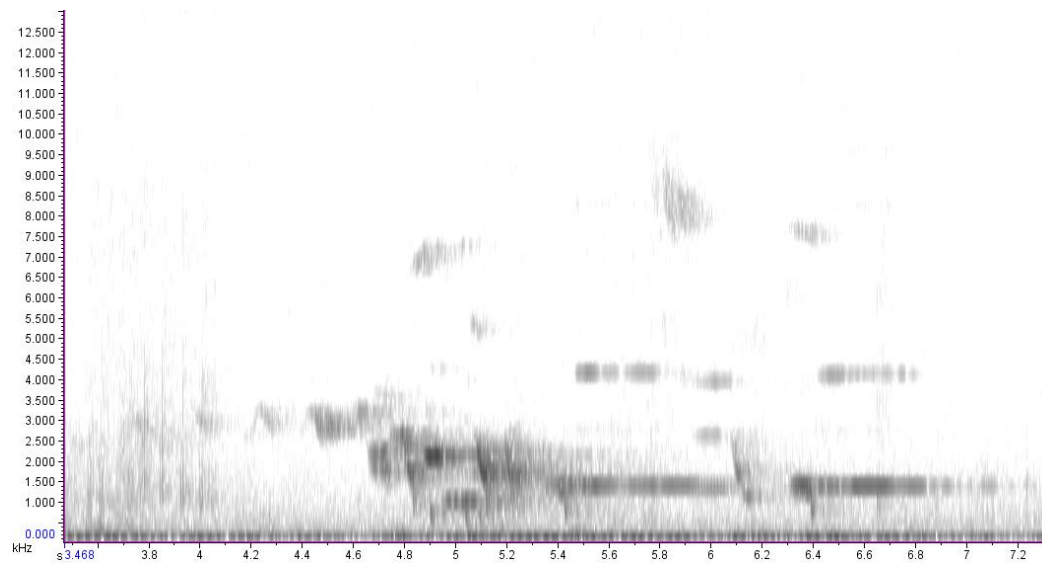
Song 6. July 20th 2010 (13.00h). 005-2010-09-09 00_28_43 (2). Trilly song heard at Ecology Bush, Tawharanui Regional Park.



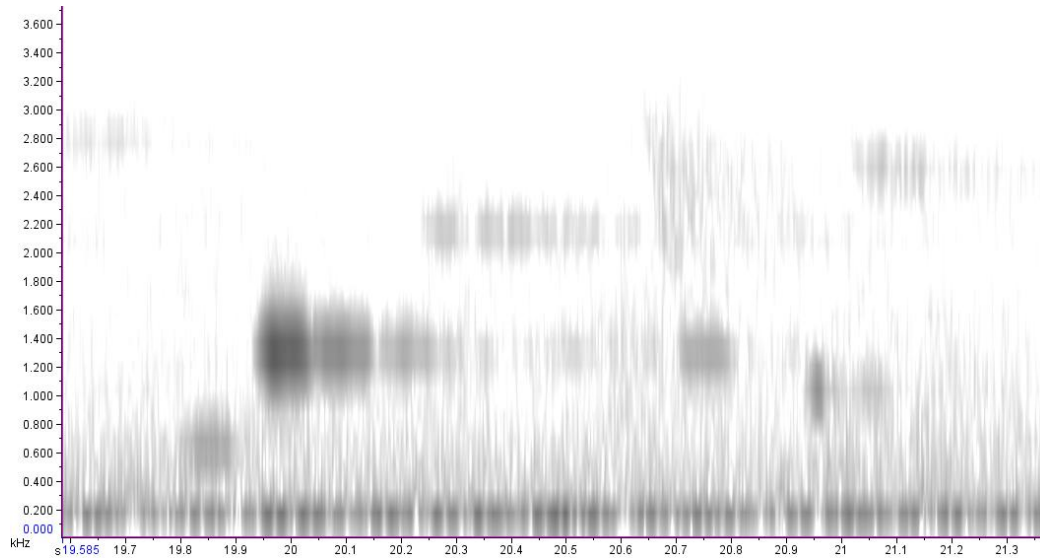
Song 7. July 20th 2010 (13.00h). 005-2010-09-09 00_28_43 (3) (From TawhJulyAugSept 2010, Folder 1). Trilly song heard at Ecology Bush, Tawharanui Regional Park. 'Common syllables' denotes group of syllables that are common at Ecology Bush, although they do vary in some songs.



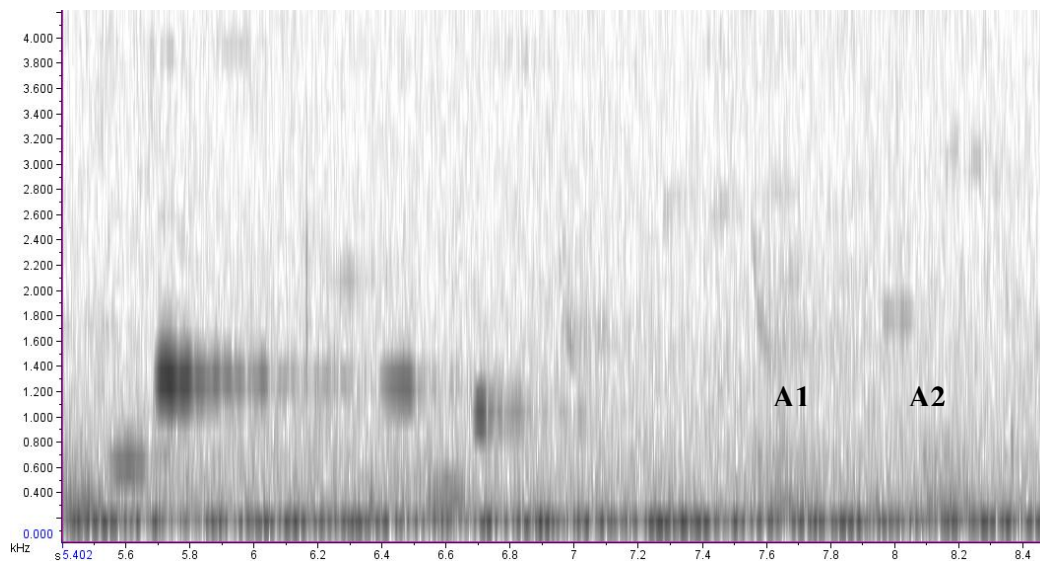
Song 8. July 20th 2010 (15.00h). 002-2010-09-09 00_40_29. Song at Ecology Bush, Tawharanui Regional Park.



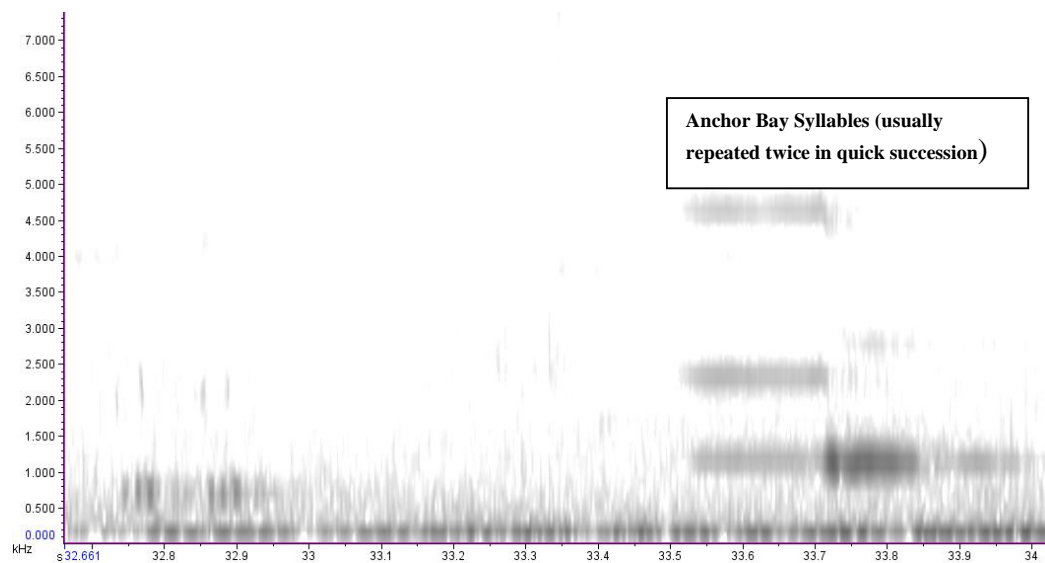
Song 9. July 20th 2010 (15.00h). 004-2010-09-09 00_40_29. Common starting syllables at Ecology Bush, Tawharanui Regional Park, sometimes heard at the beginning of a song, but sometimes heard on its own as a song in its own right (i.e. preceded by and followed by a 3 second silent interval).



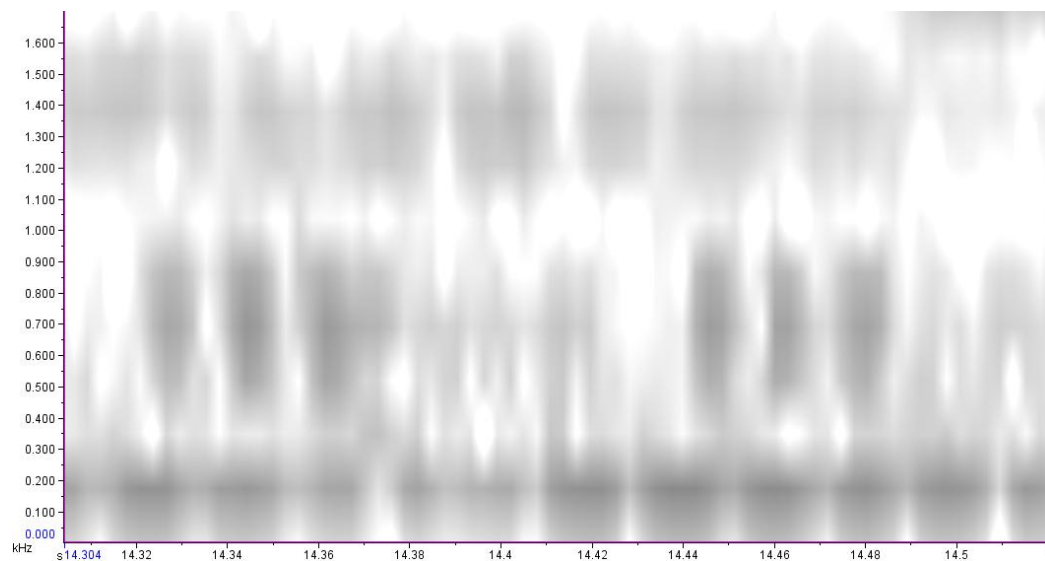
Song 10. July 20th 2010 (16.00h). 009-2010-09-09 00_40_29. Common Ecology Bush starting syllables, with one extra, very subtle note at the beginning, followed by two barely visible, very low-frequency syllables at c. 7.6 and c. 8.1s ('A1' and 'A2').



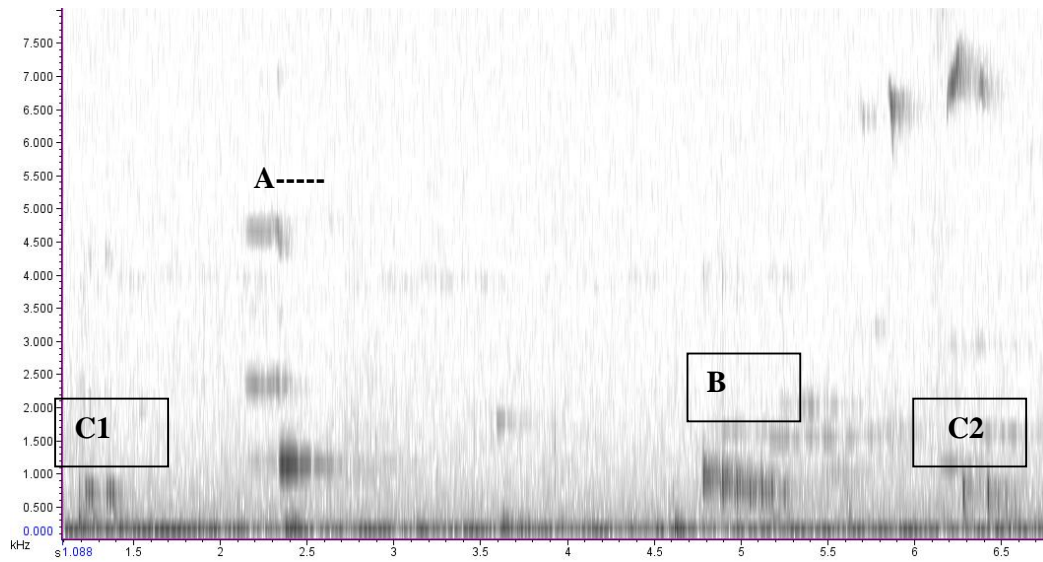
Song 11. July 20th 2010 (15.00h). 004-2010-09-09 00_40_29 (2). **Anchor Bay syllables** as labelled. These Anchor Bay syllables are often and usually repeated twice in quick succession. It is rare that they occur just **once**, as in this particular song.



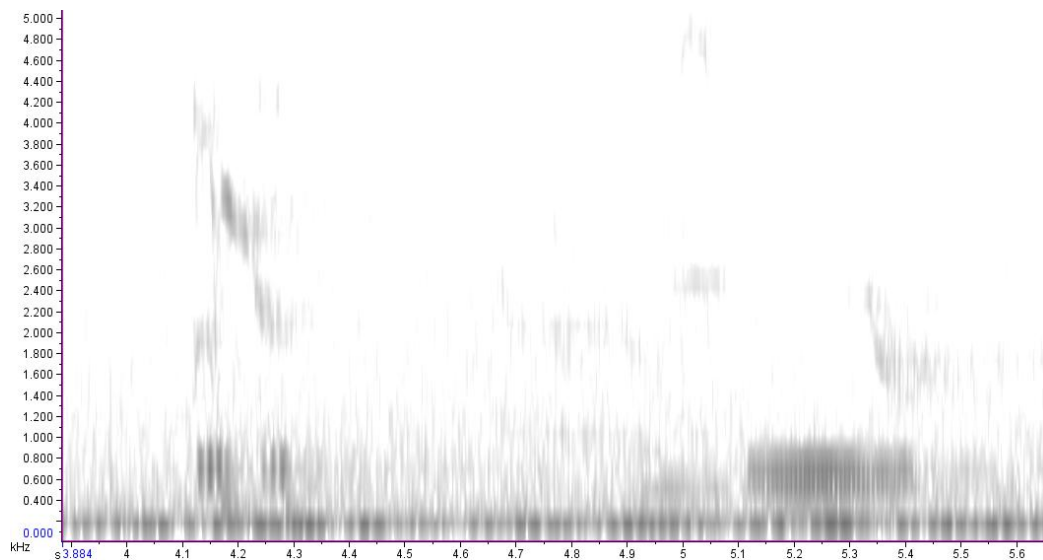
Song 12. July 20th (15.30h). 005-2010-09-09 00_40_29. Two of the same knock syllables at Ecology Bush, Tawharanui Regional Park.



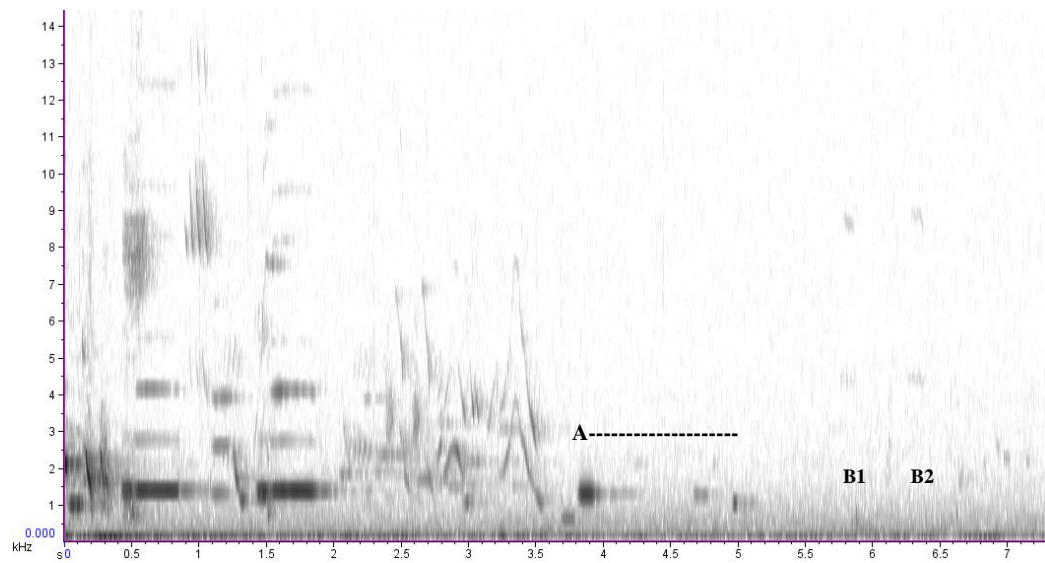
Song 13. July 20th (15.30h). 006-2010-09-09 00_40_29 (From TawhJulyAugSept 2010, Folder 4). Anchor Bay syllable marked here 'A' (just one Anchor Bay syllable on its own), followed by the common 'kokokok' syllable, marked 'B'. Similar but shorter 'kokok' syllables are the first and terminal ones of this particular song ('C1' and 'C2'). At Ecology Bush, Tawharanui Regional Park.



Song 14. July 20th (15.30h). 008-2010-09-09 00_40_29 (From TawhJulyAugSept 2010, Folder 4). Short 'kokok' followed by a low-frequency harmonic (common in Ecology Bush, Tawharanui Regional Park).

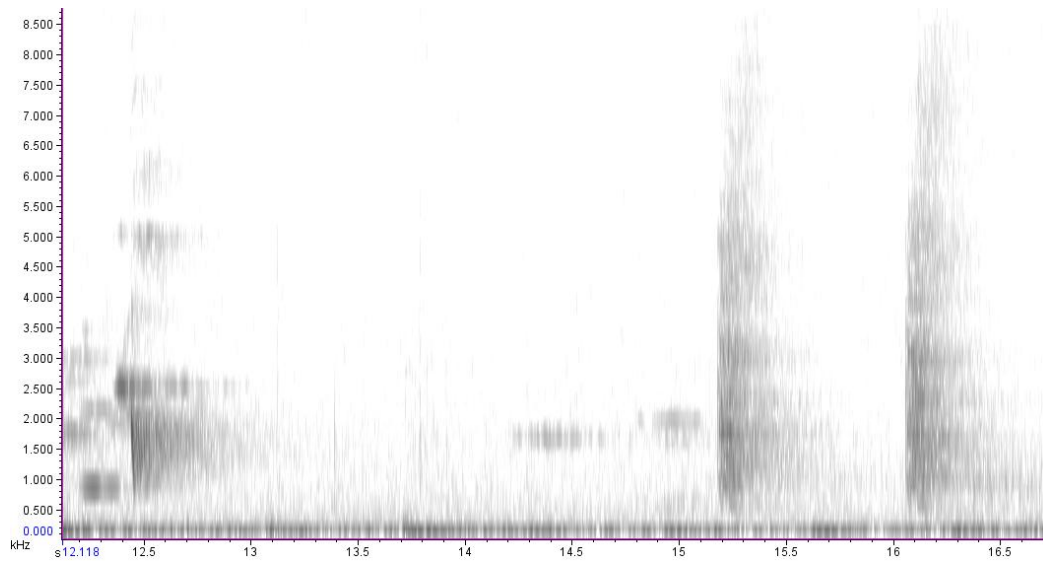


Song 15. July 20th 2010 (16.00h). 011-2010-09-09 00_40_29. Heard at Ecology Bush, Tawharanui. Includes the common starting syllables marked 'A' and two of the barely visible low-frequency syllables marked 'B1' and 'B2'.

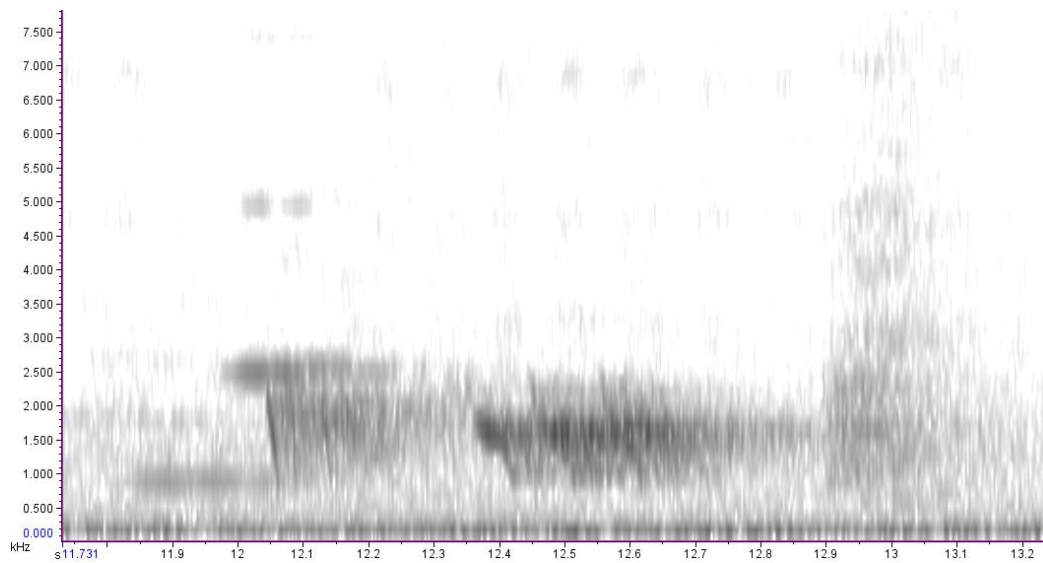


Song 16. July 20th (16.30h). 001-2010-09-09 00_45_01. Ecology Bush, by the bridge, Tawharanui Regional Park. Includes the harsh 'kkuh' syllables at the end.

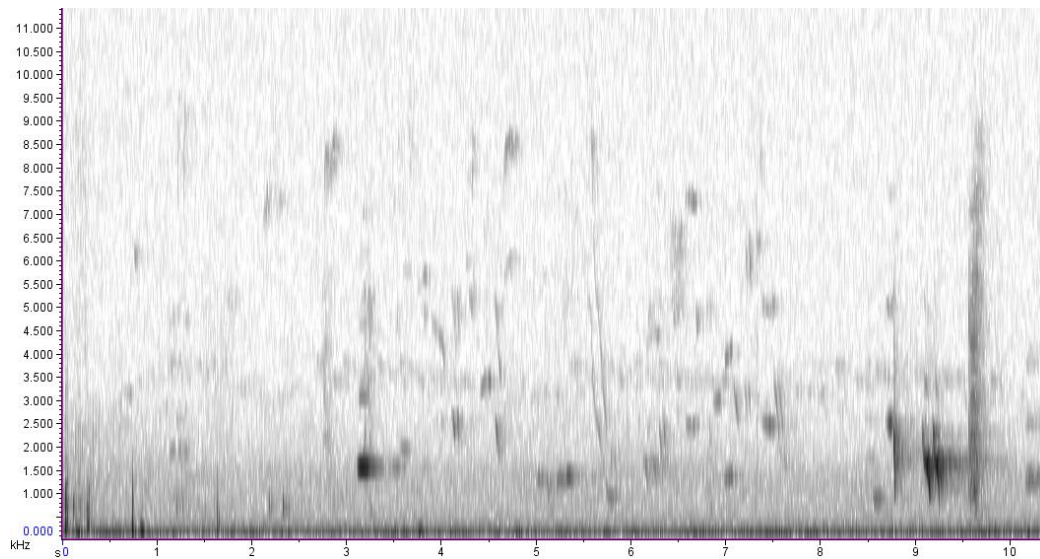
Kkuh Kkuh



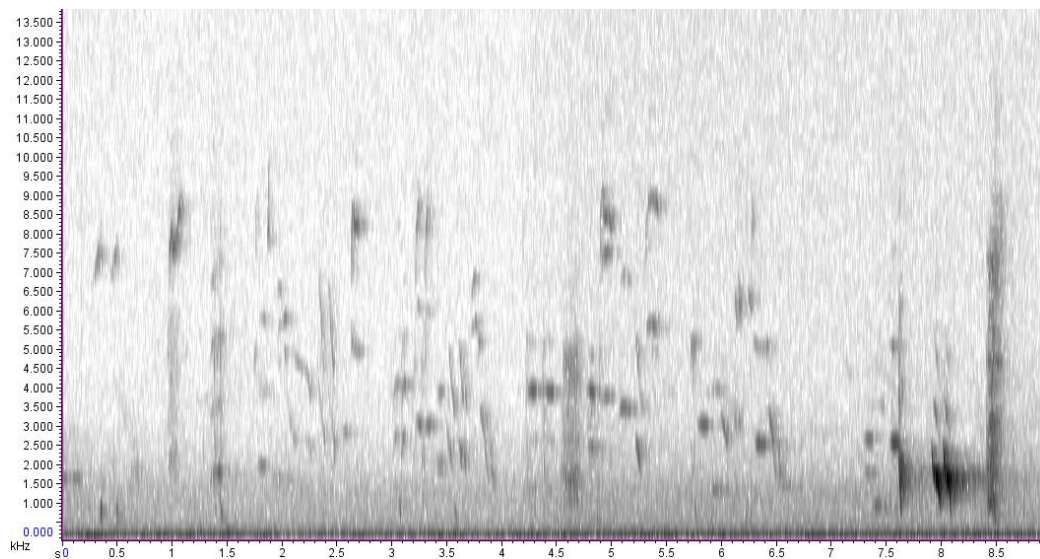
Song 17. July 20th 2010 (16.30h). 004-2010-09-09 00_45_01. Ecology Bush, Tawharaui Regional Park. A comon song around Ecology Bush. Includes the 'kkuh' sound as terminal syllable. These are assigned syllable 8, 9 (which sometimes has 2 and sometimes has 3 notes within) and 10 with the kkuh as syllable 6 (in my assignment of numbered syllable types).



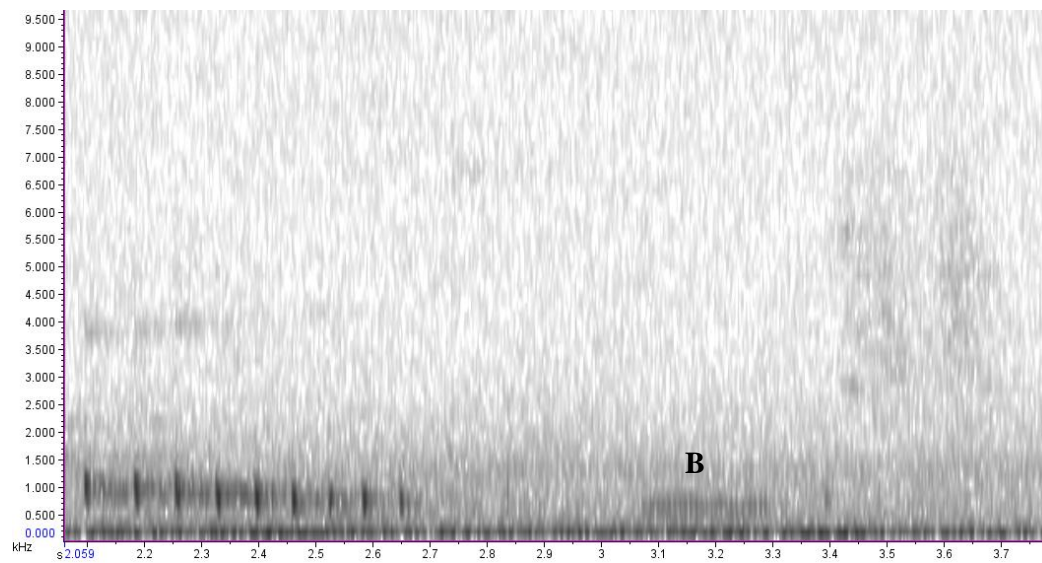
Song 18. July 20th 2010 (16.30h). 005-2010-09-09 00_45_01. Trilly component of tui song at Ecology Bush, Tawharanui Regional Park, culminating in the above song at the end, with an extra syllable immediately following.



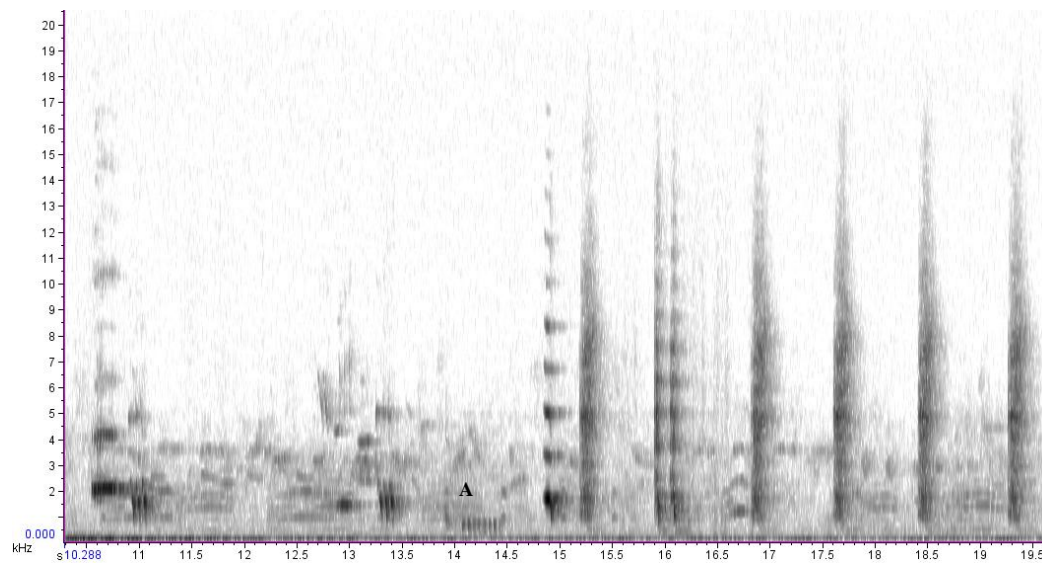
Song 19. July 20th 2010 (16.30h). 008-2010-09-09 00_45_01. Trilly component of tui song at Ecology Bush, Tawharanui Regional Park, culminating in the common Ecology Bush song above, at the end. Similar trilly component to above, again culminating in the common Ecology Bush syllables.



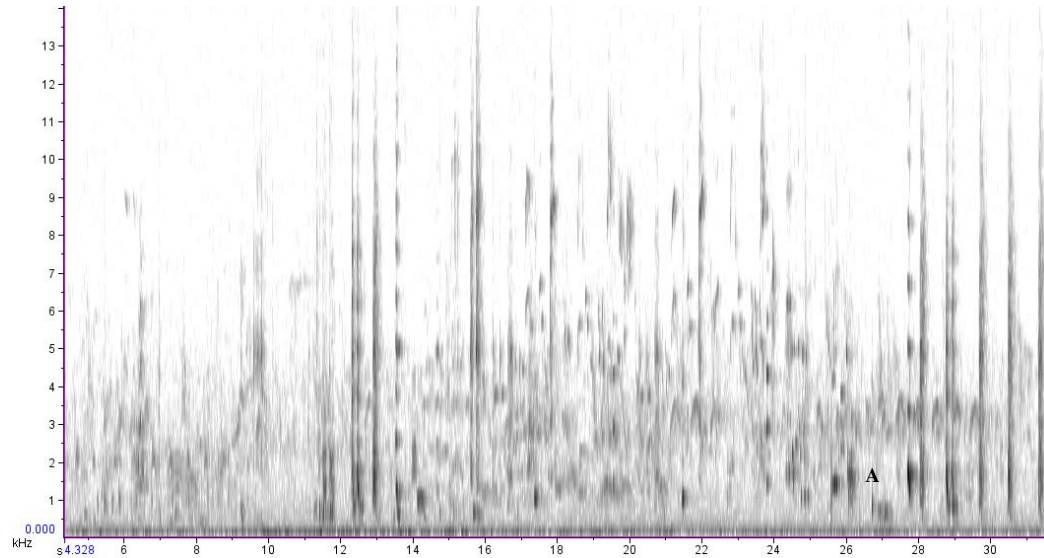
Song 20. July 20th 2010 (17.00h). 009-2010-09-09 00_45_01. The 'kokokokok' syllable followed by a low-frequency harmonic wheeze syllable ('B'), at Ecology Bush, Tawharanui.



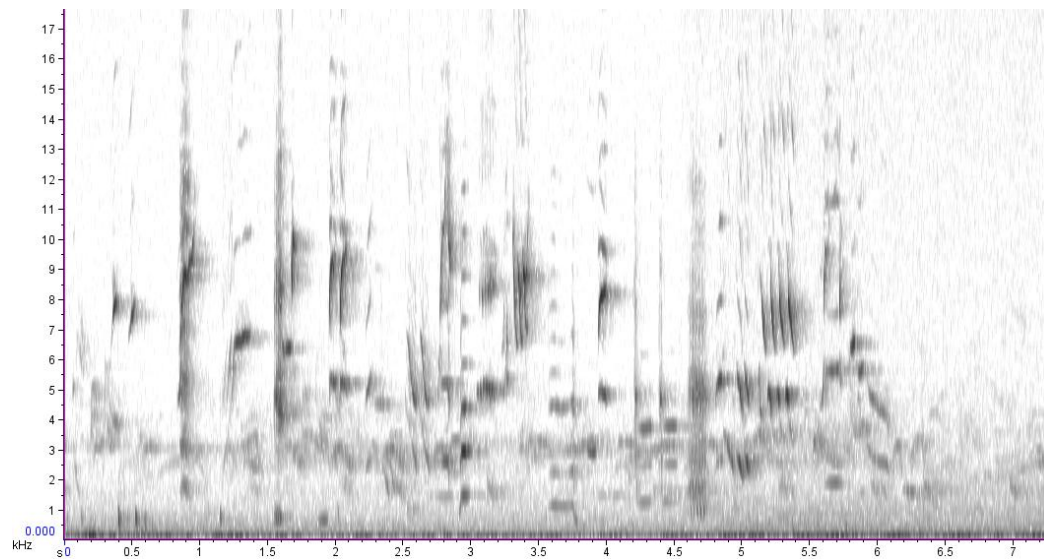
Song 21. July 29th 2010 (07.30h). 001-2010-09-09 00_49_02. By Bunkhouse in Flame Tree, Tawharanui. Culminating in 4 kkuh syllables. Includes a kokokok syllable marked 'A'.



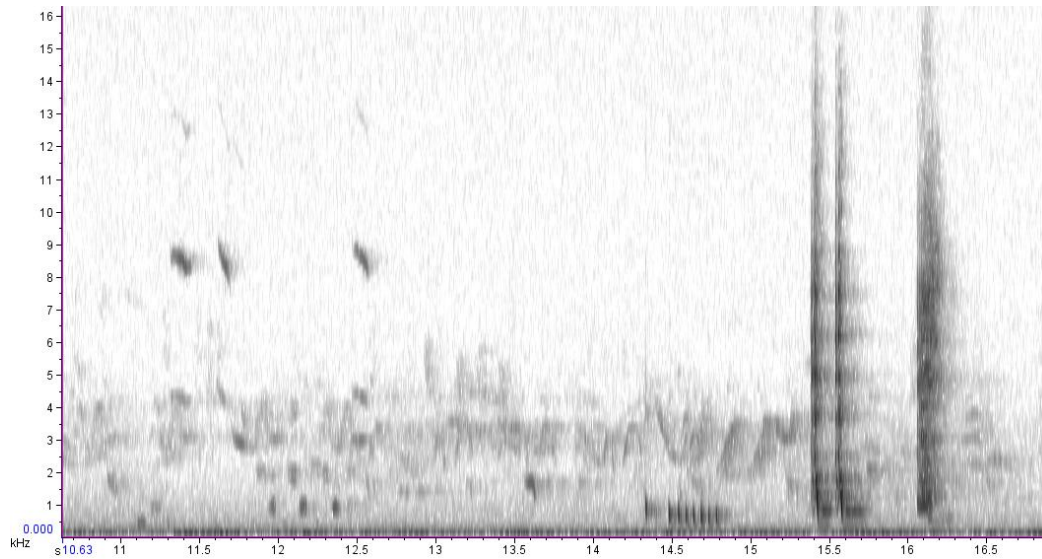
Song 22. July 29th 2010 (07.30h). 002-2010-09-09 00_49_02. By Bunkhouse in Flame Tree, Tawharanui. Highly complex sequence of trills and low frequency syllables, culminating in 4 kkuh syllables. Includes a kokokok syllable marked 'A'. The final 9 notes of this song (from c. 27s-31.5s) are exactly the same as above (same individual as above).



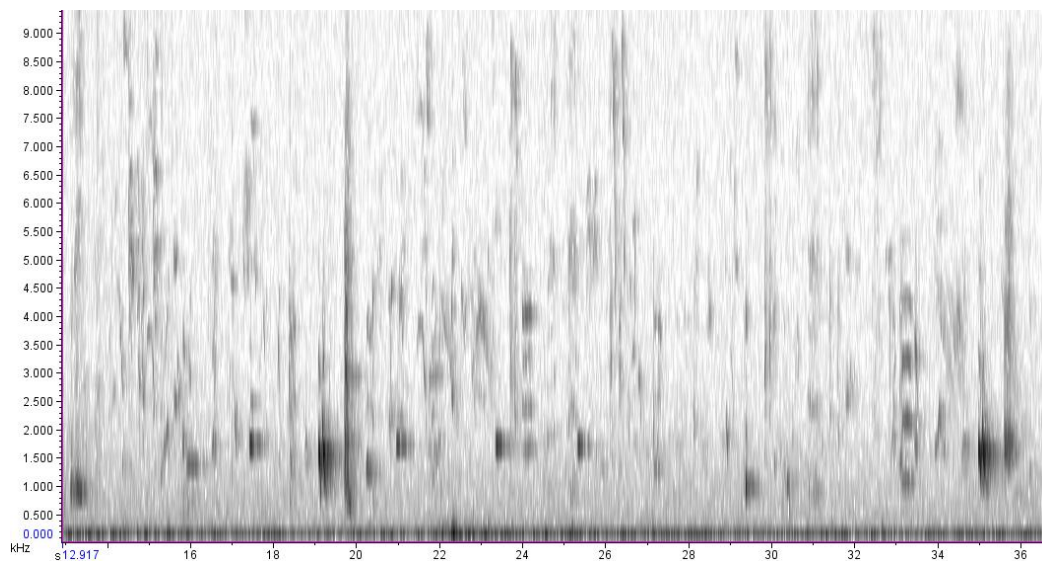
Song 23. July 29th 2010 (07.30h). 004-2010-09-09 00_49_02. Exemplar of the highly complex trill component of tui song, in the Flame Tree outside the Bunkhouse at Tawharanui.



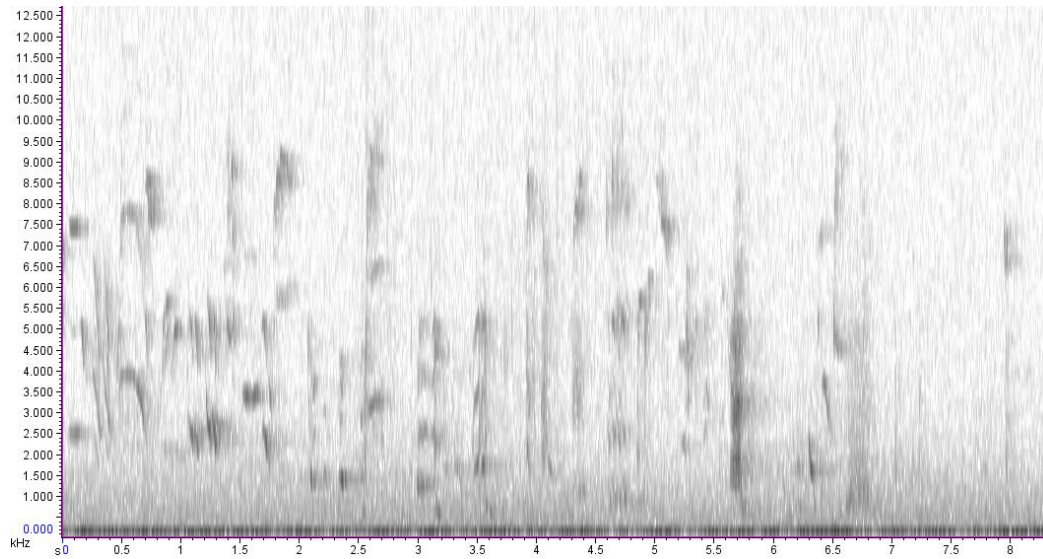
Song 24. July 29th 2010 (07.30h). 004-2010-09-09 00_49_02 (2). Low frequency sounds, interspersed with short trills, culminating in the kokokok, 2 harsh syllables/notes (2 of the same syllable) and the kkuh as the terminal syllable/note, in the Flame Tree outside the Bunkhouse at Tawharanui.



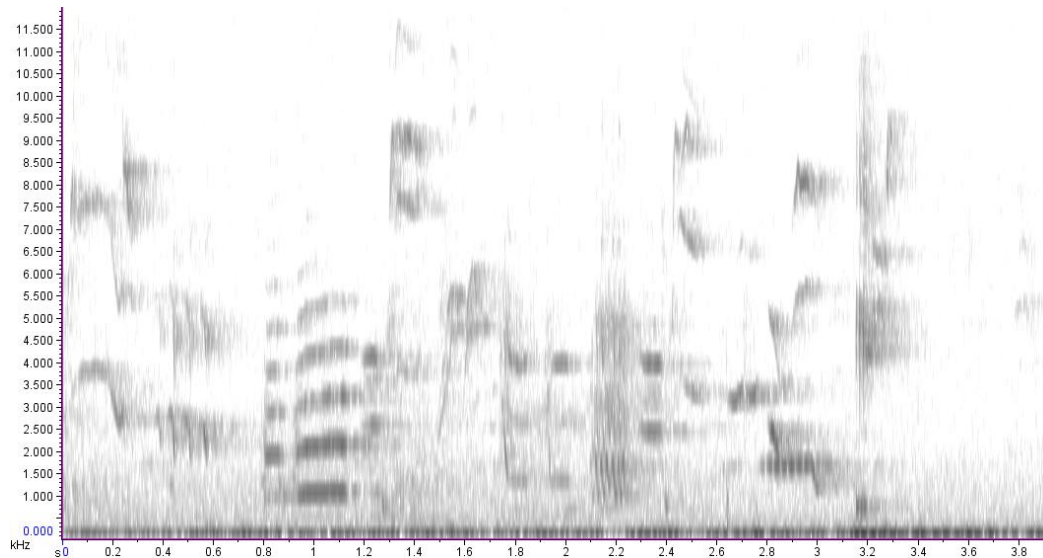
Song 25. July 29th 2010 (14.00h). 001-2010-09-09 00_53_32. Ecology Bush, Tawharanui. Complex trill, interspersed with unusual low-frequency syllables, with an unusual terminal syllable.



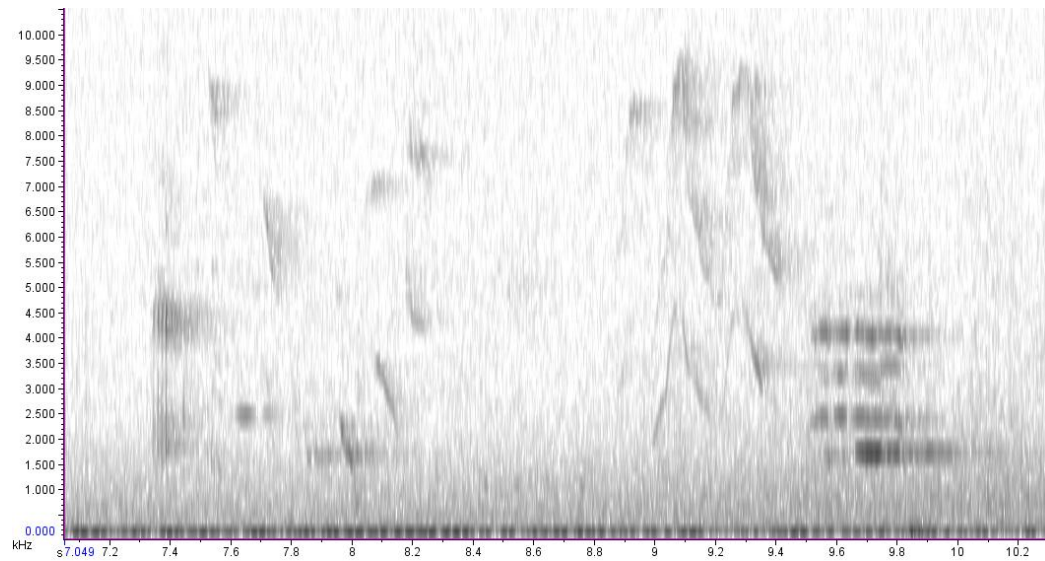
Song 26. July 29th 2010 (14.00h). 002-2010-09-09 00_53_32. Exemplar of a complex trill at Ecology Bush, Tawharanui.



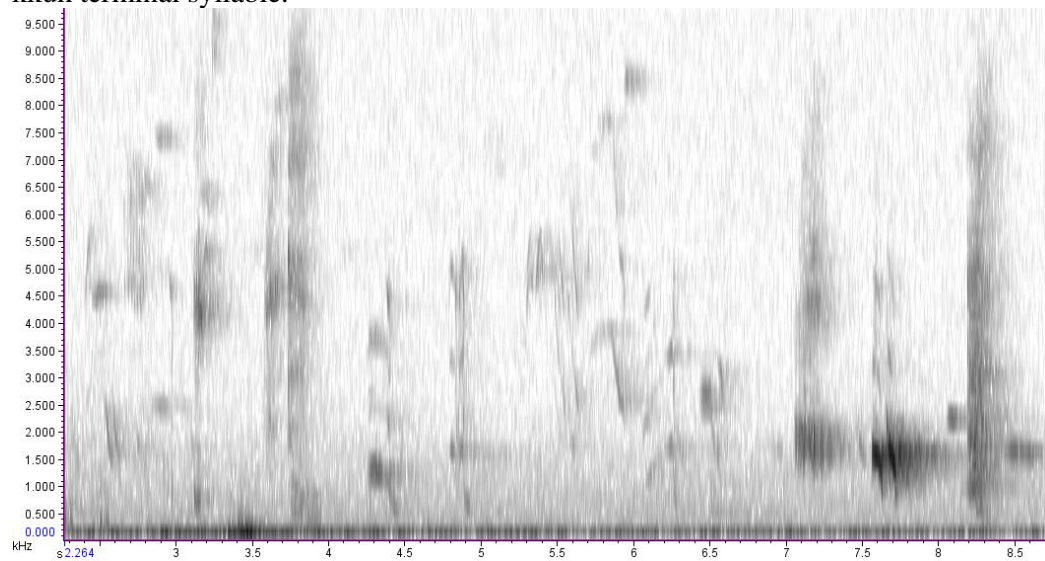
Song 27. July 29th 2010 (14.30h). 003-2010-09-09 00_53_32. Exemplar of a trilly component interspersed with harmonic syllables and lower frequency syllables at Ecology Bush, Tawharanui.



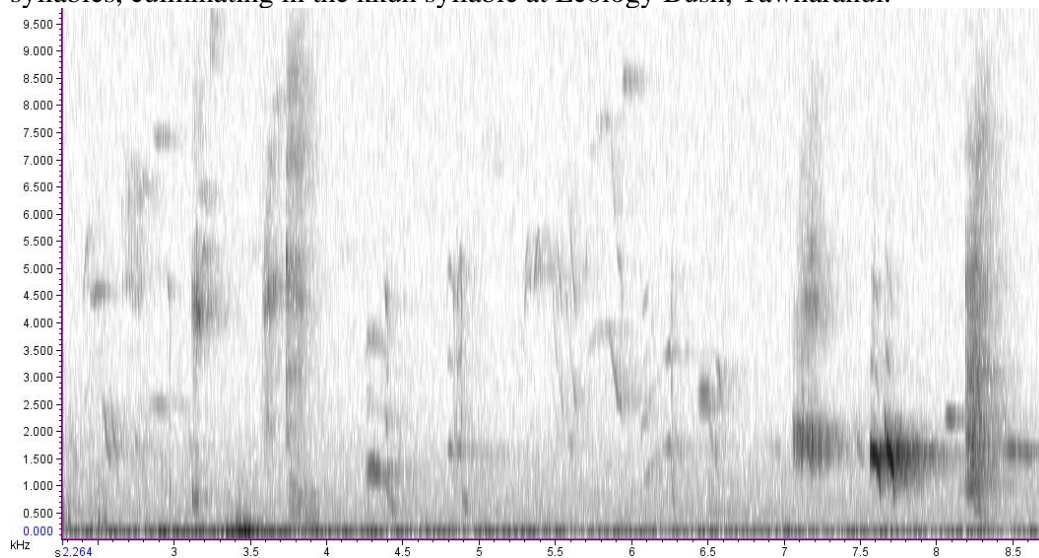
Song 28. July 29th 2010 (14.30h). 004-2010-09-09 00_53_32. Short trill, culminating in a harmonic syllable at Ecology Bush, Tawharanui.



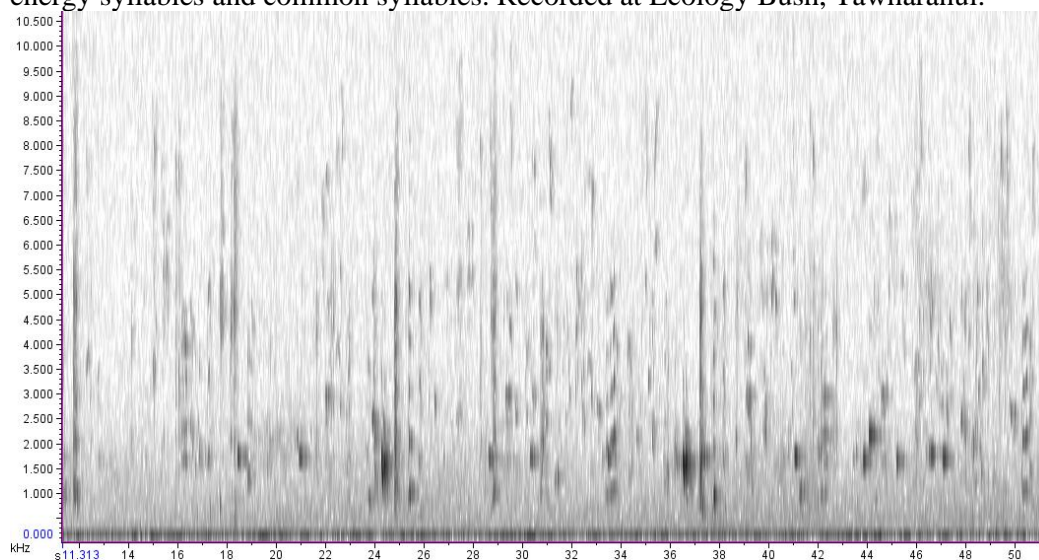
Song 29. 007-2010-09-09 00_53_32.jpg. Trill with harsh syllables, culminating in the kkuh terminal syllable.



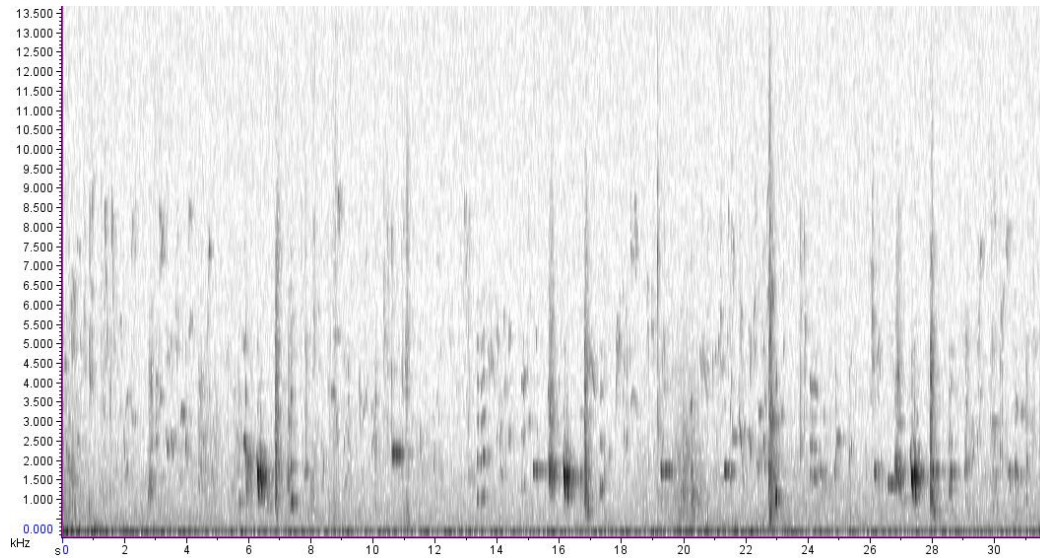
Song 30. July 29th 2010 (15.00h). 007-2010-09-09 00_53_32.jpg. Trill with harsh syllables, culminating in the kkuh syllable at Ecology Bush, Tawharanui.



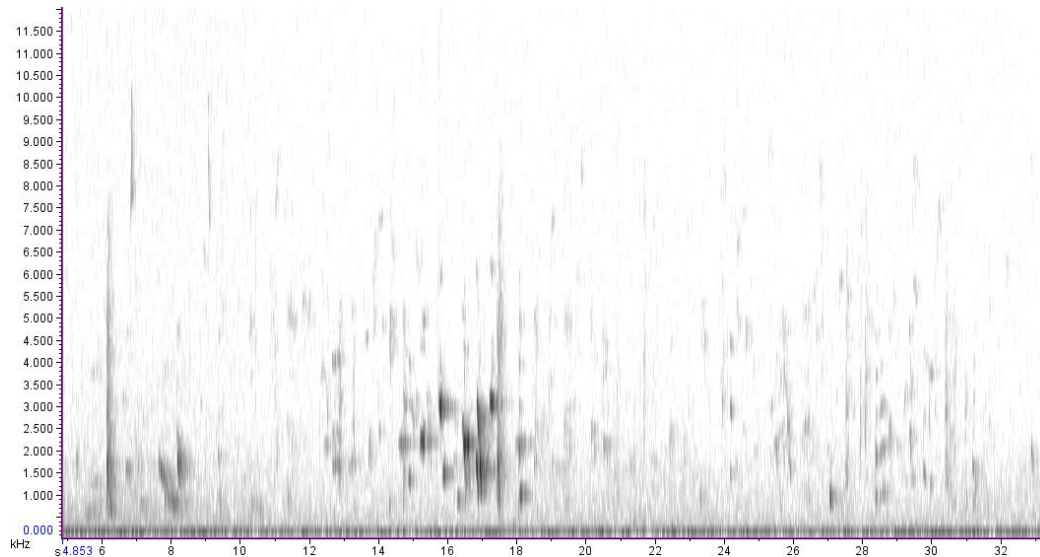
Song 31. July 29th 2010 (15.00h). 007-2010-09-09 00_53_32 (2). Extremely long song (c. 39s). Consisting mainly of complex trill but interspersed with harsh, high-energy syllables and common syllables. Recorded at Ecology Bush, Tawharanui.



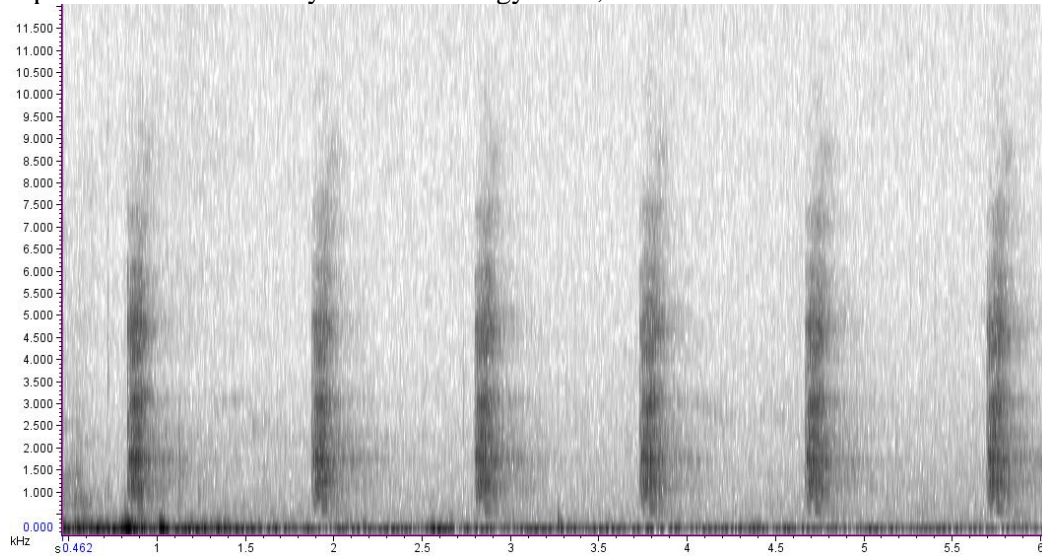
Song 32. July 29th 2010 (15.00h). 008-2010-09-09 00_53_32. Another long (c. 30s), complex trilly song, interspersed with common syllables at Ecology Bush, Tawharanui.



Song 33. July 29th 2010 (15.00h). 002-2010-09-09 00_58_02. Another long (c. 28s), complex trilly song, interspersed with common syllables at Ecology Bush, Tawharanui (at c. 15s, a bellbird can be heard/seen on the spectrogram).

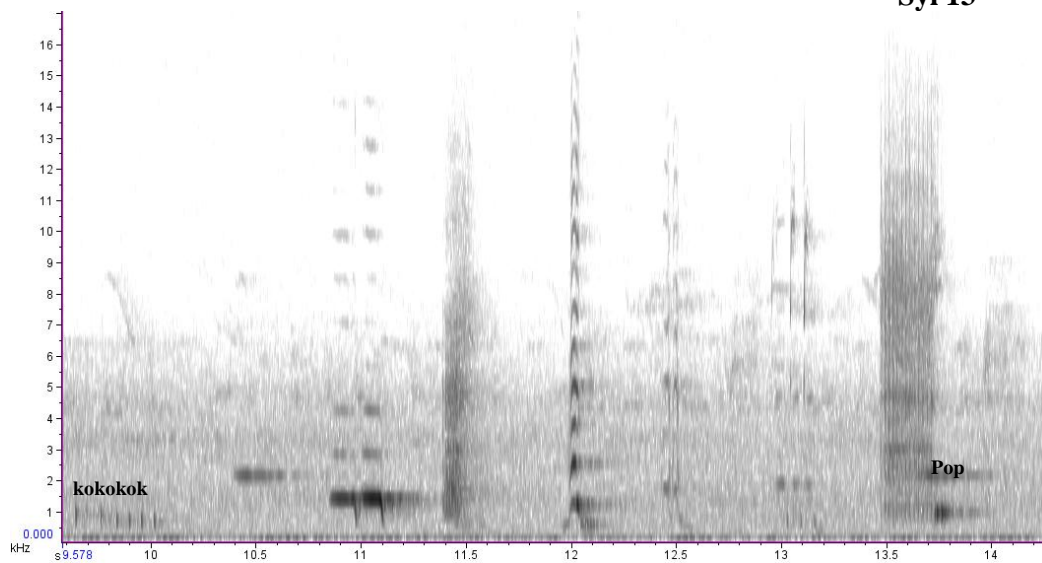


Song 34. July 29th 2010 (15.00h). 001-2010-09-09 00_59_52 (From: TawhJulyAugSept2010, Folder 10). Song consisting entirely of the ‘kkuh’ syllable 6 repetitions of this kkuh syllable at Ecology Bush, Tawharanui.

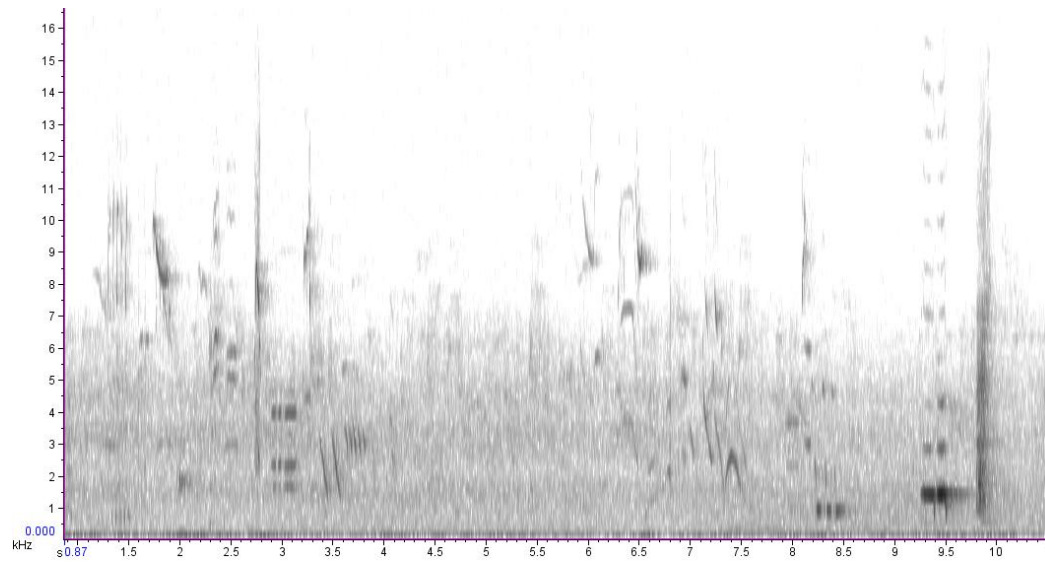


Song 35. July 29th 2010 (17.30h). 002-2010-09-09 01_00_05. Song recorded at Anchor Bay, Tawharanui. Includes the cork popping syllable (syllable 13 – consisting of two overlapping parts, the actual ‘pop’ sound is labelled here). Included is the kkuh syllable with its common two-note precursor syllable and the first syllable in this song is the kokokok syllable – syllable 11 in my numerical assignment of syllables).

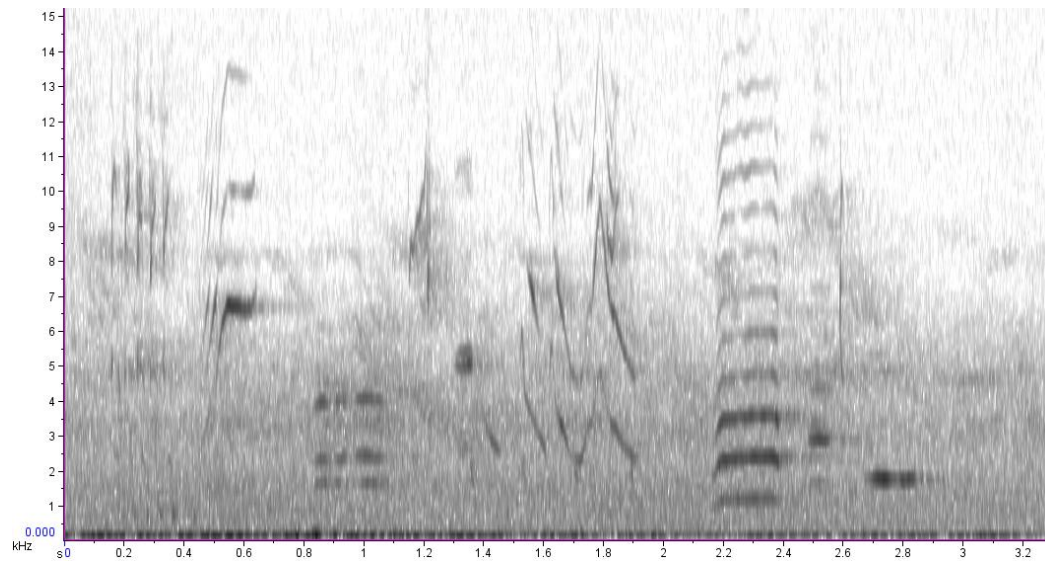
Syl 13



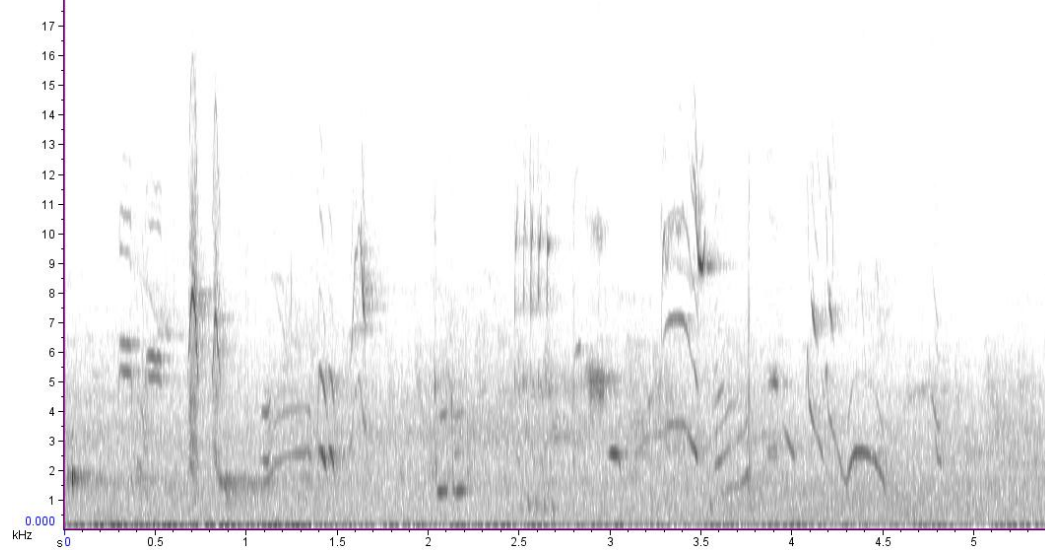
Song 36. July 29th 2010 (17.30h). 003-2010-09-09 01_00_05. Anchor Bay, Tawharanui. Ending with 'kkuh' syllable (named syllable 6).



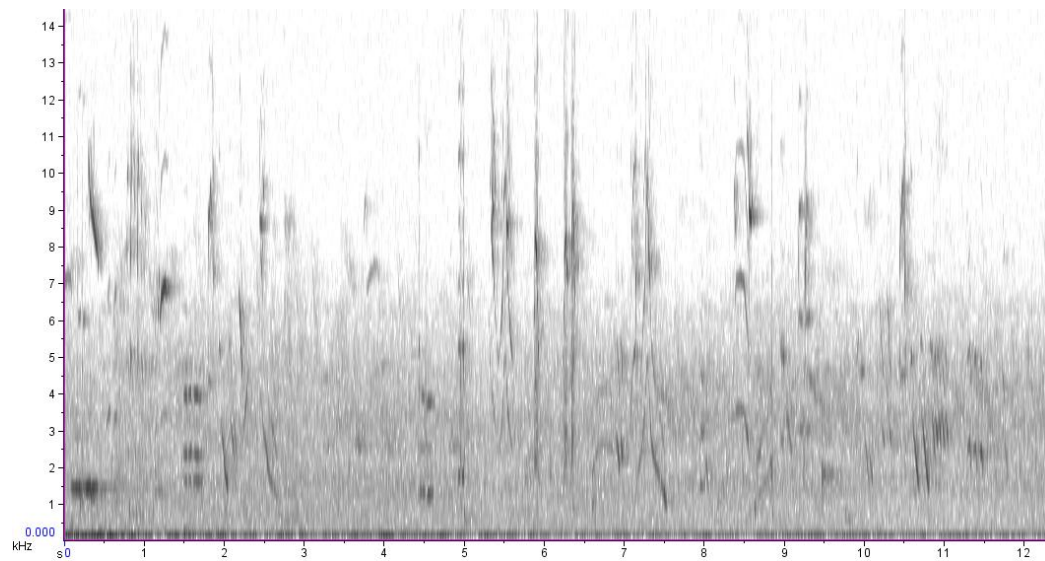
Song 37. July 29th 2010 (17.45h). 004-2010-09-09 01_00_05. Complex trill at Anchor Bay, Tawharanui.



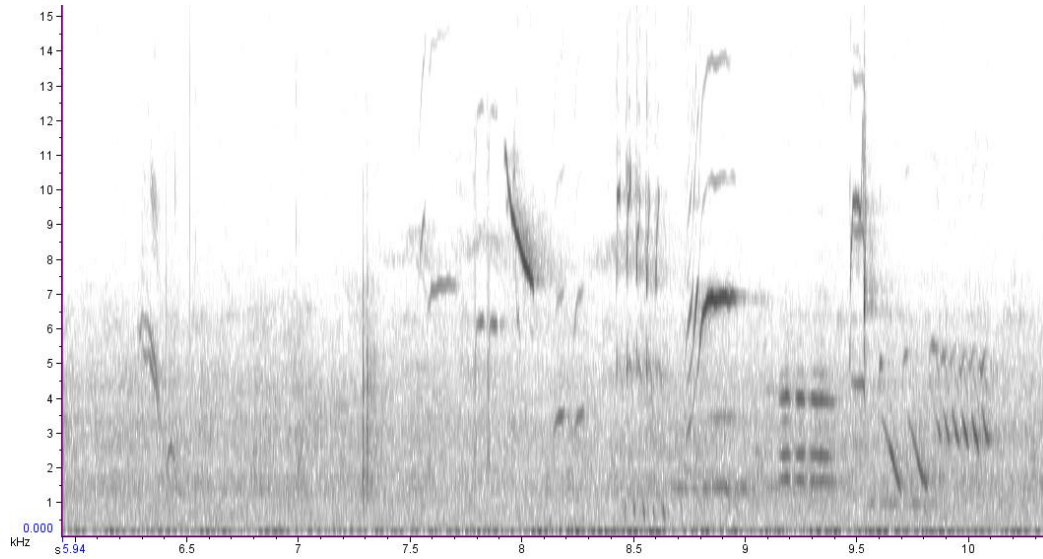
Song 38. July 29th 2010 (17.45h). 005-2010-09-09 01_00_05. Trill at Anchor Bay, Tawharanui.



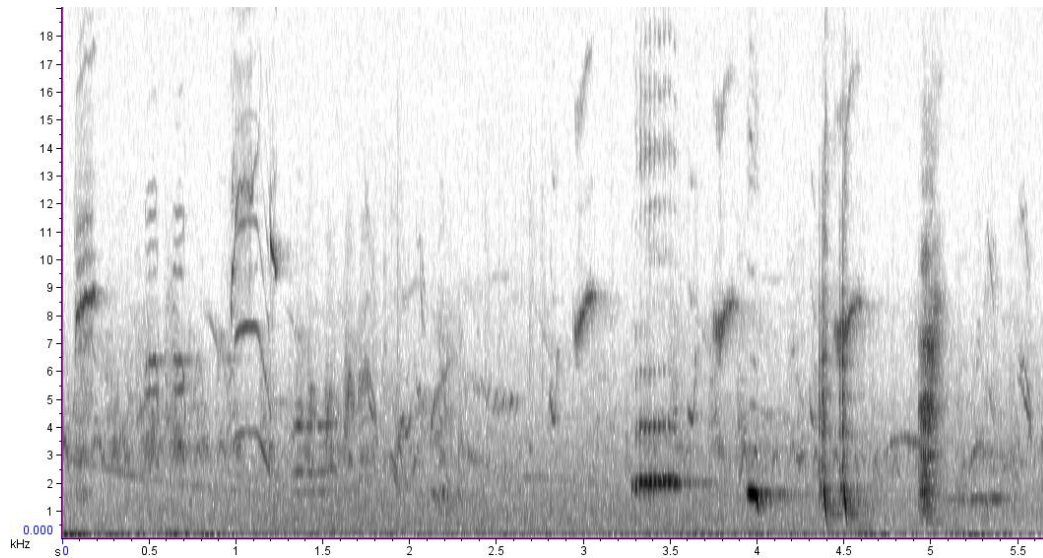
Song 39. July 29th 2010 (17.50h). 008-2010-09-09 01_00_05. Complex trill at Anchor Bay, Tawharanui.



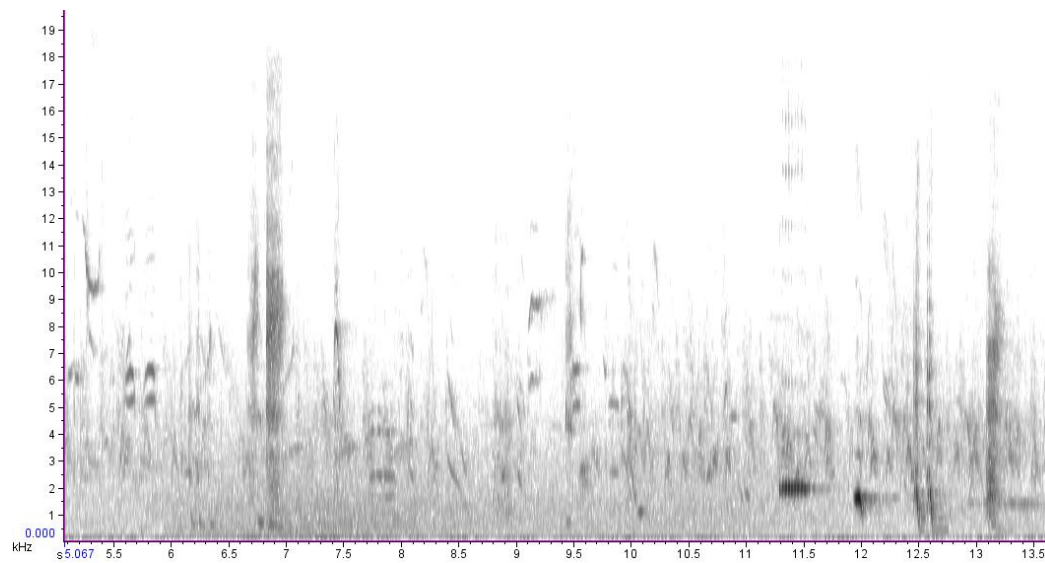
Song 40. July 29th 2010 (17.55h). 009-2010-09-09 01_00_05. Trill at Anchor Bay, Tawharanui.



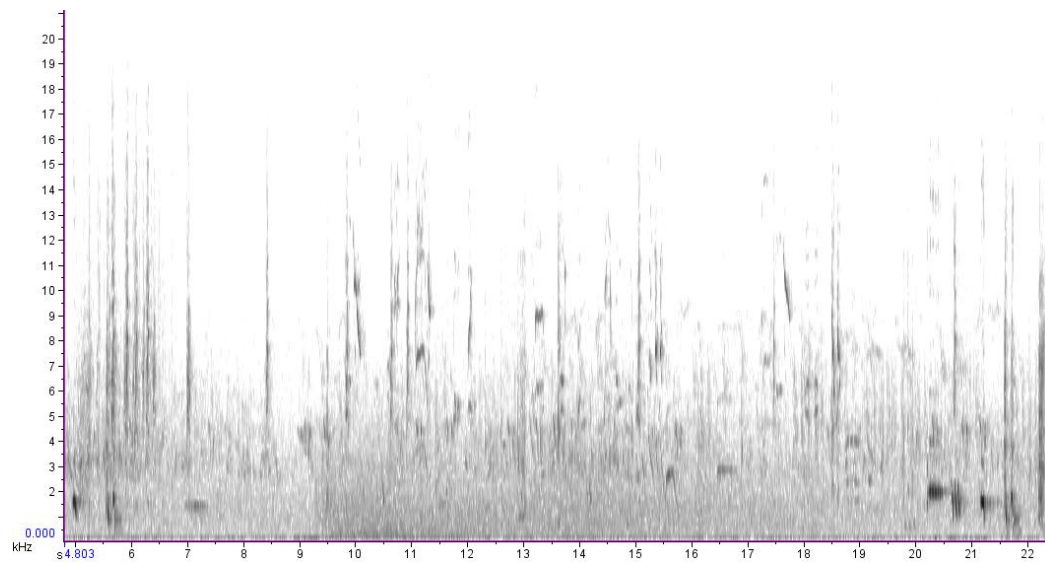
Song 41. July 29th 2010 (18.00h). 012-2010-09-09 01_00_05. Trill at Anchor Bay, Tawharanui. Ends with a terminal kkuh syllable.



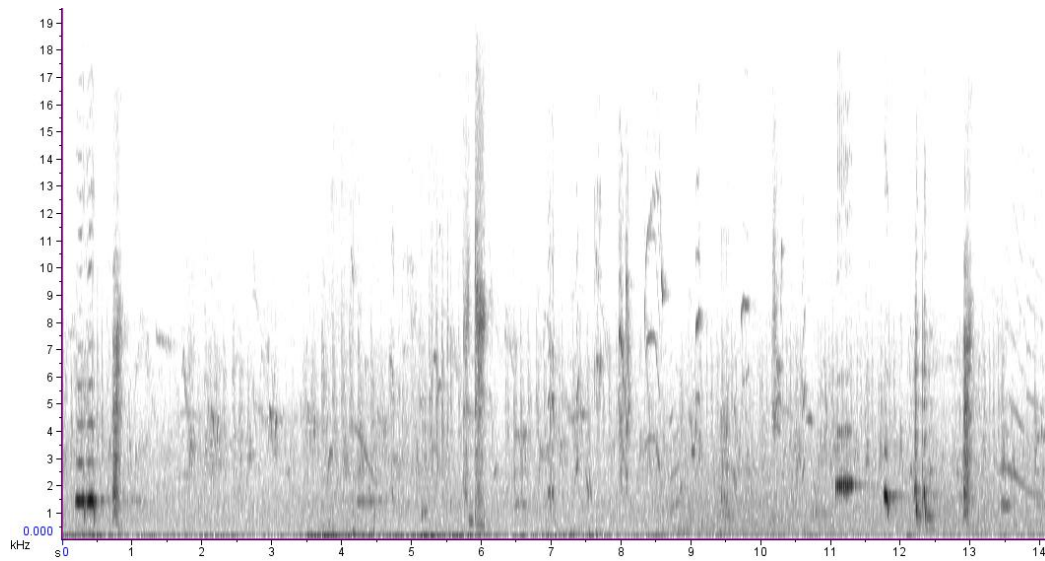
Song 42. 013-2010-09-09 01_00_05. Trill at Anchor Bay, Tawharanui. Ends with a terminal kkuh syllable and same ending as song above.



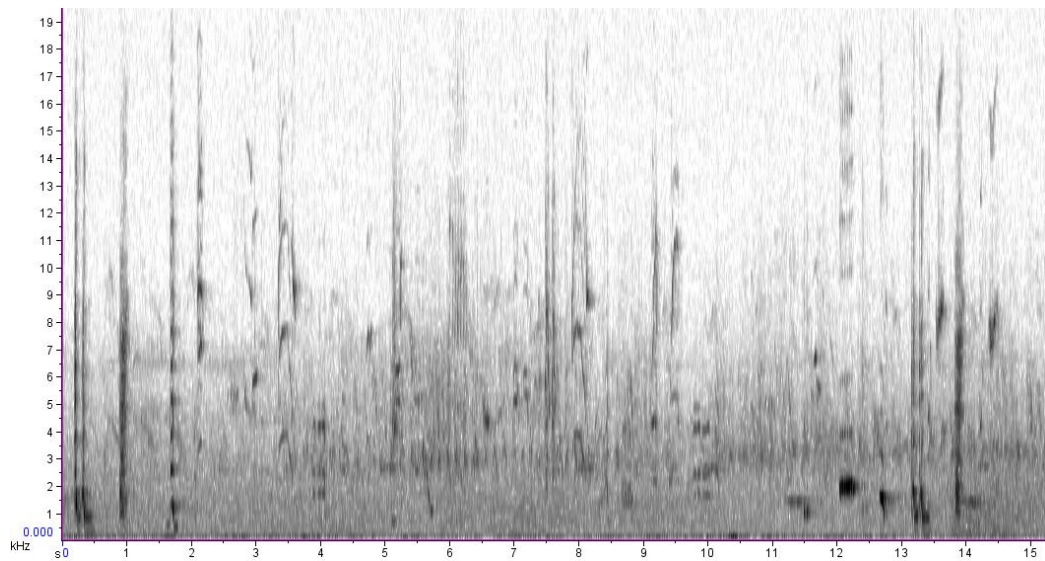
Song 43. 014-2010-09-09 01_00_05. Trill at Anchor Bay, Tawharanui. Very similar ending to above 2, except for the presence of an extra syllable.



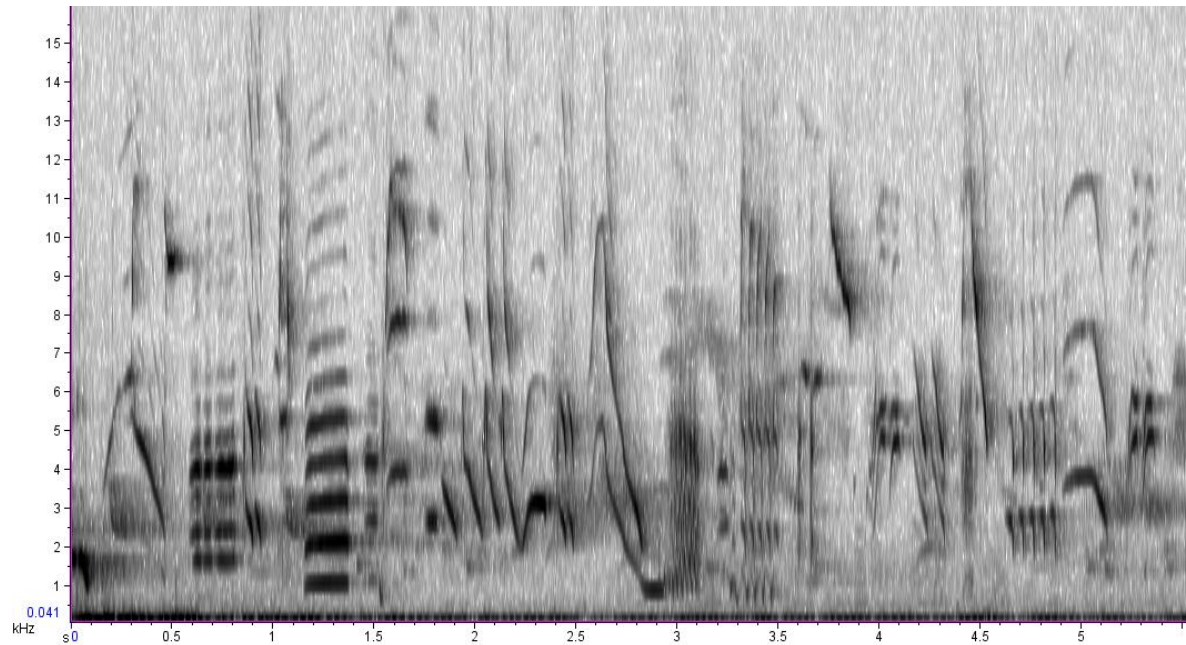
Song 44. July 29th 2010 (18.00h). 015-2010-09-09 01_00_05. Trill at Anchor Bay, Tawharanui. The kkuh syllable, is followed by a rare descending syllable (at c. 13.5s)



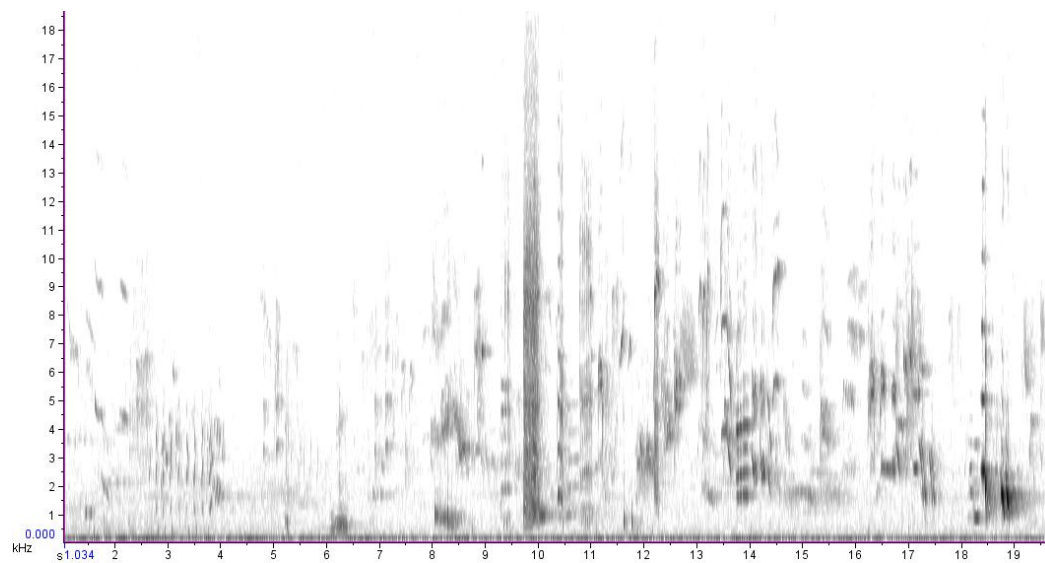
Song 45. 017-2010-09-09 01_00_05. July 29th 2010 (18.00h). 015-2010-09-09 01_00_05. Trill at Anchor Bay, Tawharanui. Terminal syllable is the kkuh. Final 5 notes (4 syllables) is a common ending in the last few songs.



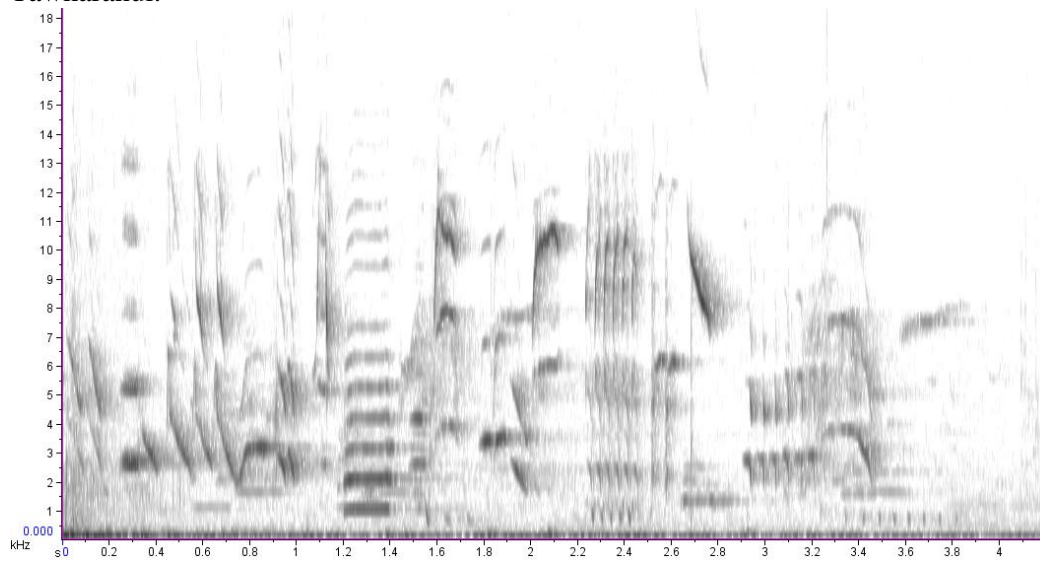
Song 46, July 30th 2010 (09.00h). 002-2010-09-09 01_06_45. YM-RY. Highly complex trill at Ecology Bush, Tawharanui.



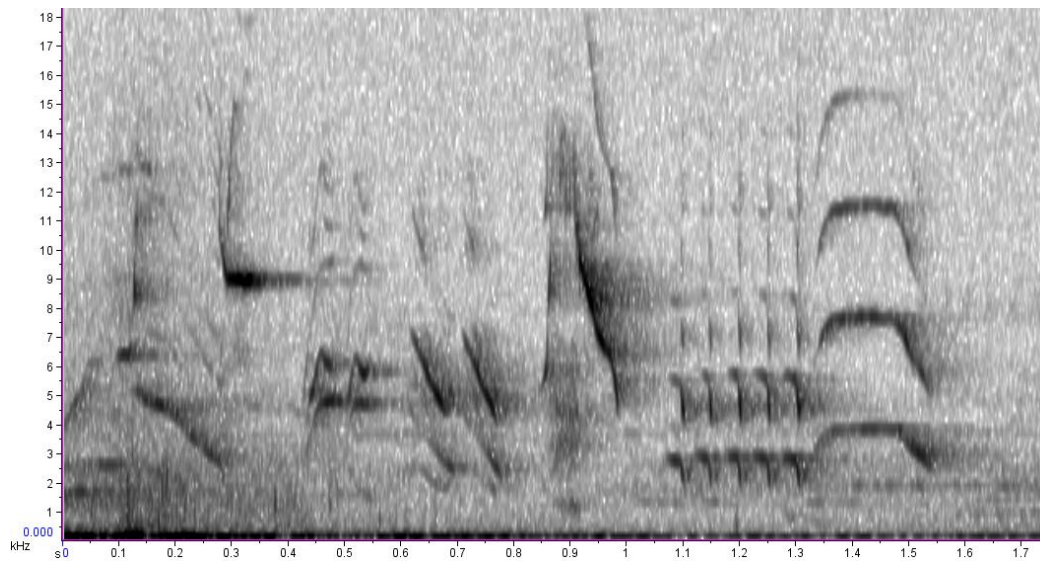
Song 47. July 30th 2010 (09.00h). 004-2010-09-09 01_06_45. YM-RY Trill, common ending syllables at Ecology Bush, Tawharanui. Cork-popping syllable (syllable 13) at c. 10s.



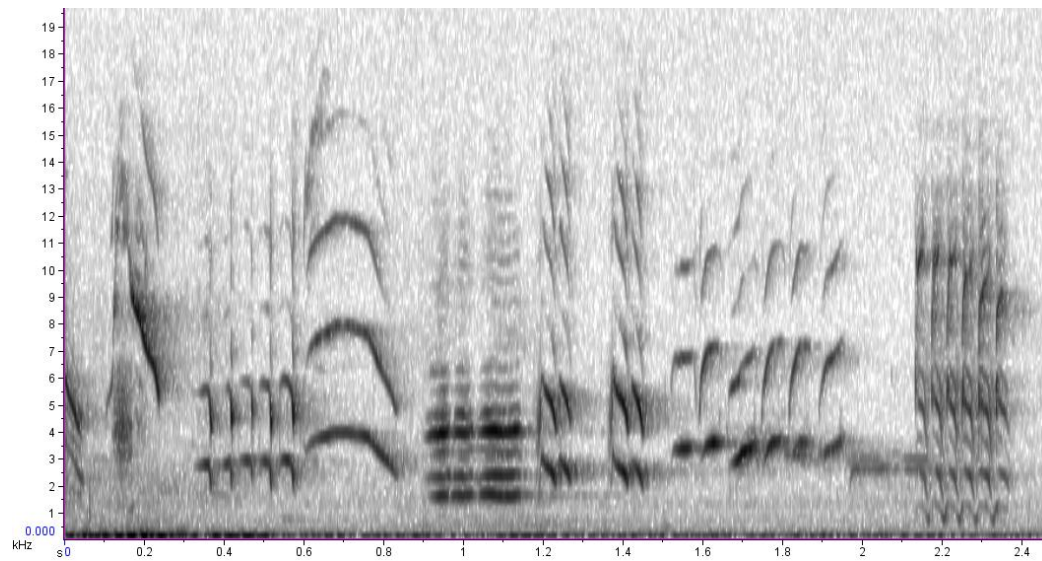
Song 48. July 30th 2010 (09.00h). 005-2010-09-09 01_06_45. YM-RY. Highly complex trill, very similar to the song 2 above this one. At Ecology Bush, Tawharanui.



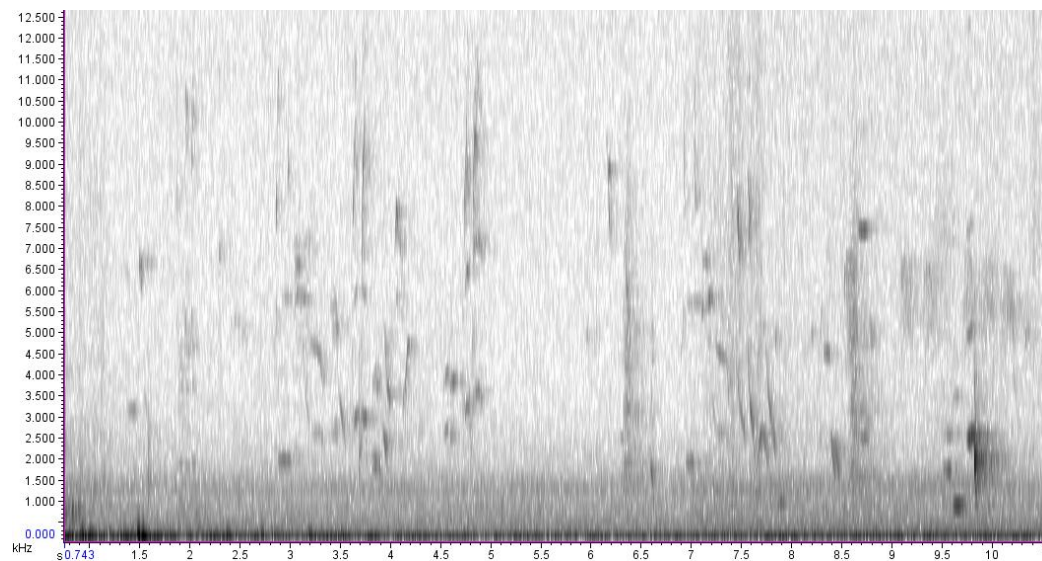
Song 49. July 30th 2010 (09.00h). 007-2010-09-09 01_06_45. YM-RY. Complex trill at Ecology Bush, Tawharanui. YM-RY. Ends with same 3 syllables as above song.



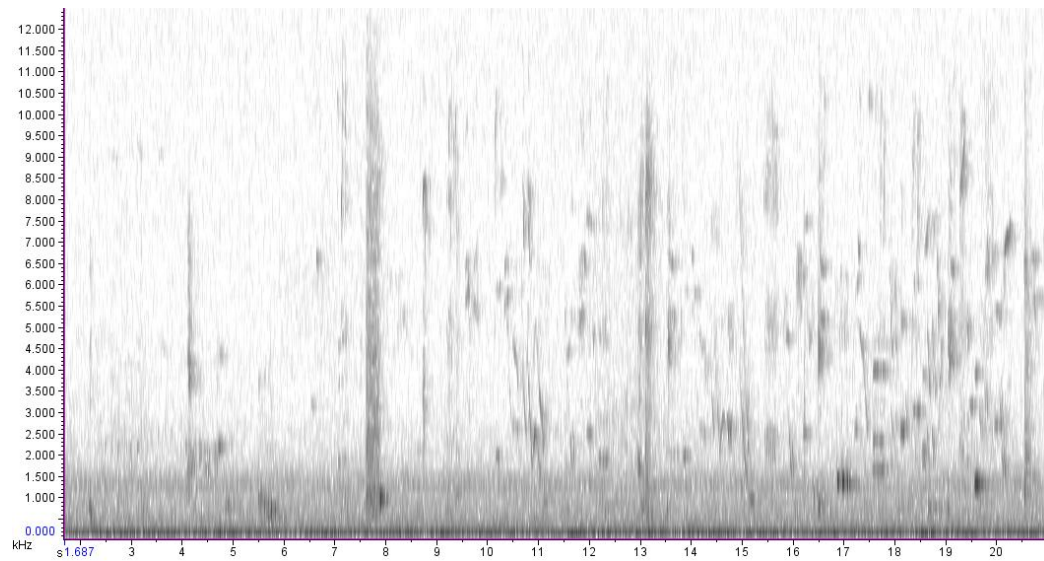
Song 50. July 30th 2010 (10.30h). 002-2010-09-09 01_11_19. YM-RY. Complex trill at Ecology Bush, Tawharanui. YM-RY (Y14618 – a 110g male tui).



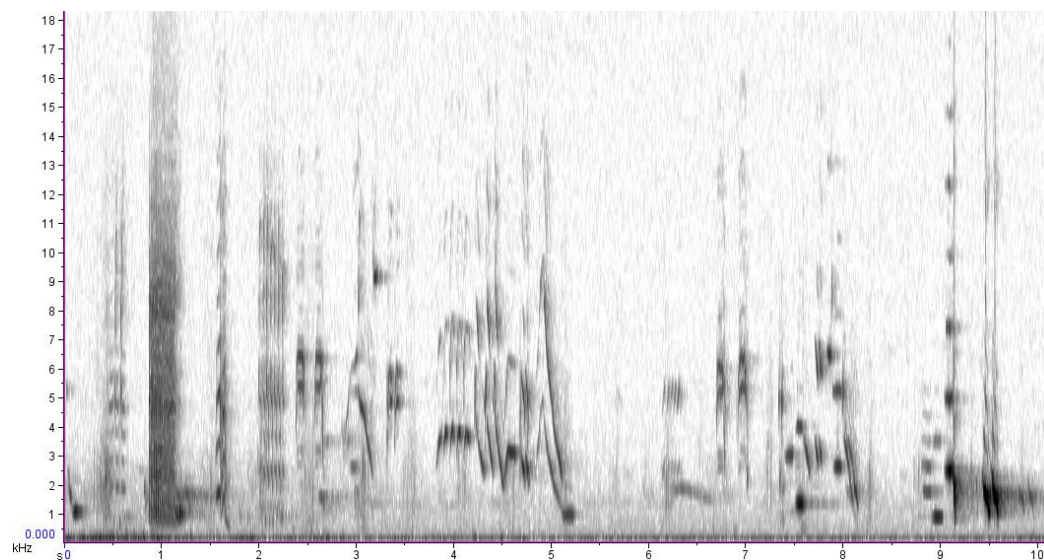
Song 51. July 30th (11.00h). 008-2010-09-09 01_11_19. Trill at Ecology Bush, Tawharanui. Ending with part of the common ending syllables heard at Ecology Bush.



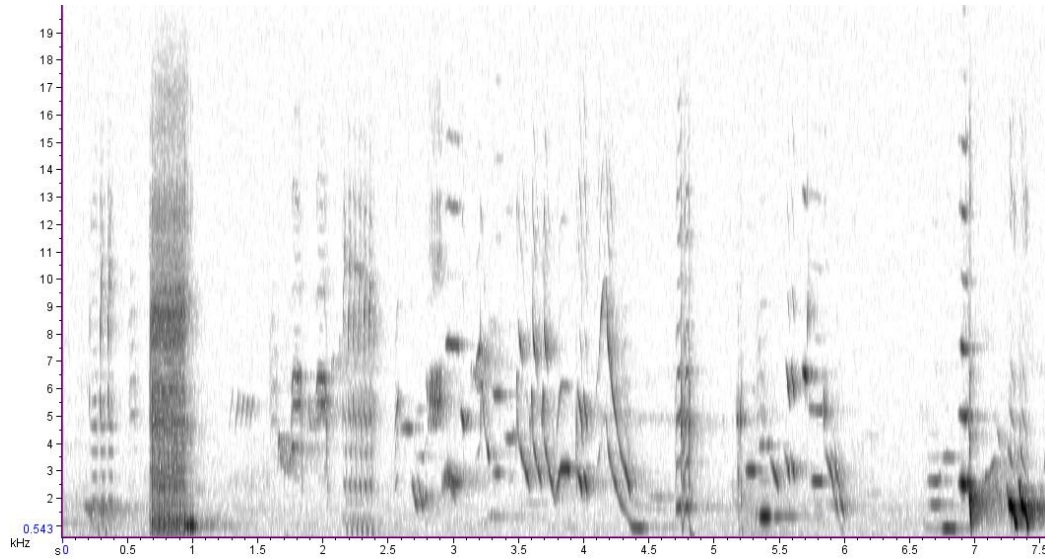
Song 52. July 30th 2010 (11.00h). 010-2010-09-09 01_11_19. Trill song at Ecology Bush, Tawharanui.



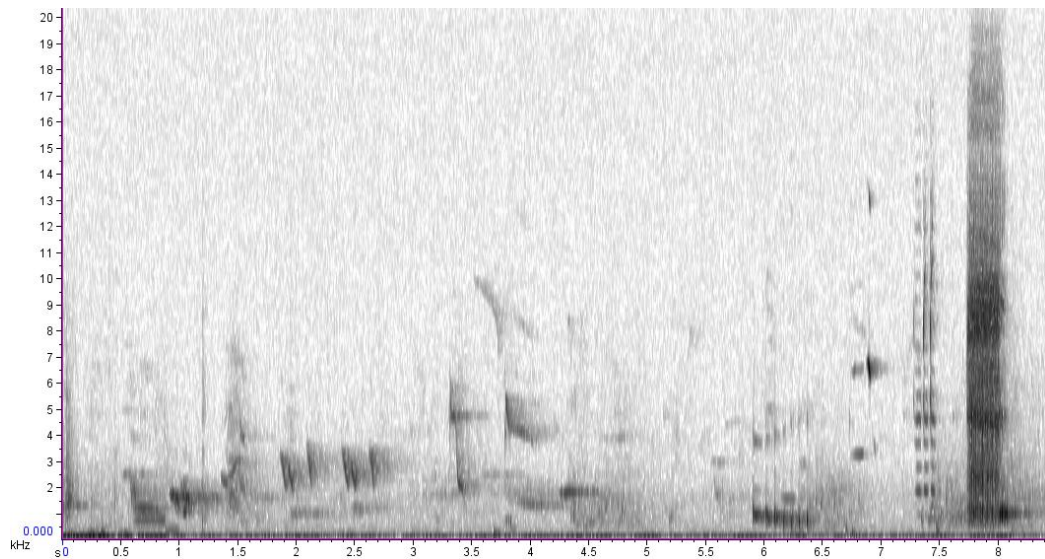
Song 53. July 30th 2010 (11.30h). 002-2010-09-09 01_19_26. Song at Ecology Bush, Tawharanui (YM-RY?).



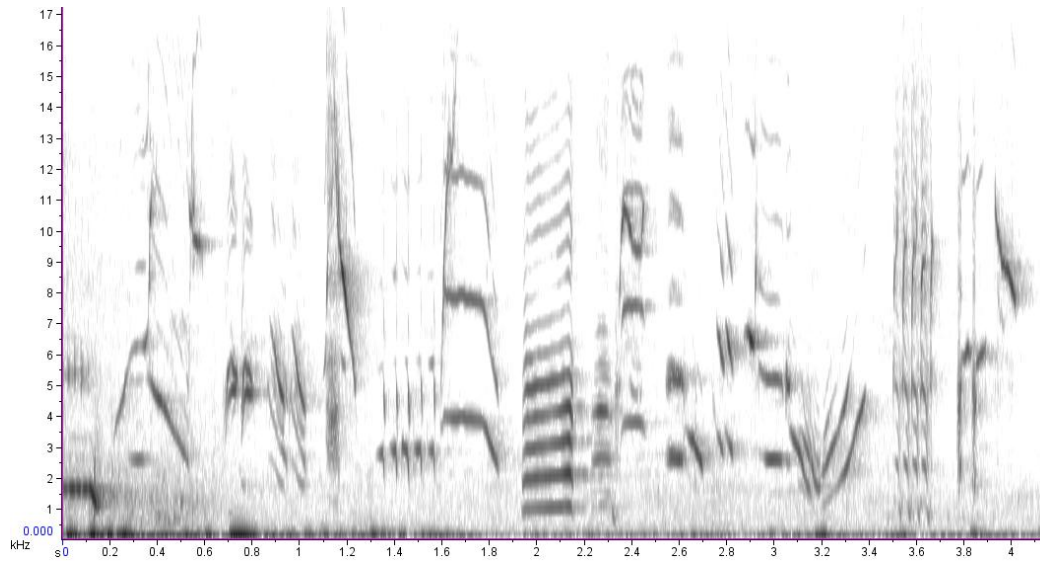
Song 54. July 30th 2010 (11.30h). 006-2010-09-09 01_19_26. Same individual as above, almost identical to the song above but with subtle differences. Ecology Bush, Tawharanui.



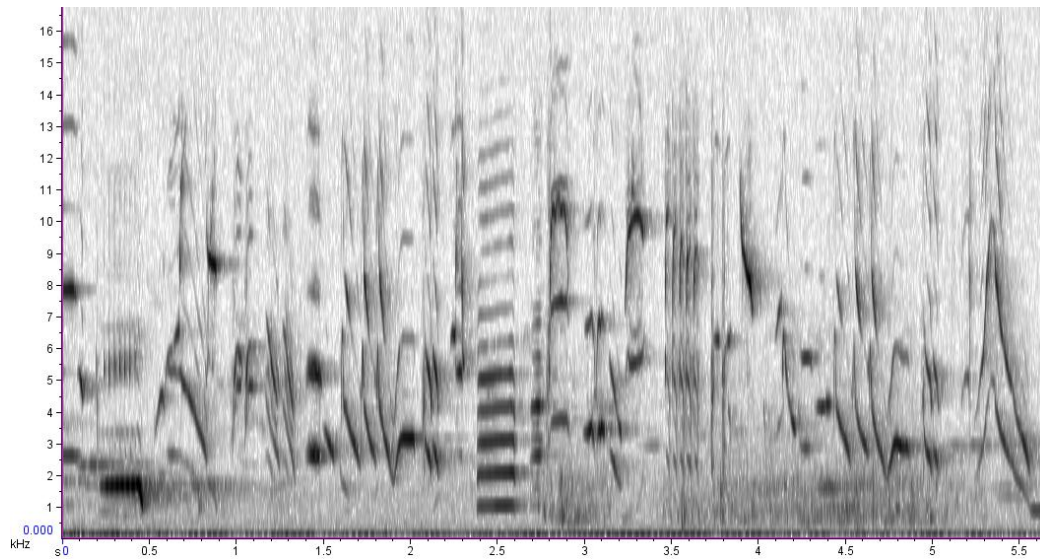
Song 55. July 30th 2010 (12.00h). 007-2010-09-09 01_19_26. Song at Ecology Bush, Tawharanui. Includes common Ecology Bush syllables such as the cork-popping, the kokokok and the common starting syllables.



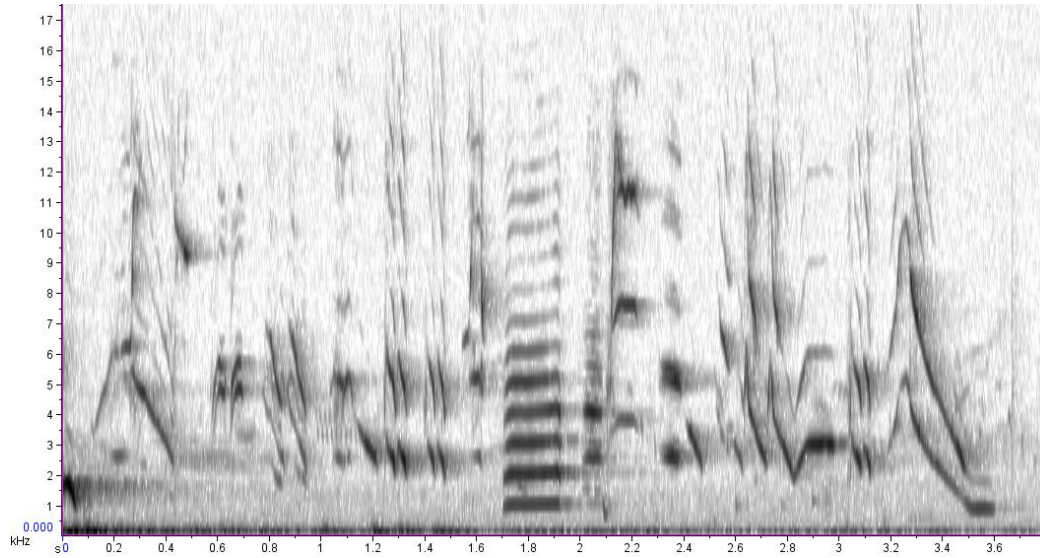
Song 56. July 30th 2010 (12.00h). 008-2010-09-09 01_19_26. Highly complex trill at Ecology Bush, Tawharanui. YM-RY.



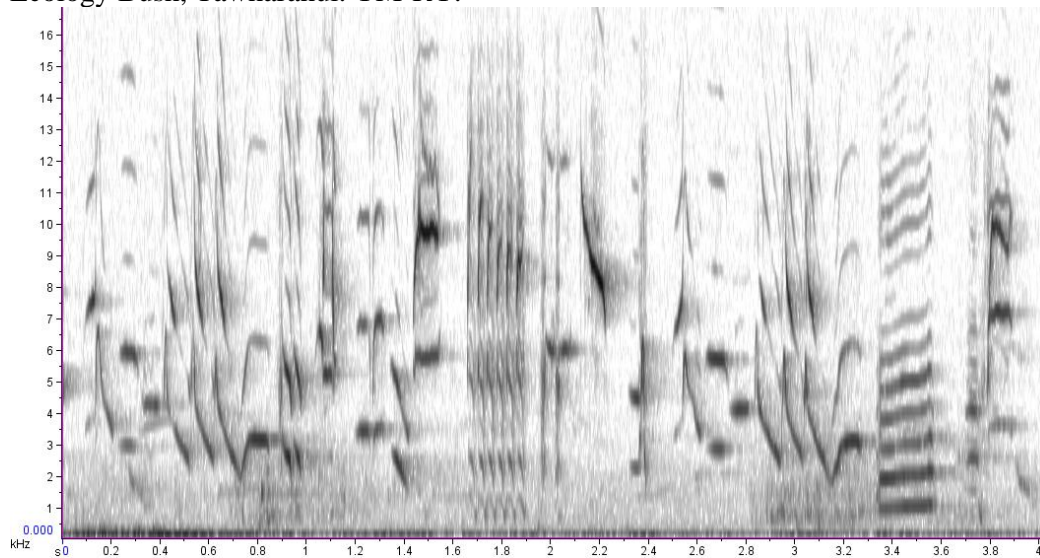
Song 57. July 30th 2010 (12.00h). 009-2010-09-09 01_19_26. Highly complex trill at Ecology Bush, Tawharanui. YM-RY. Contains some similar syllables as above.



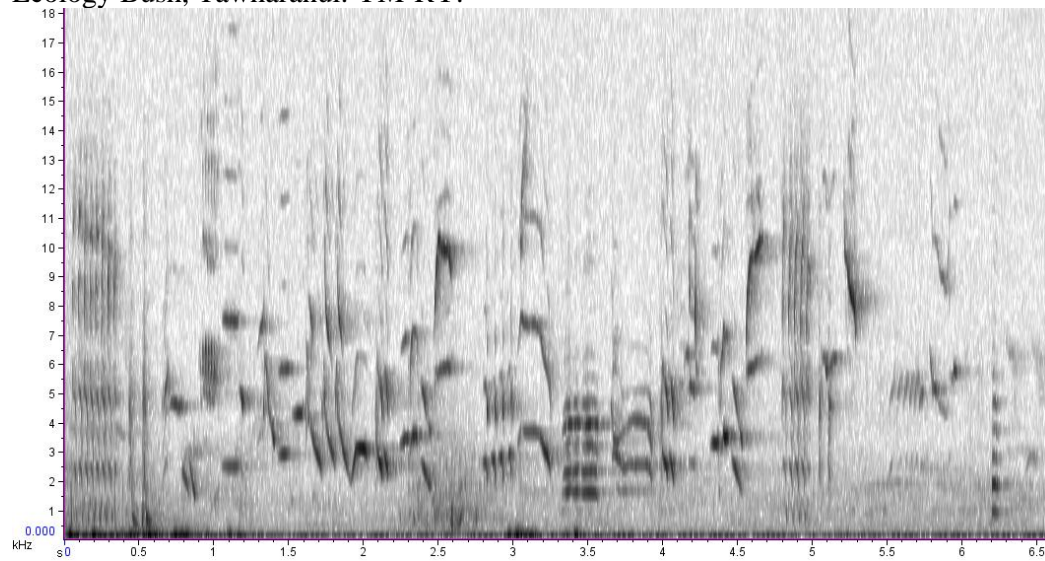
Song 58. July 30th 2010 (12.00h). 011-2010-09-09 01_19_26. Complex trill at Ecology Bush, Tawharanui. YM-RY.



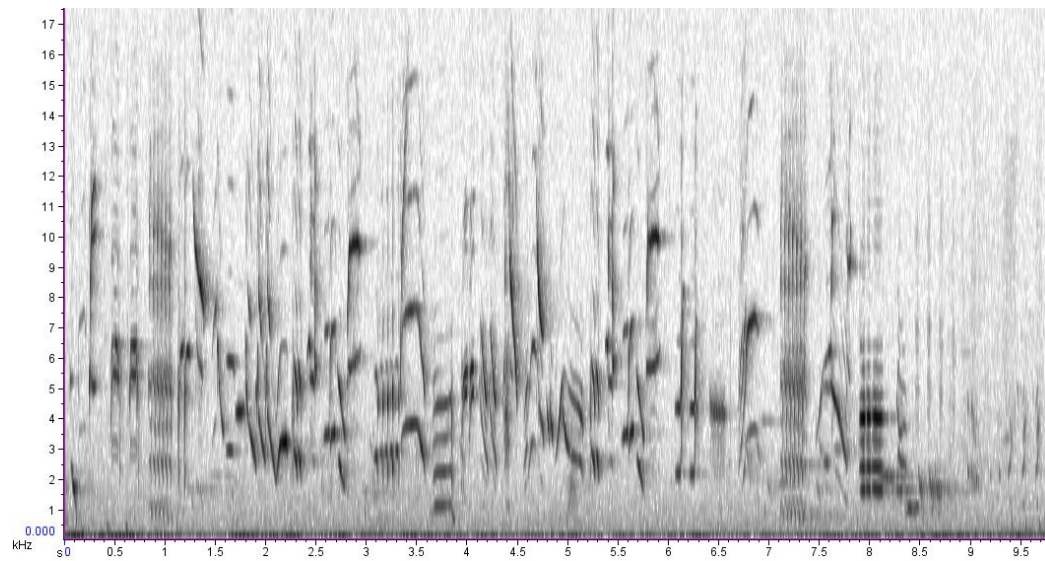
Song 59. July 30th 2010 (12.00h). 012-2010-09-09 01_19_26. Complex trill at Ecology Bush, Tawharanui. YM-RY.



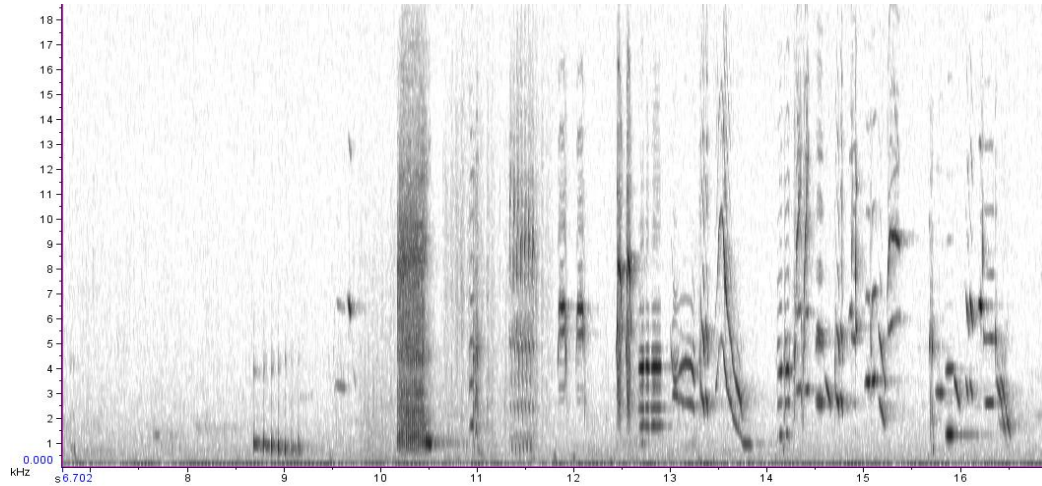
Song 60. July 30th 2010 (12.15h). 013-2010-09-09 01_19_26. Complex trill at Ecology Bush, Tawharanui. YM-RY.



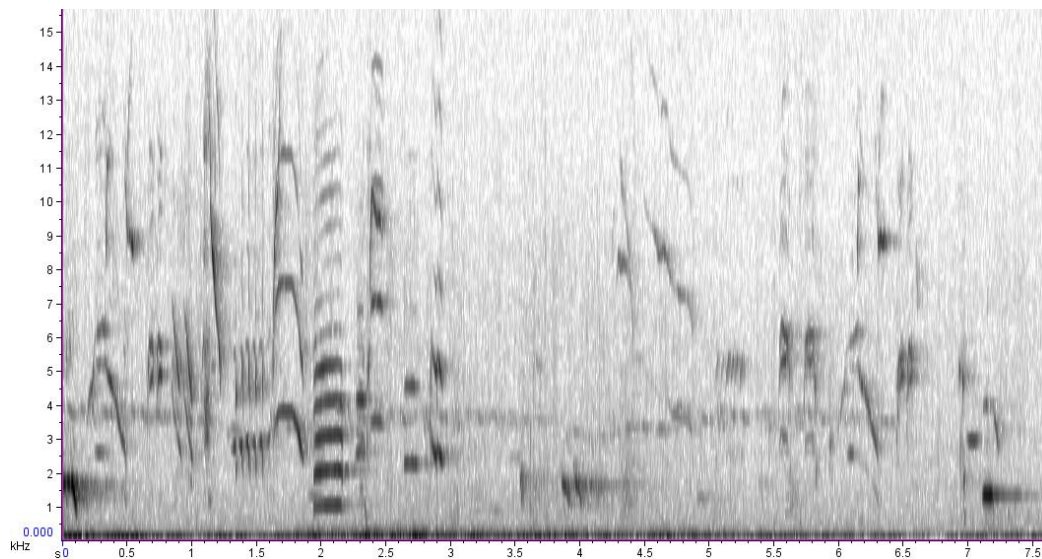
Song 61. July 30th 2010 (13.30h). 012-2010-09-09 01_25_08. Complex trill at Ecology Bush, Tawharanui. YM-RY. This male is defending his territory here.



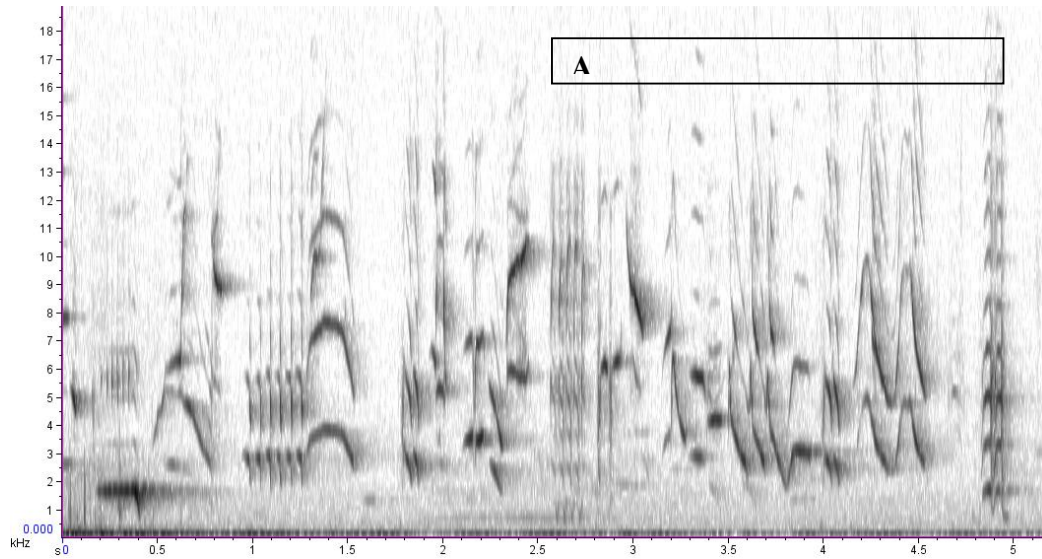
Song 62. July 30th 2010 (13.30h). 015-2010-09-09 01_25_09. YM-RY at Ecology Bush, Tawharanui. Still defending his territory.



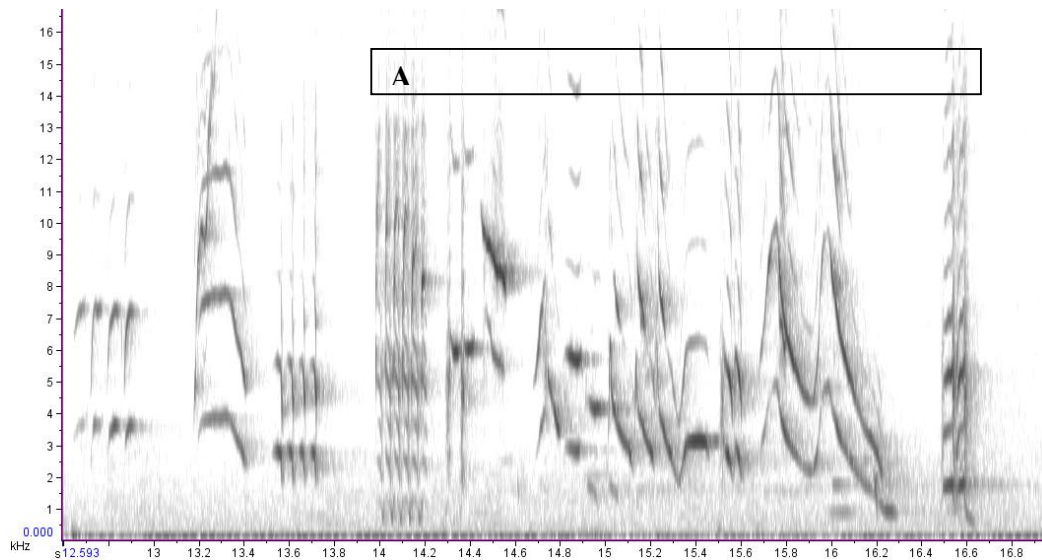
Song 63. July 30th 2010 (13.30h). 016-2010-09-09 01_25_09. YM-RY still defending his territory at Ecology Bush, Tawharanui. Similar syllables in most of his songs, but all seem to differ.



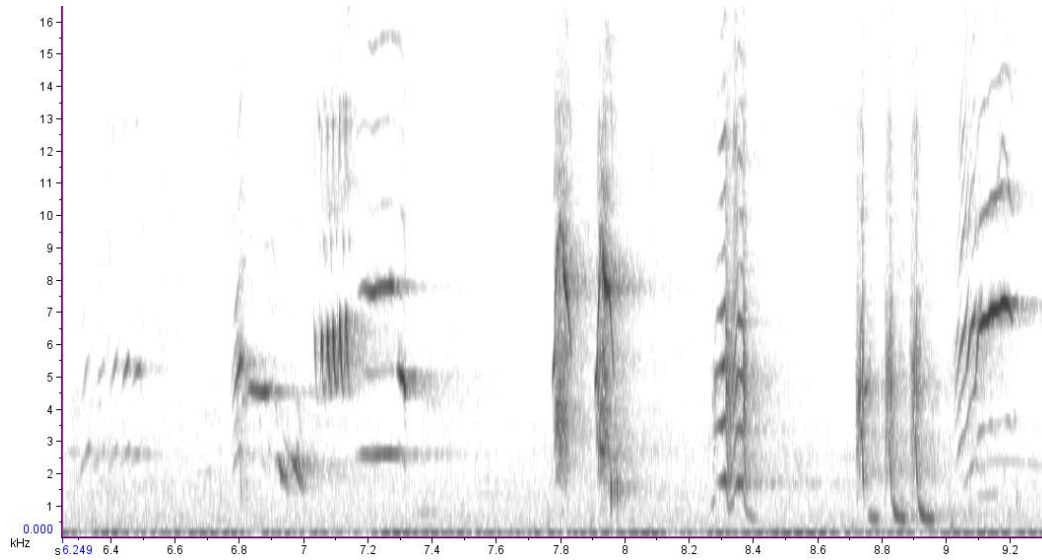
Song 64. July 30th 2010 (13.30h). 017-2010-09-09 01_25_09. YM-RY up to his usual tricks at Ecology Bush, Tawharanui. 'A' is the part of the song where this and the next song are identical.



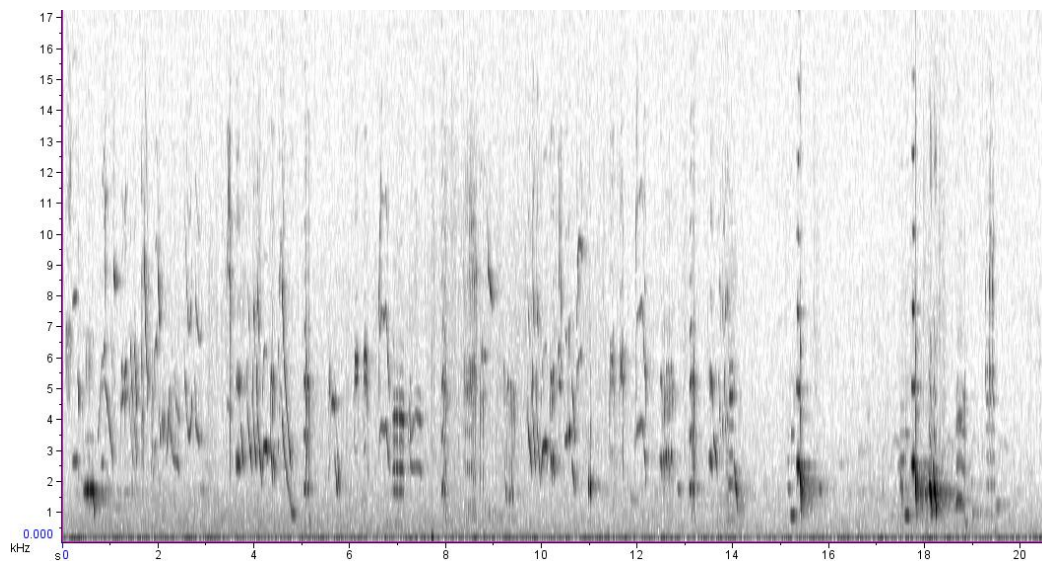
Song 65. July 30th 2010 (13.45h). 018-2010-09-09 01_25_09 (2). YM-RY at Ecology Bush, Tawharanui. The last c. 2.6s of this song is identical to the song above, the identical part labelled 'A' on both songs. The part preceding this 2.6s is how the songs differ from each other.



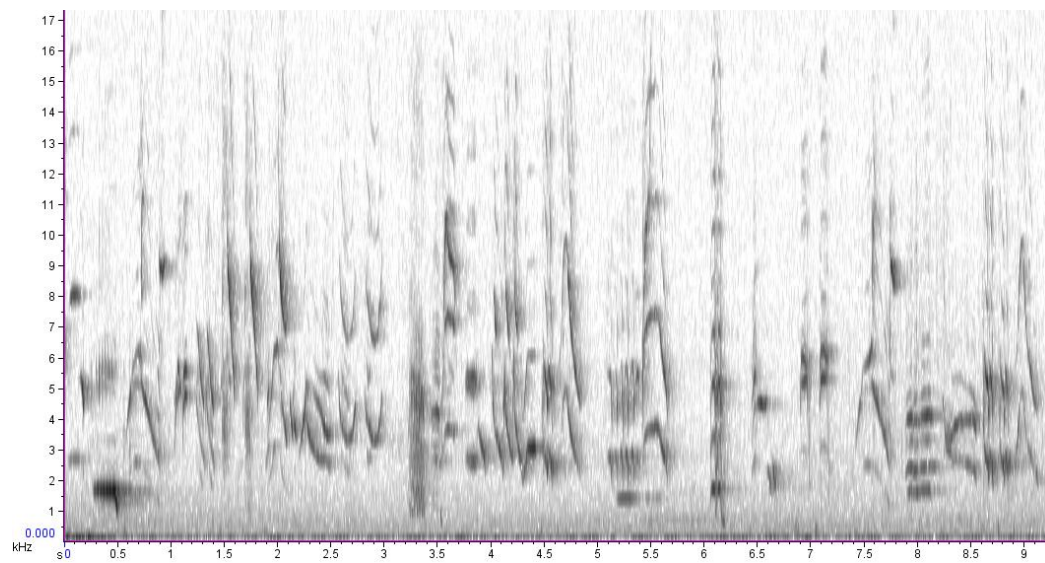
Song 66. July 30th 2010 (13.45h). 018-2010-09-09 01_25_09. YM-RY at Ecology Bush, Tawharanui.



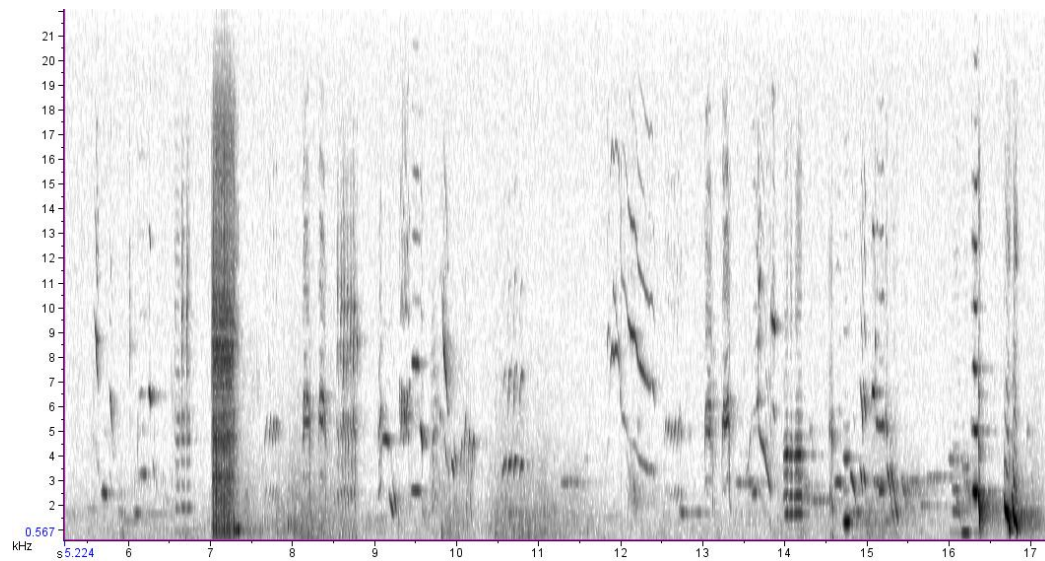
Song 67. July 30th 2010 (13.45h). 019-2010-09-09 01_25_09. Very long trill from YM-RY at Ecology Bush, Tawharanui. Culminates in 2 successive variations of the common Ecology Bush ending syllables at c.15.2s and at c. 17.8s.



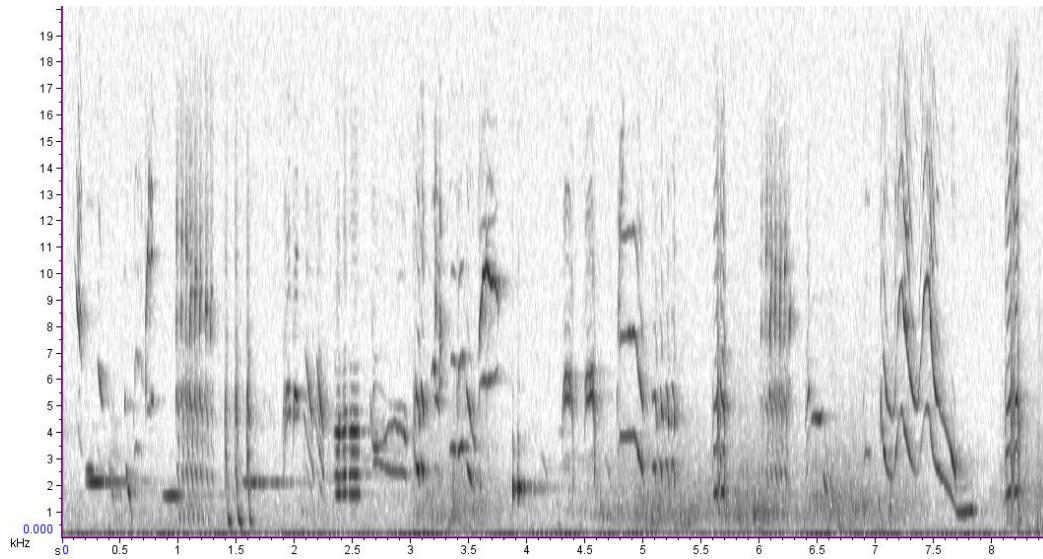
Song 68. July 30th 2010 (13.45h). 021-2010-09-09 01_25_09. Complex trill by YM-RY at Ecology Bush, Tawharanui.



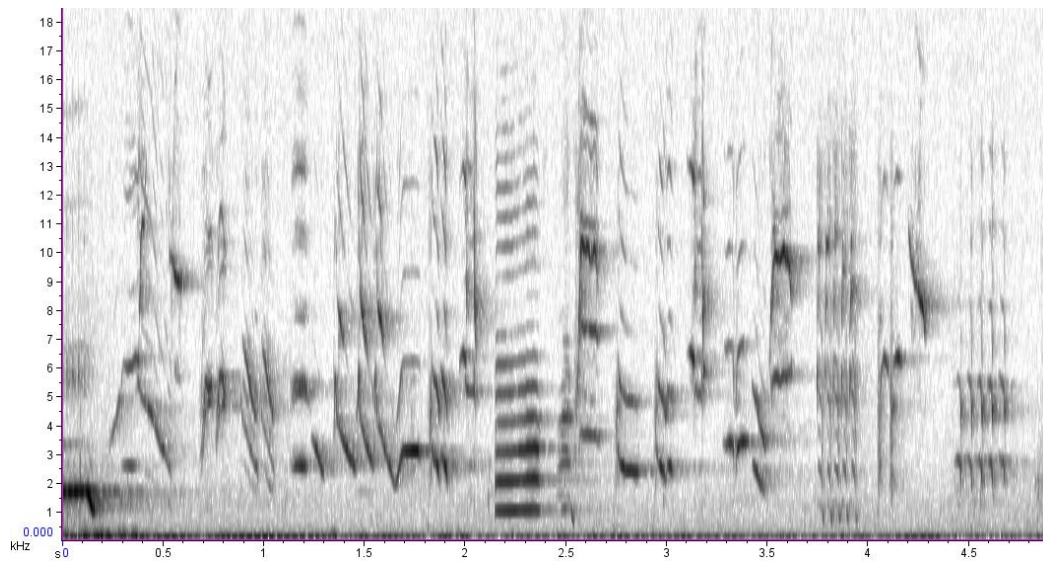
Song 69. July 30th 2010 (14.00h). 014-2010-09-09 01_19_26. Song at Ecology Bush, contains some of the common Ecology Bush syllables, including the common ending syllables and the cork popping syllable at c. 7s.



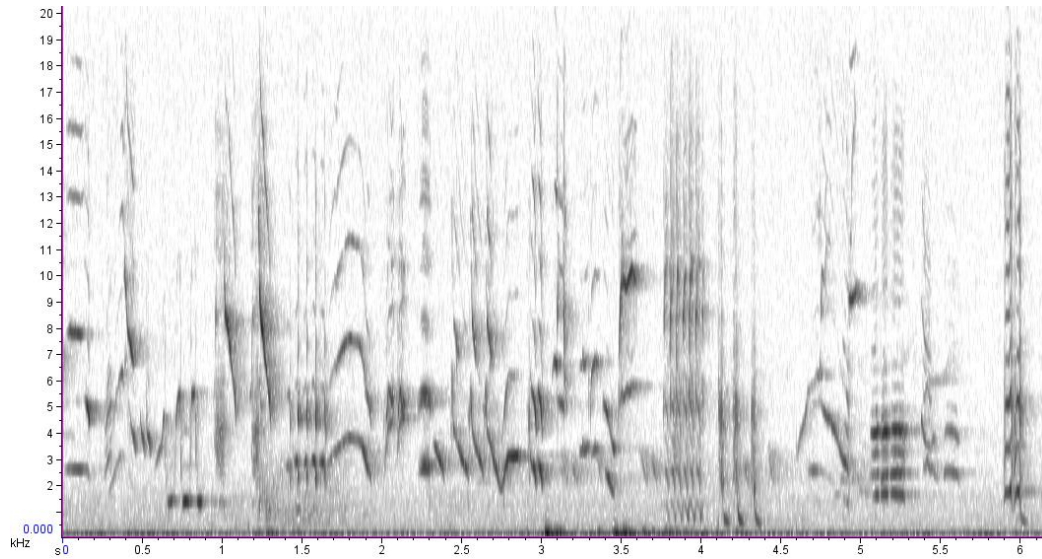
Song 70. July 30th 2010 (12.30h). 015-2010-09-09 01_19_26. Complex trill at Ecology Bush, Tawharanui.



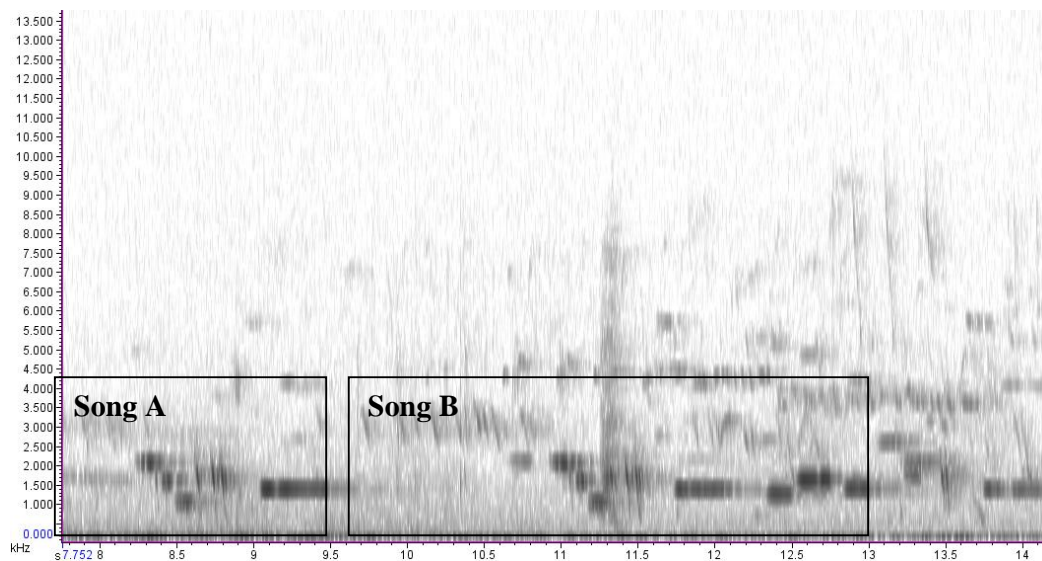
Song 71. July 30th 2010 (12.30h). 016-2010-09-09 01_19_26. Exemplar of the complex trill component of tui song at Ecology Bush, Tawharanui.



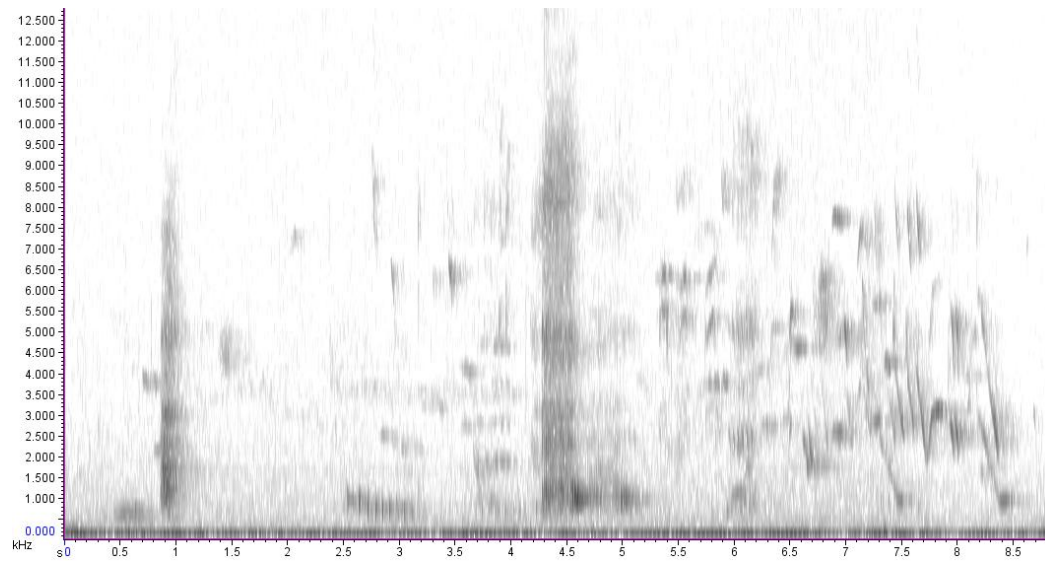
Song 72. July 30th 2010 (12.45h). 017-2010-09-09 01_19_26. Complex trill at Ecology Bush, Tawharanui.



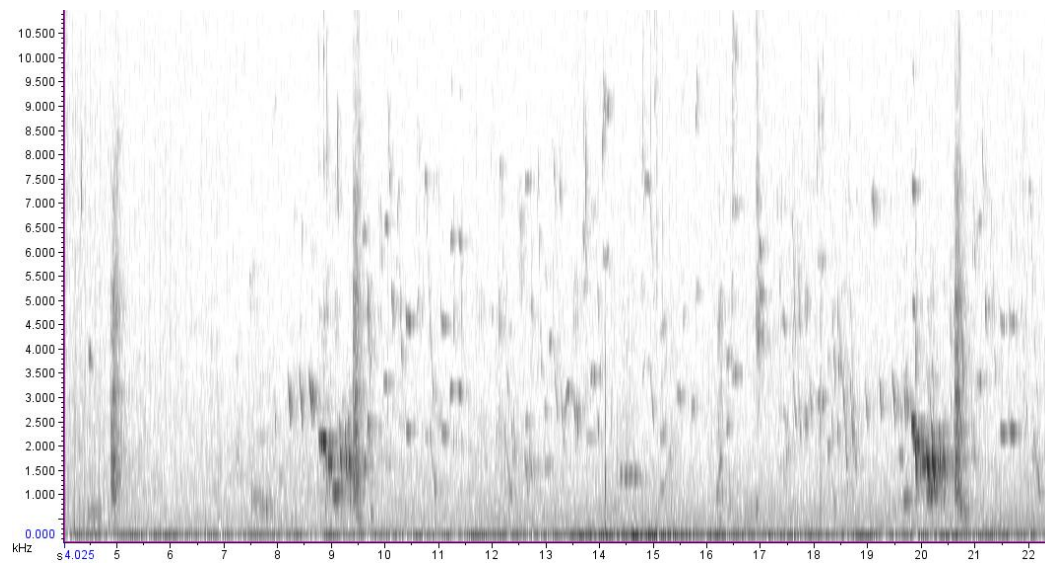
Song 73. July 30th 2010 (12.30h). 001-2010-09-09 01_25_08. Another common song heard at Ecology Bush. Begins with an ascending crescendo of notes (repetitions of the same syllable, but ascending in energy-level). 2 songs here incidentally (labelled 'Song A' and 'Song B').



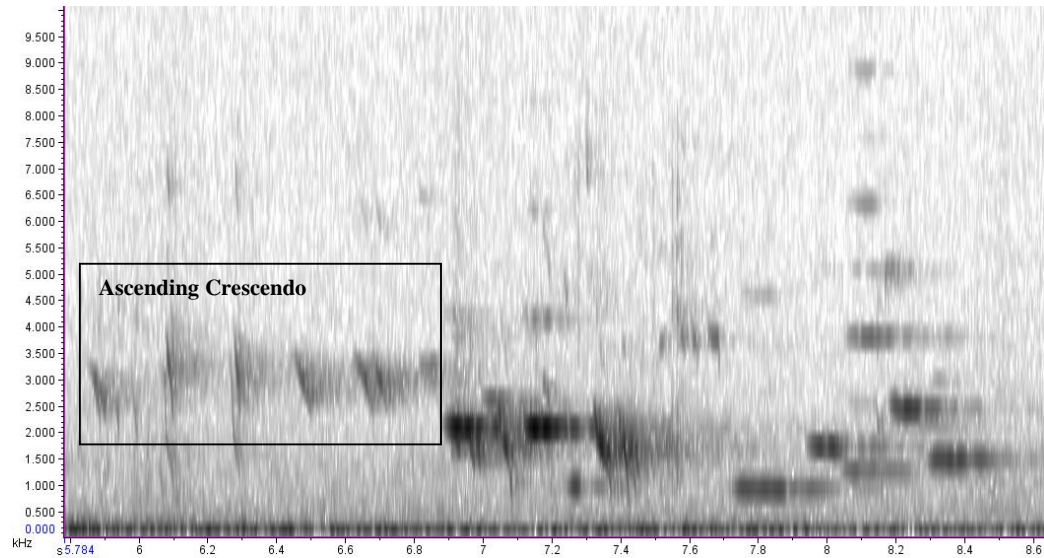
Song 74. July 30th 2010 (12.30h). 003-2010-09-09 01_25_08. Ecology Bush, Tawharanui.



Song 75, July 30th 2010 (12.30h). 004-2010-09-09 01_25_08. Ecology Bush, Tawharanui includes kokok syllable and the common ending syllables.

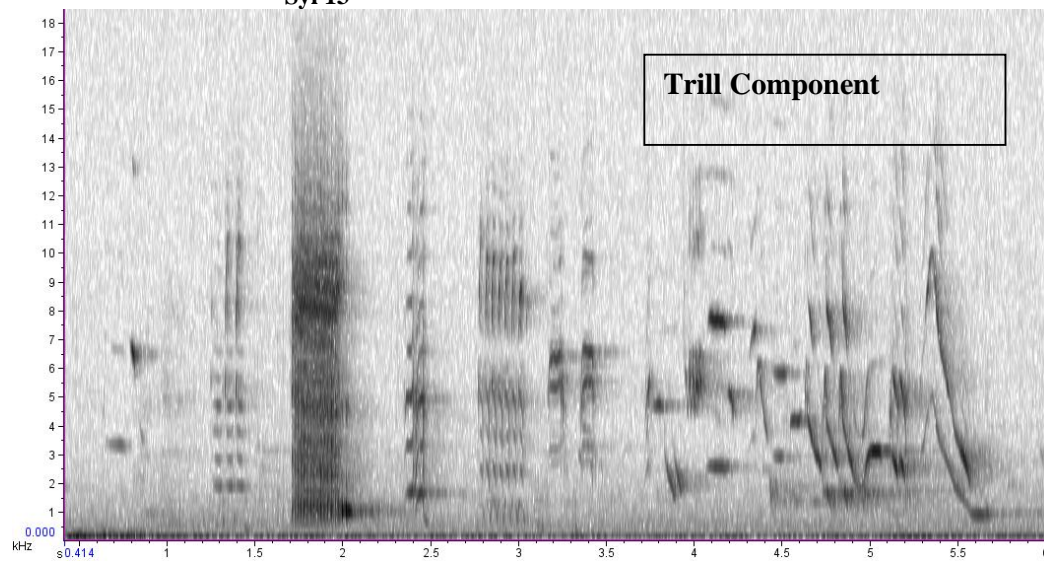


Song 76. July 30th 2010 (13.00h). 005-2010-09-09 01_25_08 (TawhJulyAugSept 2010 Folder 14). Ecology Bush, Tawharanui. Ascending crescendo leading to a chime-like song.

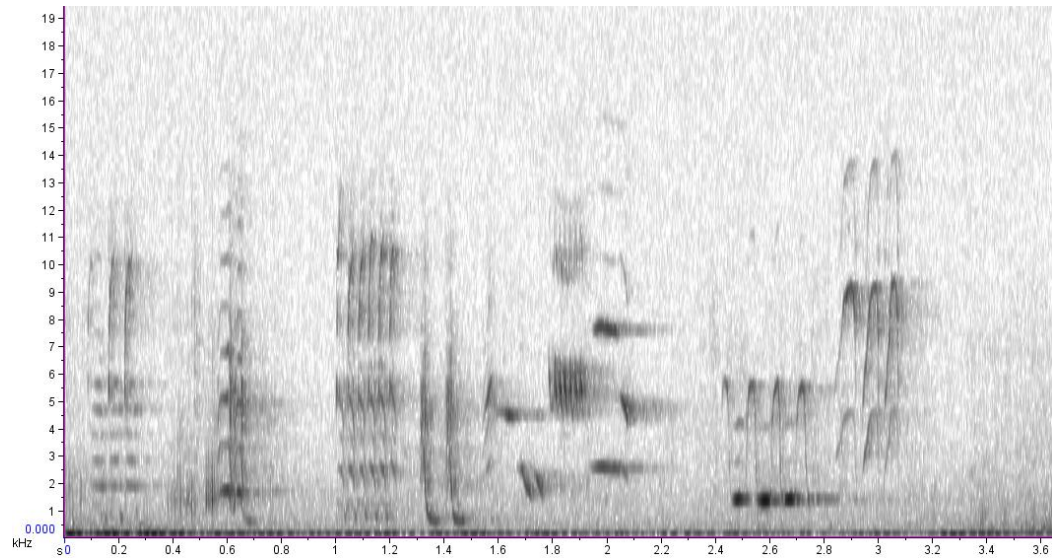


Song 77. July 30th 2010 (13.00h). 006-2010-09-09 01_25_08. Song at Ecology Bush, Tawharanui. Includes c.1.5s trill component.

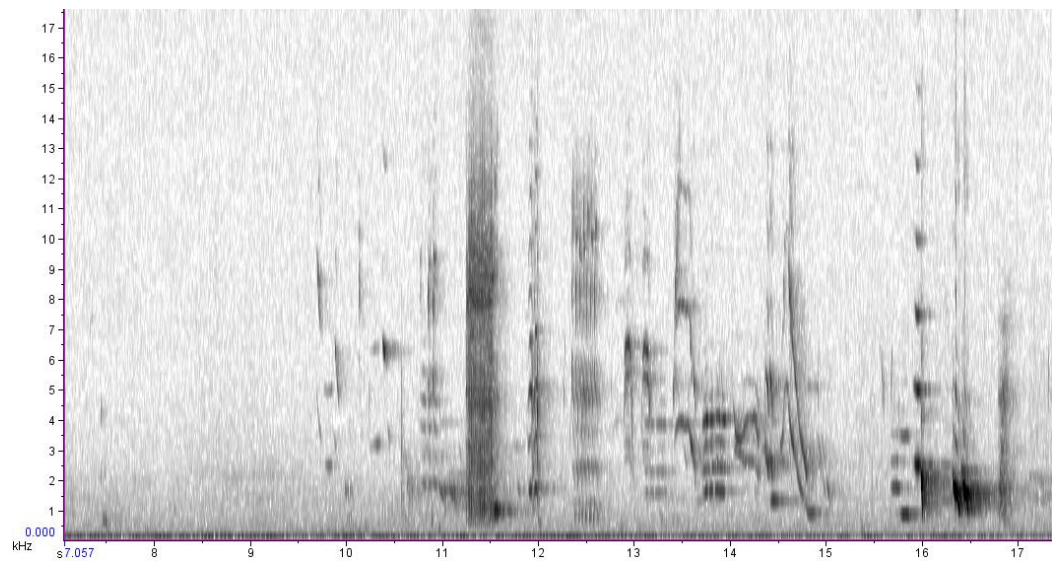
Syl 13



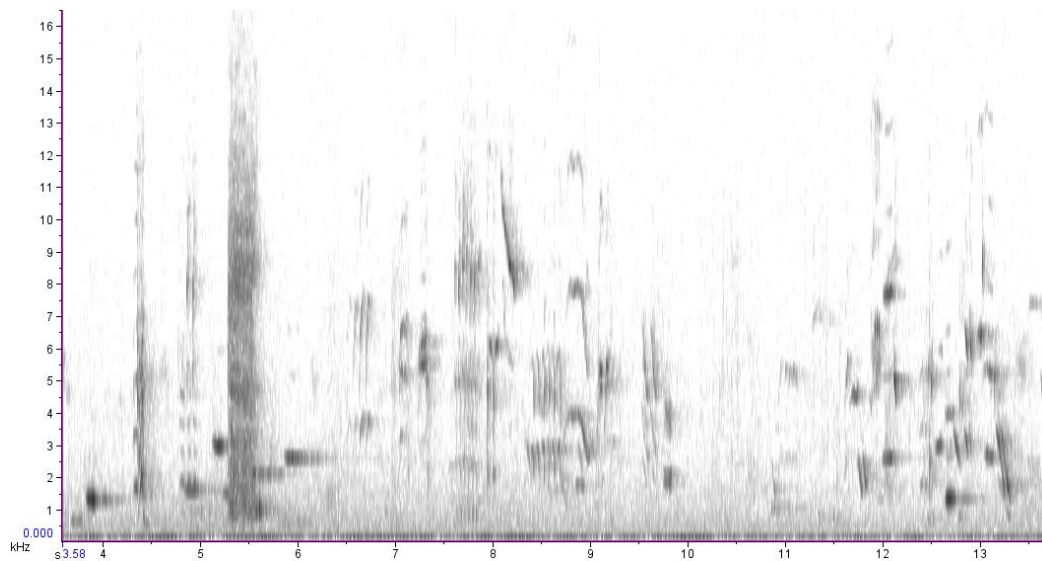
Song 78. July 30th (13.30h). 007-2010-09-09 01_25_08. Song at Ecology Bush, Tawharanui.



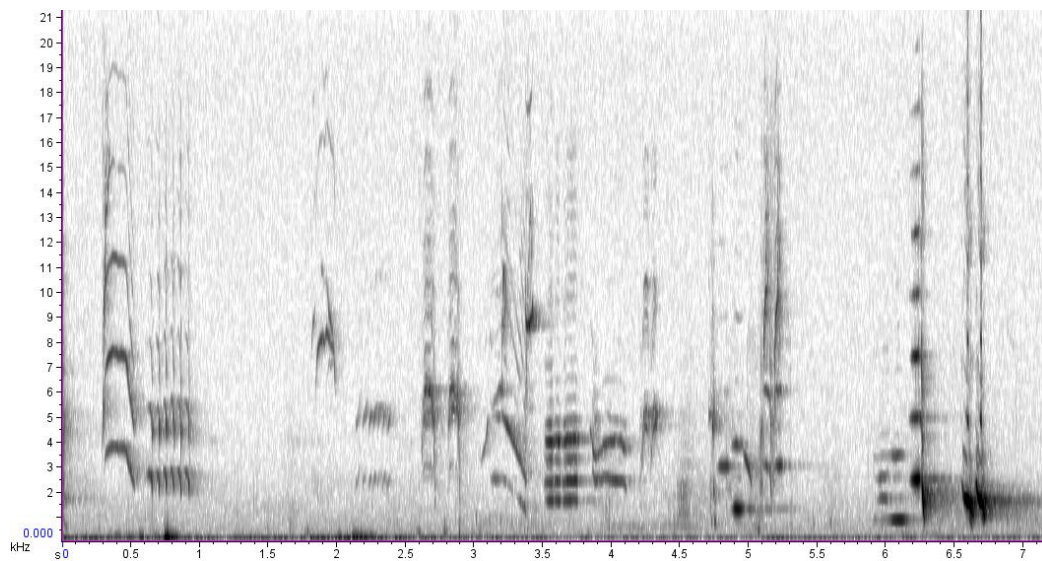
Song 79. July 30th (13.30h). 008-2010-09-09 01_25_08. Variations of this song are commonly heard around Ecology Bush, Tawharanui. Includes cork-popping and the common end syllables. Trill component is similar to other Ecology Bush songs.



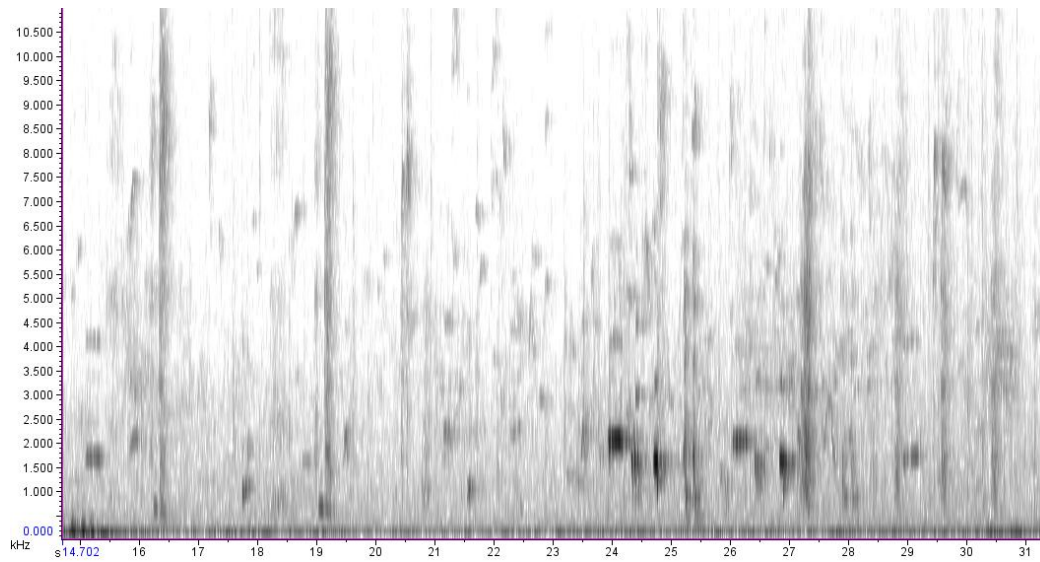
Song 80. July 30th (13.30h). 009-2010-09-09 01_25_08. Song at Ecology Bush, Tawharanui. Common starting syllables, the cork-popping syllable too and a trill.



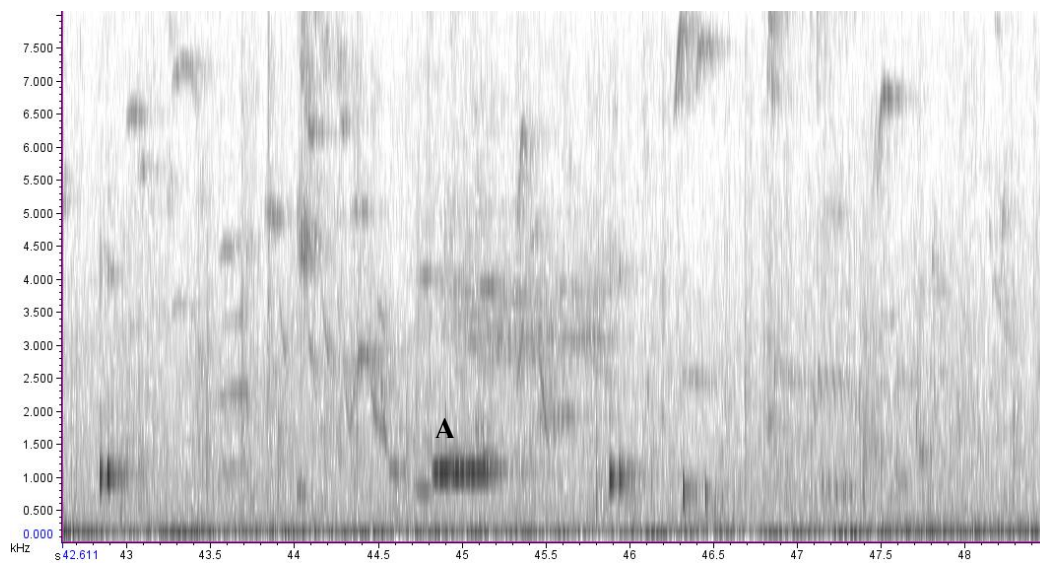
Song 81. July 30th (14.30h). 010-2010-09-09 01_25_08. Ecology Bush song. Trill and other syllables, ends with the common (Ecology Bush) ending syllables at Ecology Bush, Tawharanui.



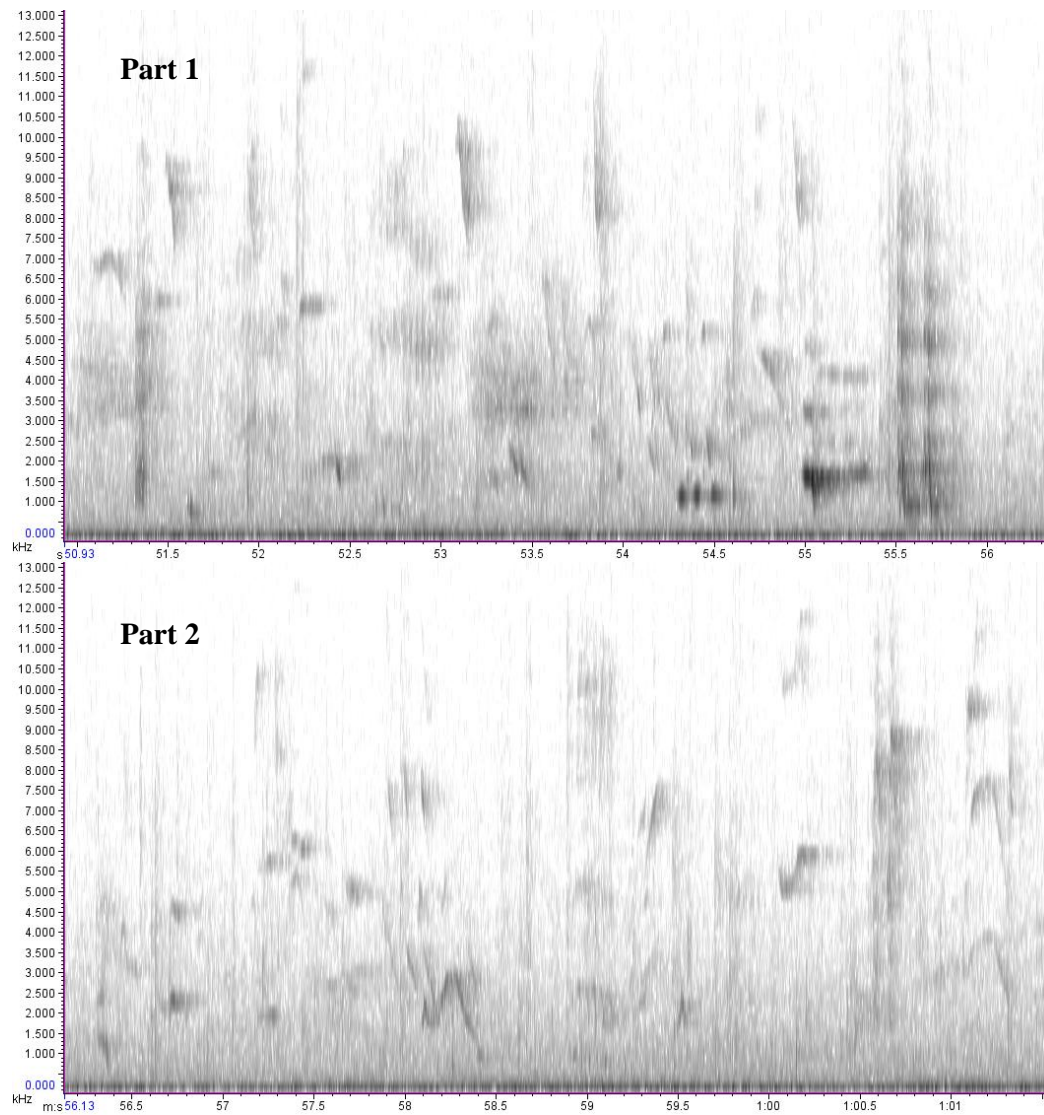
Song 82. August 3rd 2010 (12pm). 001-2010-09-09 01_31_43. Jones Bay, Tawharanui. BBk/BkB-YM.

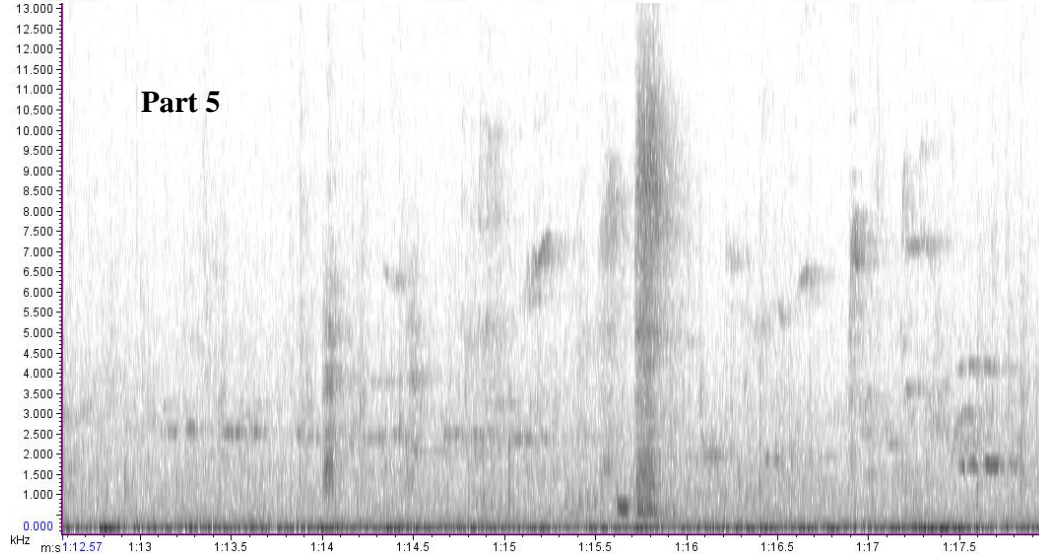
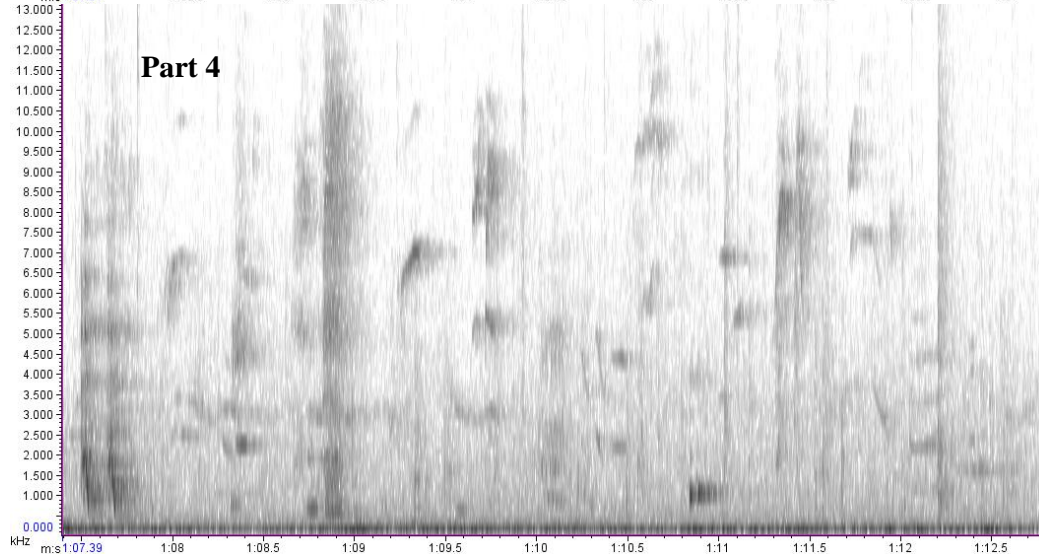


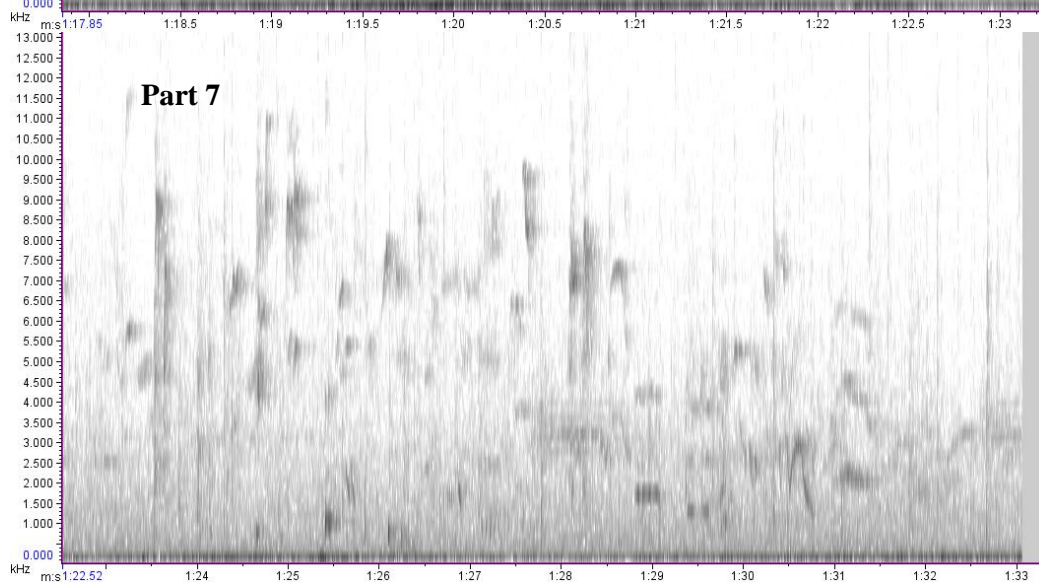
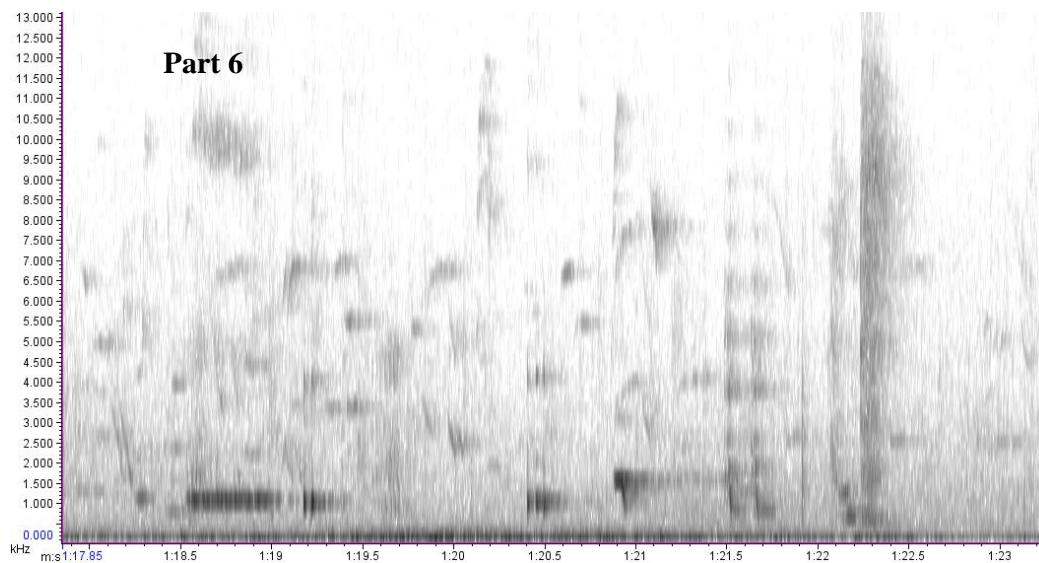
Song 83. August 3rd 2010 (12pm). 001-2010-09-09 01_31_43. Jones Bay, Tawharanui. BBk/BkB-YM. Includes common Jones Bay/Lagoon area syllable at c. 44.8-45.2s, the main part marked 'A'. Syllable A is preceded by 2 smaller syllables.



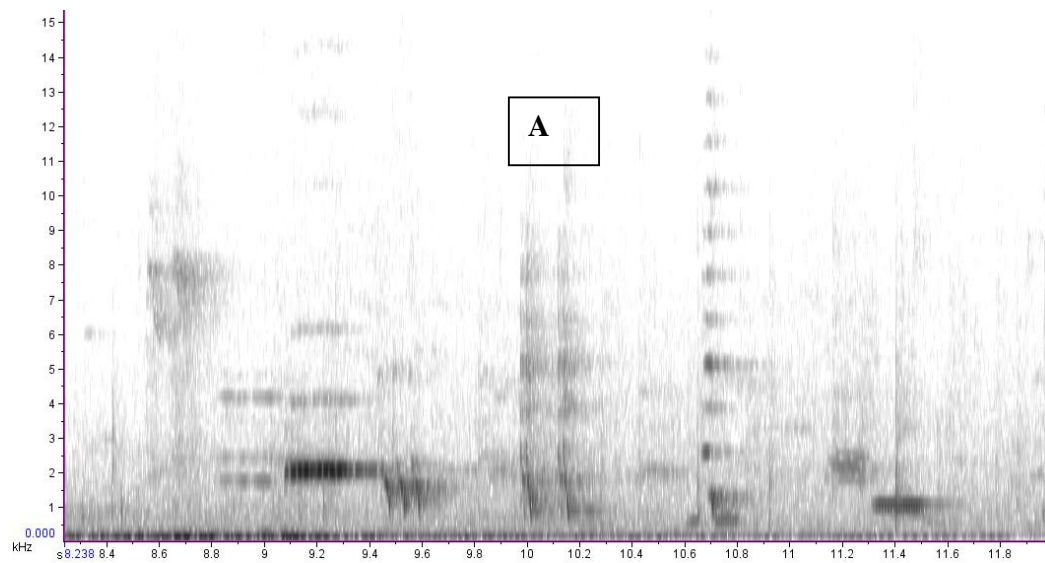
Song 84. August 3rd 2010 (12pm). 001-2010-09-09 01_31_43. 43-second song bout at Jones Bay, Tawharanui by BBk/BKB-YM. Broken up into 7 parts. Interspersed with songs from other neighbouring individuals, on the Flame Tree.



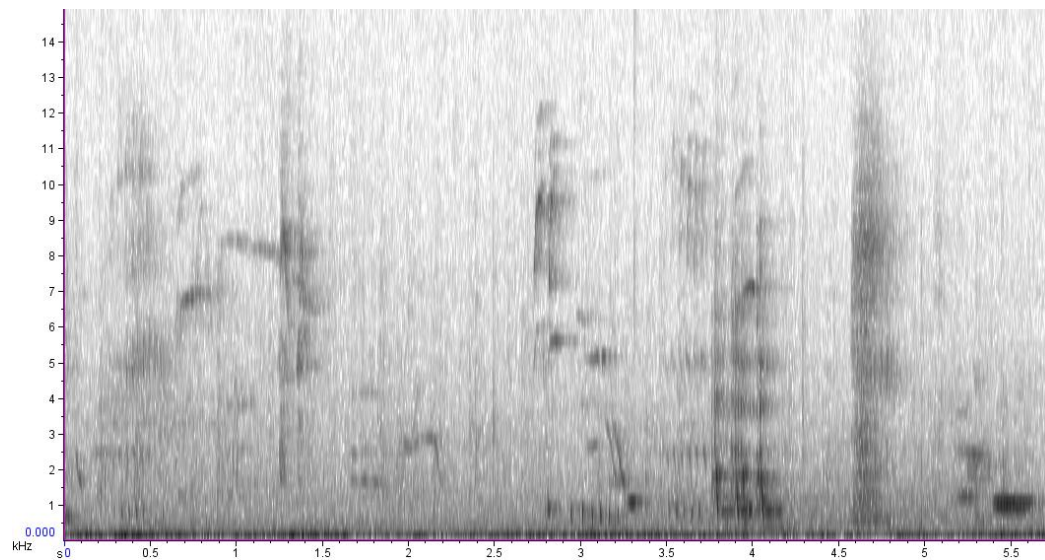




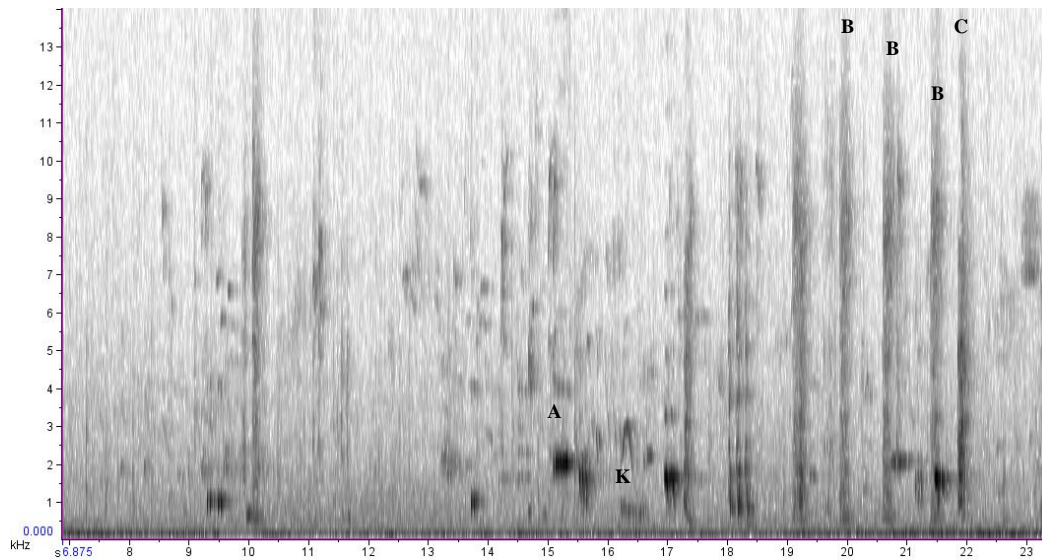
Song 85. August 3rd 2010 (12.00h). 002-2010-09-09 01_31_43. Flame Tree, Jones Bay, Tawharanui. 2 other tui in the vicinity. Common Jones Bay two-note syllable 'A' at c. 10s and 10.2s



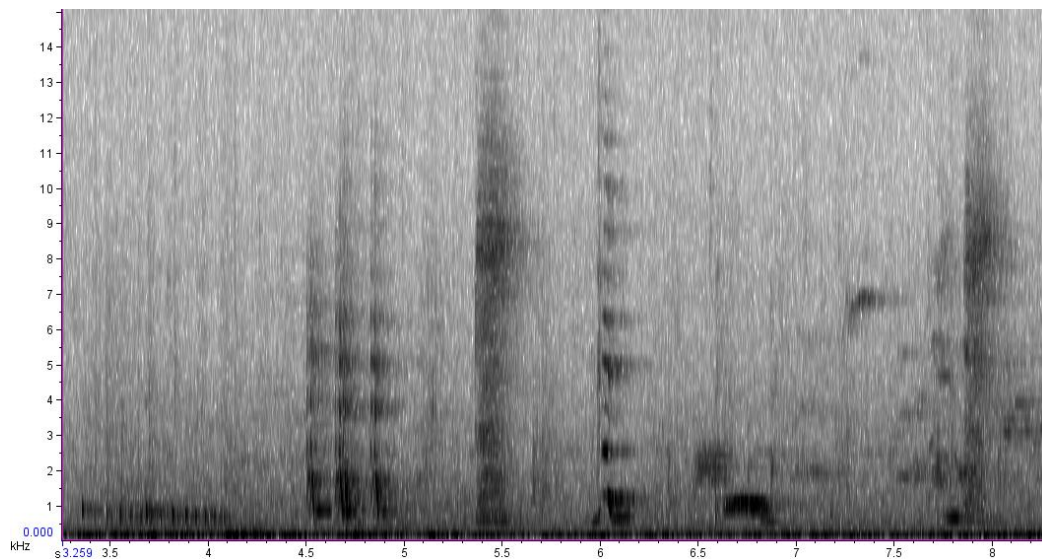
Song 86. August 3rd 2010 (12.15h). 003-2010-09-09 01_31_43. YM-RW (ID No: Y14652 (128 gram male). Flame Tree, Jones Bay, Tawharanui. Common Jones Bay 2-note syllable at c. 4s, includes an extra one of these, but this was sung by a neighbouring bird in close proximity to the subject individual.



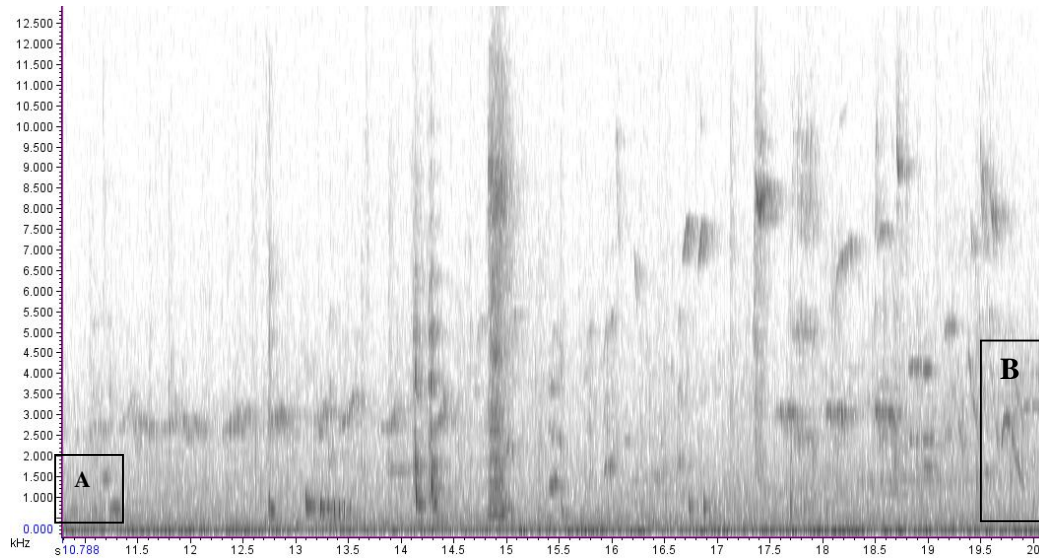
Song 87. August 3rd 2010 (12.15h). 003-2010-09-09 01_31_43 (2). YM-RW. Flame Tree, Jones Bay, Tawharanui. Includes a song-matching by other tui in the vicinity of the recorded individual. 'A' is a 2-syllable cluster (2 different syllables) that are often heard around Jones Bay/Lagoon area, 'B' is a syllable that sounds very similar to bellbird (repeated 3 times in this song) and 'C' is a kkuh (syllable 6 in my numerical assignment of syllables). 'K' is a kokokok syllable (syllable 11 in my numerical assignment of syllables).



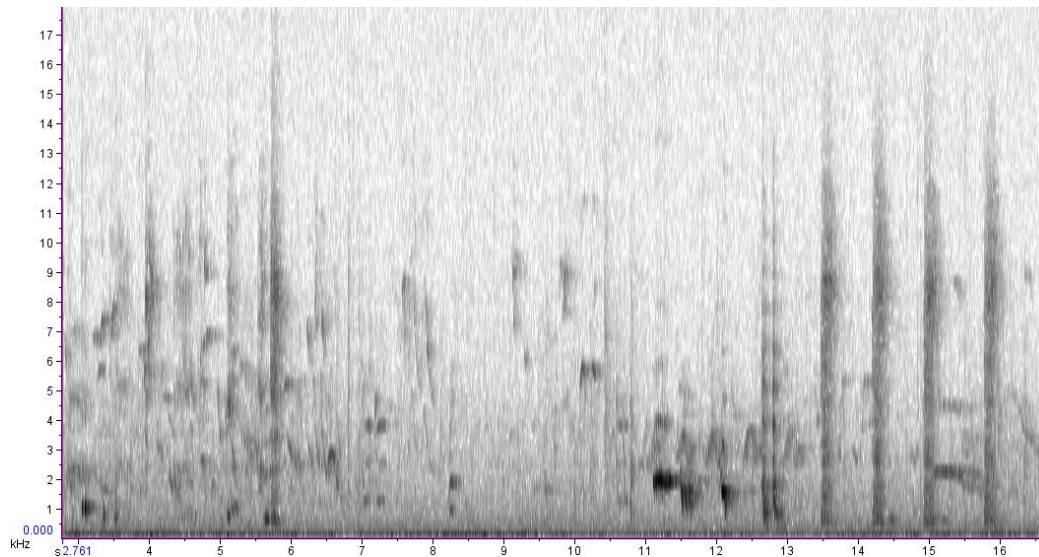
Song 88. August 3rd 2010 (12.20h). 005-2010-09-09 01_31_43. YM-RW. Flame Tree, Jones Bay, Tawharanui. Includes a song-matching by other tui in the vicinity of the recorded individual (with the kokokok syllable at the beginning. Culminates in a bellbird-type syllable. The common Jones Bay 2-note syllable at c. 4.5s appears as three, due to a neighbouring individual which was in close proximity to the subject, uttering one of these syllables.



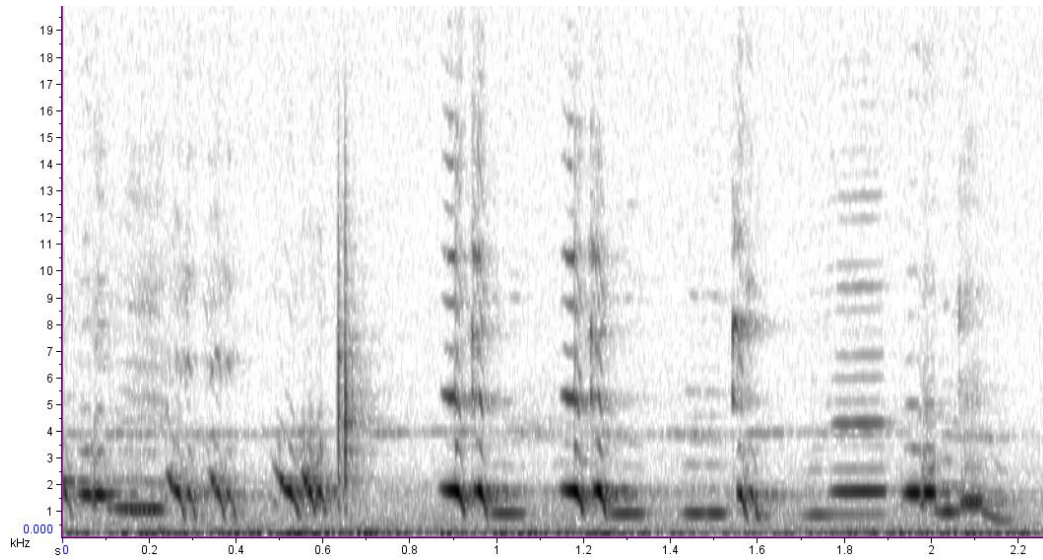
Song 89. August 3rd 2010 (12.30h). 006-2010-09-09 01_31_43. YM-RW. Flame Tree, Jones Bay, Tawharanui. 3 subtle flute syllables at the beginning 'A'. Culminates in a descending trill syllable 'B'. The bellbird-type syllable at c. 15s and preceding that is the common Jones Bay 2-note syllable (at c. 14.2 and 14.3s).



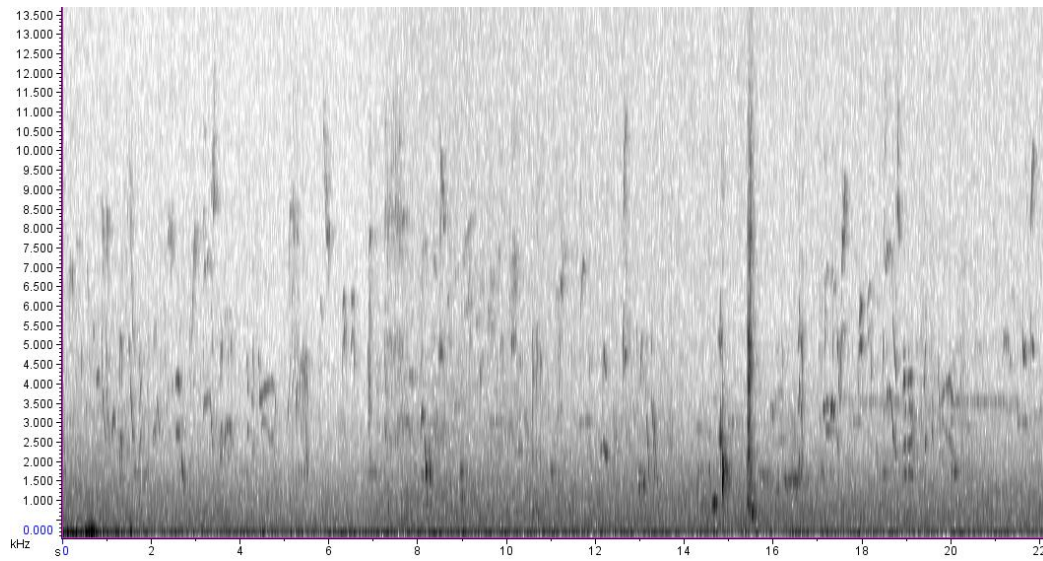
Song 90. August 3rd 2010 (12.30h). 009-2010-09-09 01_31_43. YM-RW. Flame Tree, Jones Bay, Tawharanui. Culminates in the two-note Jones Bay syllable and 4 repeats of the bellbird-like syllable.



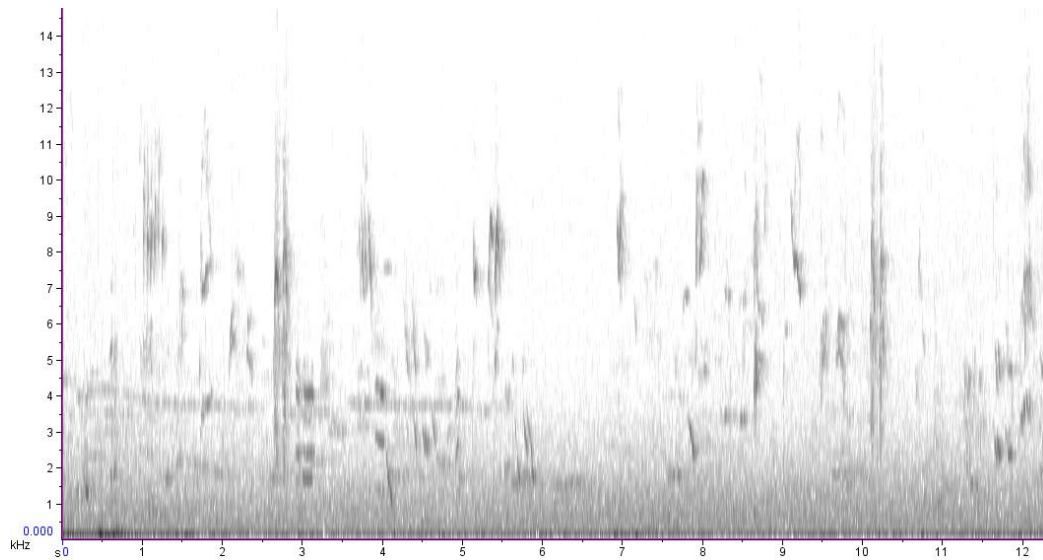
Song 91. August 3rd 2010 (13.00h). 005-2010-09-09 01_36_50. Maori Bay, Tawharanui.



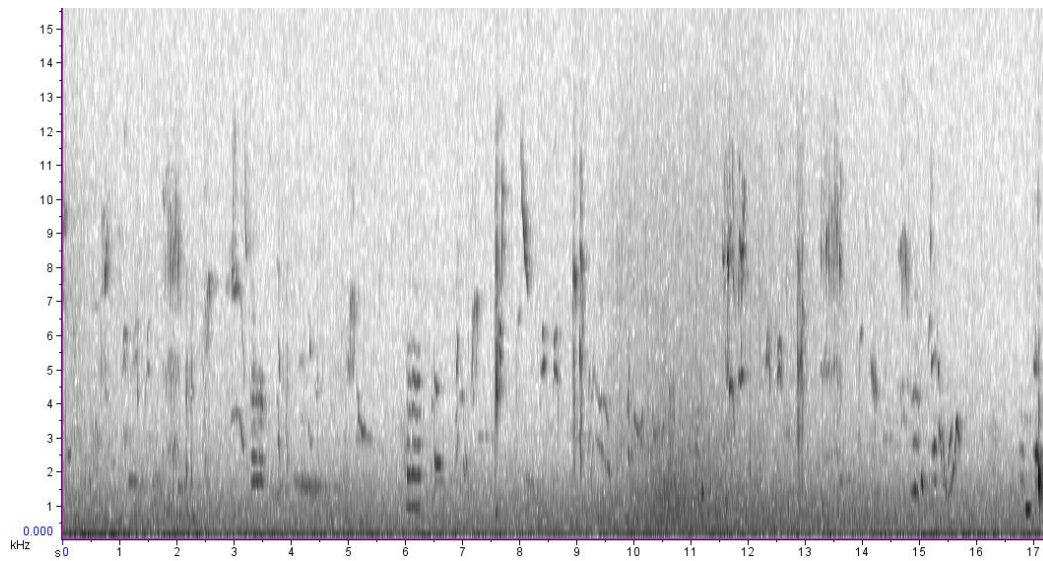
Song 92. August 3rd 2010 (17.00h). 003-2010-09-09 01_42_20. Long dusk trill at Ecology Bush, Tawharanui.



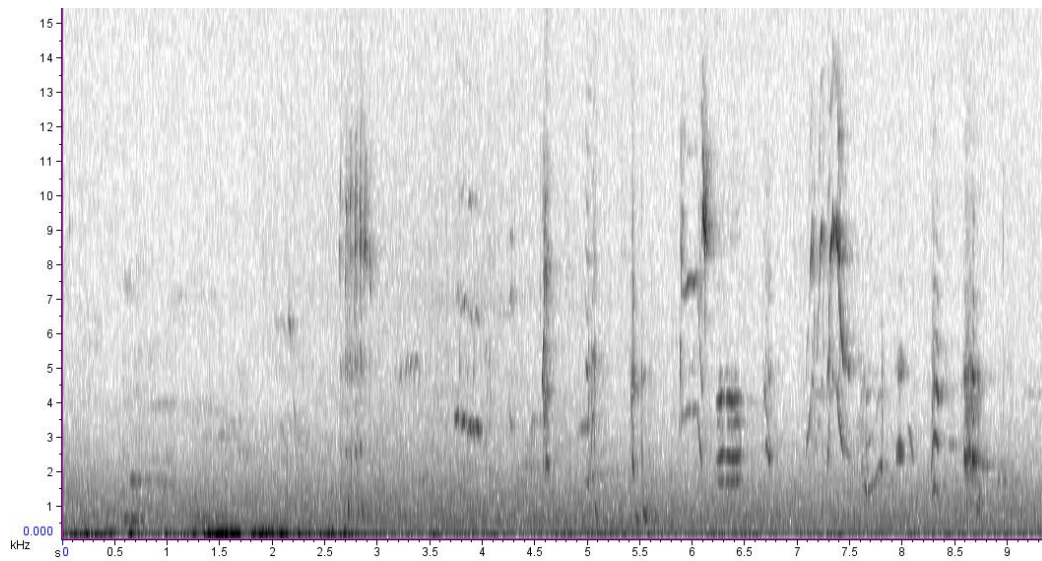
Song 93. August 3rd 2010 (17.00h). 004-2010-09-09 01_42_20. Long dusk trill from the same individual at Ecology Bush, Tawharanui.



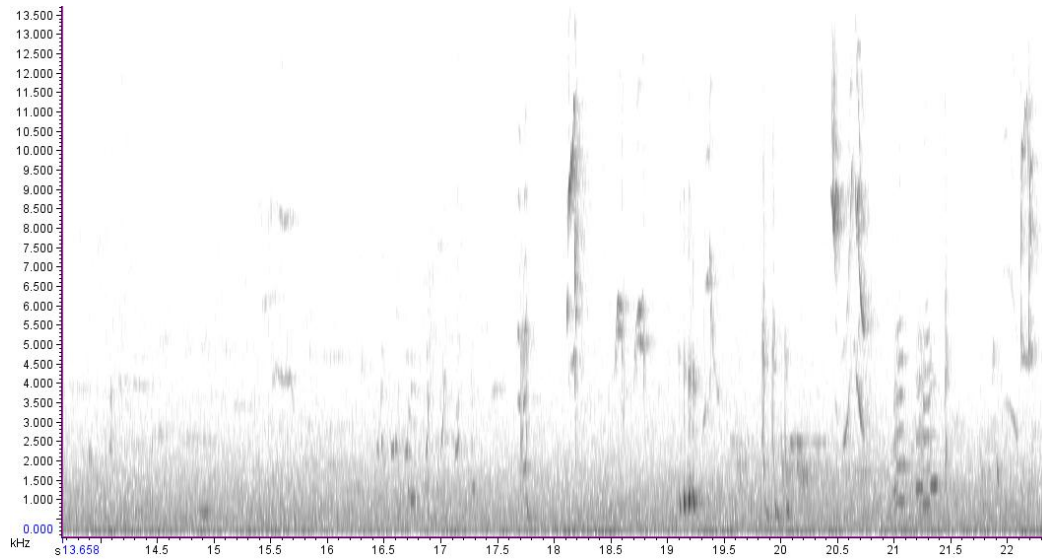
Song 94. August 3rd 2010 (17.00h). 005-2010-09-09 01_42_20. Long dusk trill from the same individual at Ecology Bush, Tawharanui. Culminates in part of the common Ecology Bush ending syllable sequence.



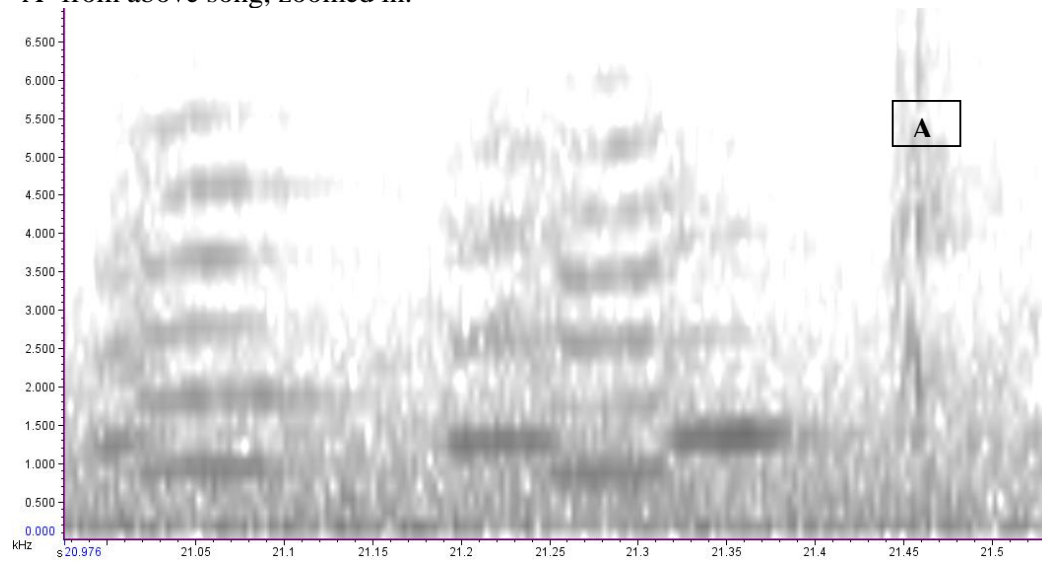
Song 95. August 3rd 2010 (17.00h). 006-2010-09-09 01_42_20. Song from same individual, a trill but interspersed with some rare, unique syllables. At Ecology Bush, Tawharanui.



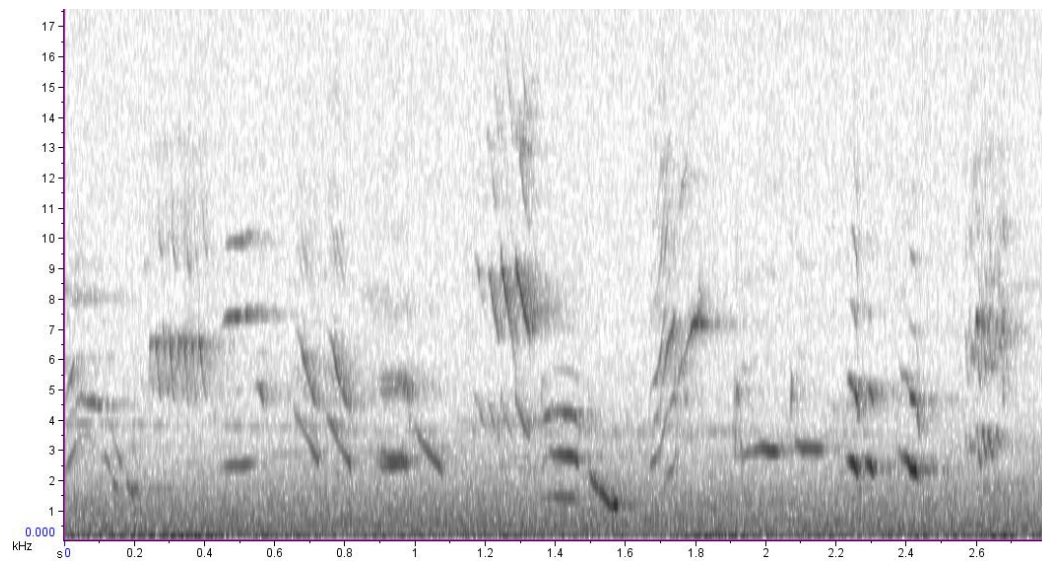
Song 96. August 3rd 2010 (17.00h). 006-2010-09-09 01_42_20 (2). Song from same individual, contains some rare syllables – ‘A’. ‘A’ actually consists of 3 different syllables but is labelled here as just ‘A’ for demonstrative purposes. At Ecology Bush, Tawharanui.



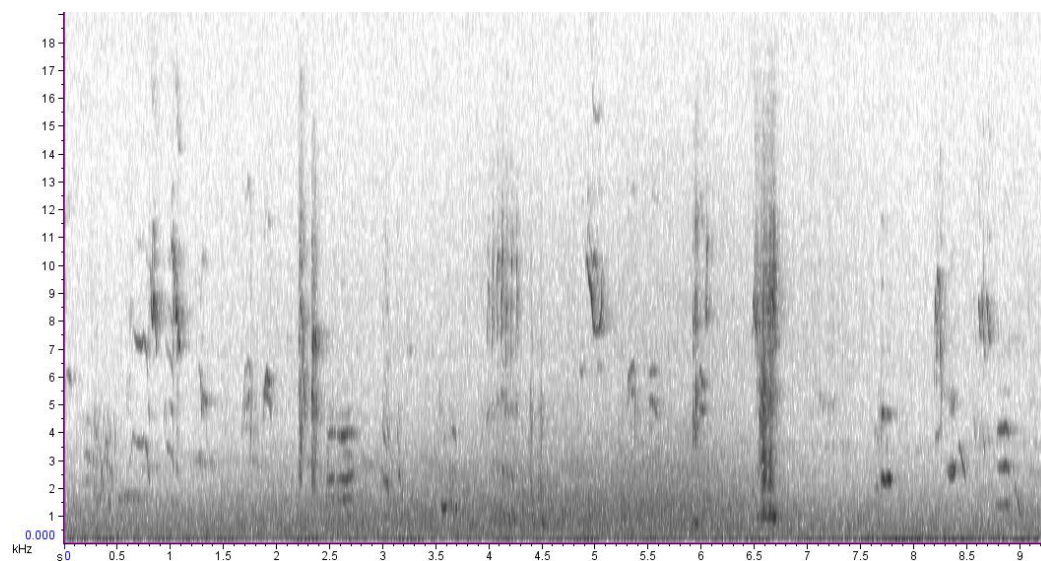
Song 97. August 3rd 2010 (17.00h). 006-2010-09-09 01_42_20 (2). Syllable cluster 'A' from above song, zoomed in.



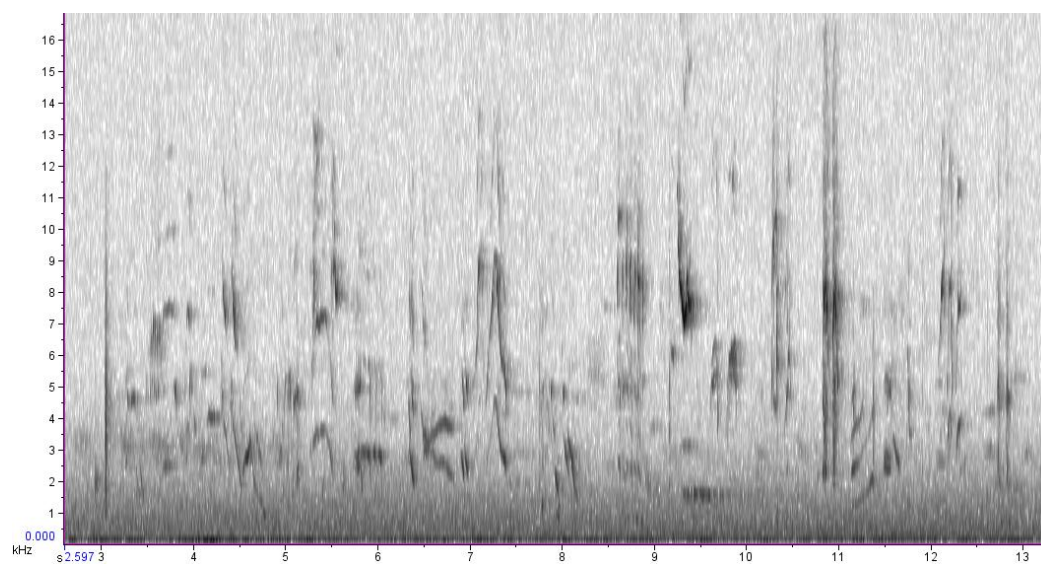
Song 98. August 3rd 2010 (17.10h). 007-2010-09-09 01_42_20. Long dusk trill from same individual as above at Ecology Bush, Tawharanui.



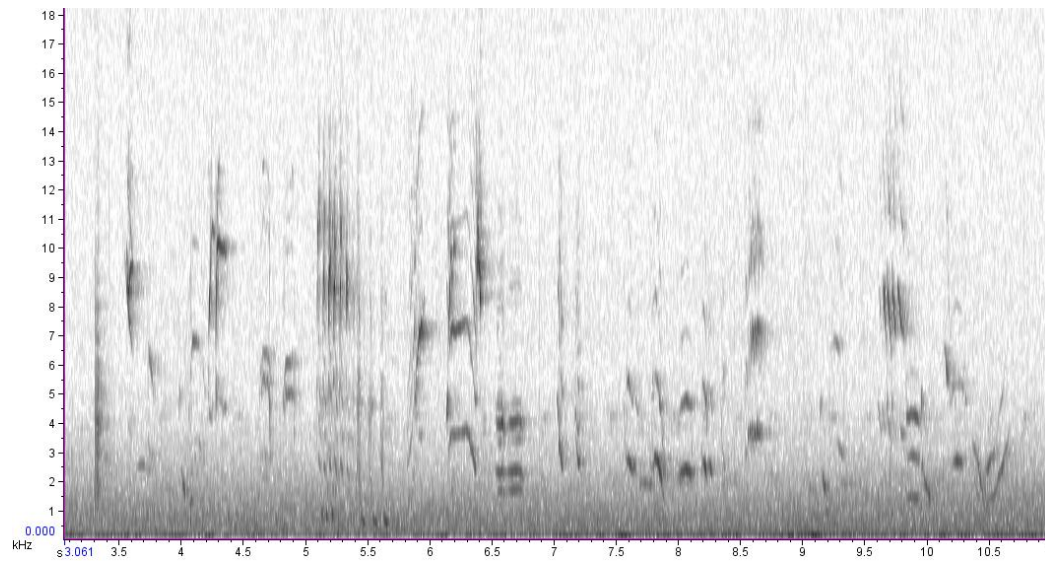
Song 99. August 3rd 2010 (17.30h). 008-2010-09-09 01_42_20. Ecology Bush, Tawharanui.



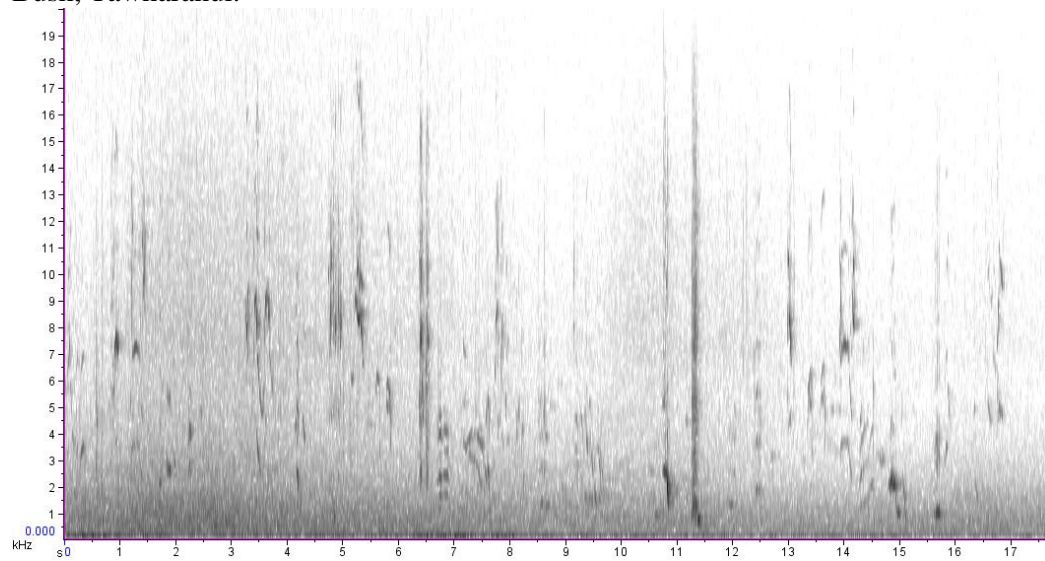
Song 100. August 3rd 2010 (17.30h). 009-2010-09-09 01_42_20. Ecology Bush, Tawharanui.



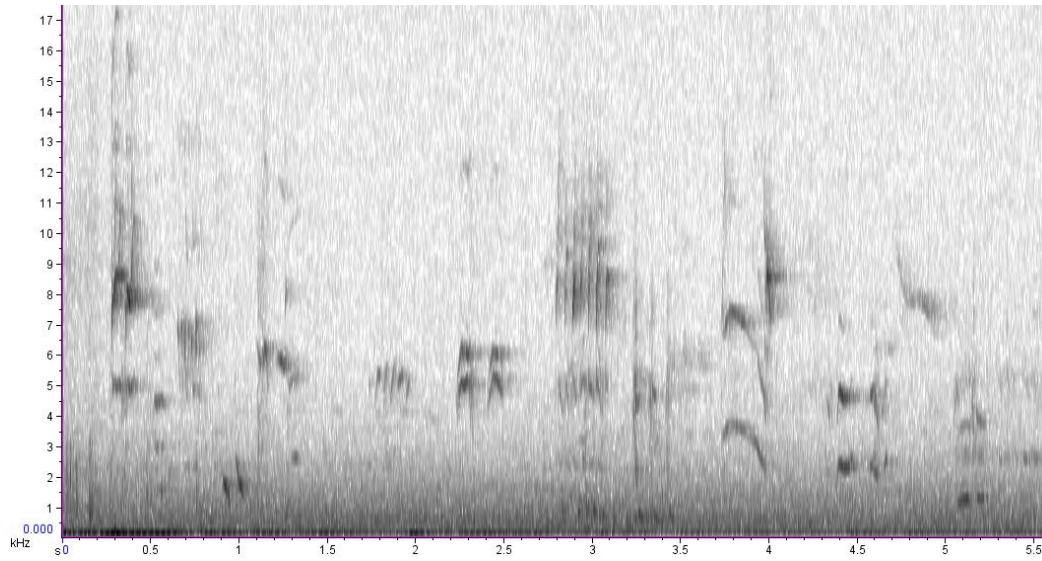
Song 101. August 3rd 2010 (17.30h). 010-2010-09-09 01_42_20. Ecology Bush, Tawharanui.



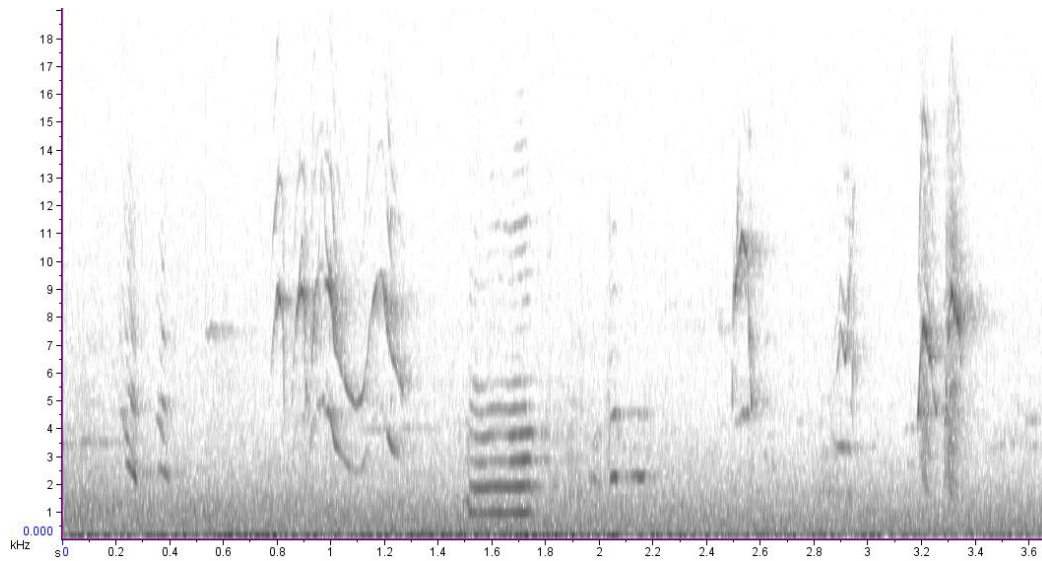
Song 102. August 3rd 2010 (17.30h). 011-2010-09-09 01_42_20. Long trill at Ecology Bush, Tawharanui.



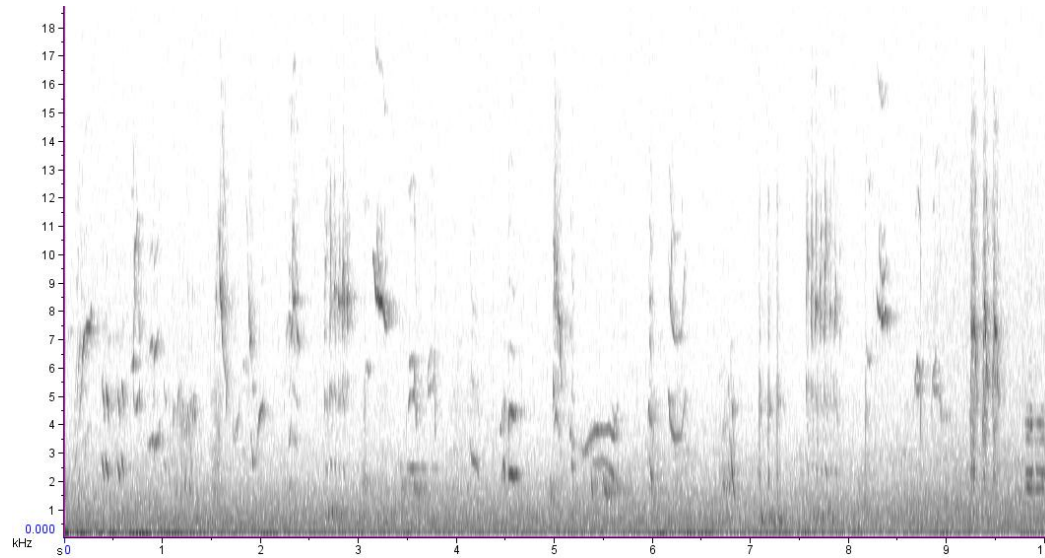
Song 103. August 3rd 2010 (17.30h). 012-2010-09-09 01_42_20. Song at Ecology Bush, Tawharanui.



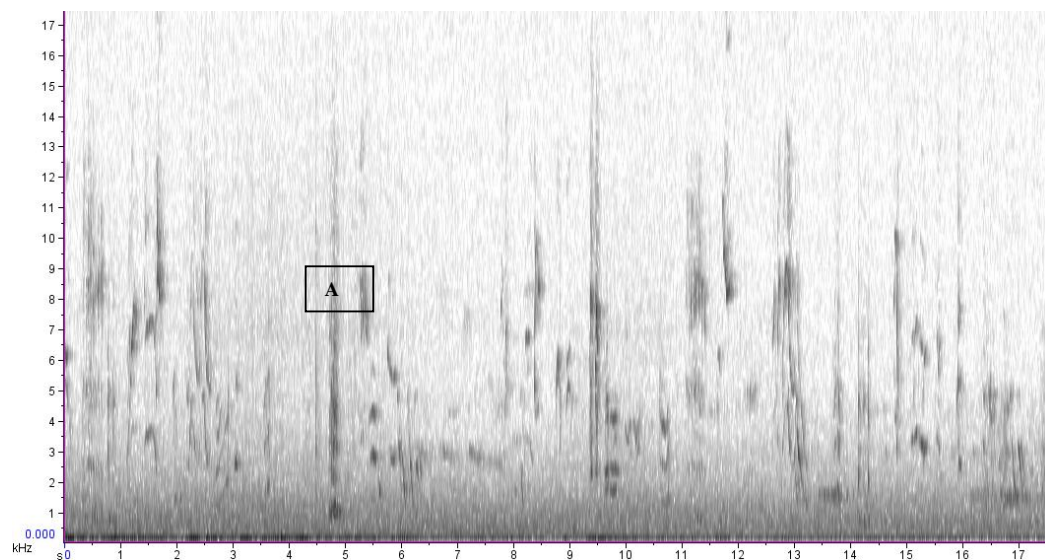
Song 104. August 3rd 2010 (17.30h). 013-2010-09-09 01_42_20. Song at Ecology Bush, Tawharanui.



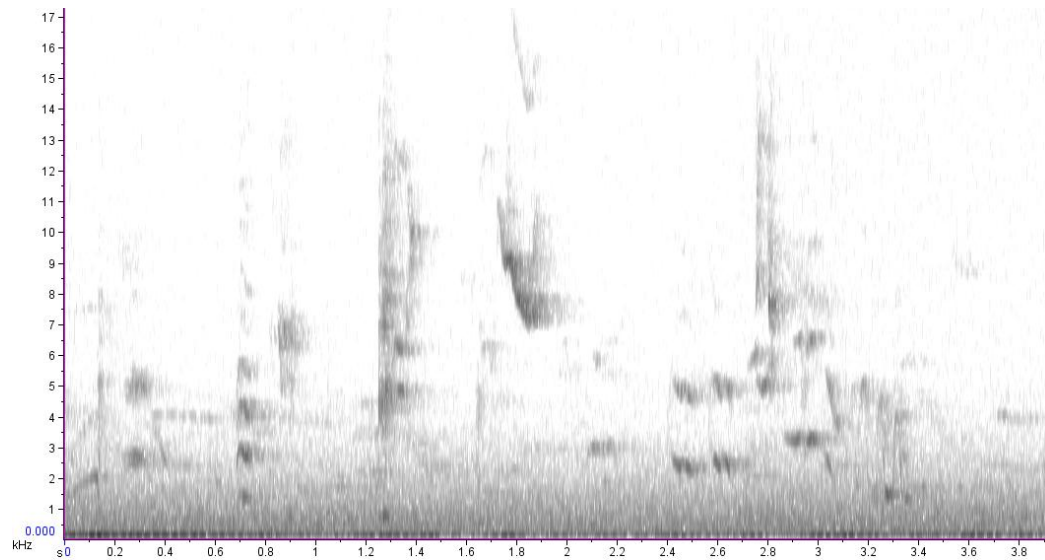
Song 105. August 3rd 2010 (17.30h). 015-2010-09-09 01_42_20. Song at Ecology Bush, Tawharanui.



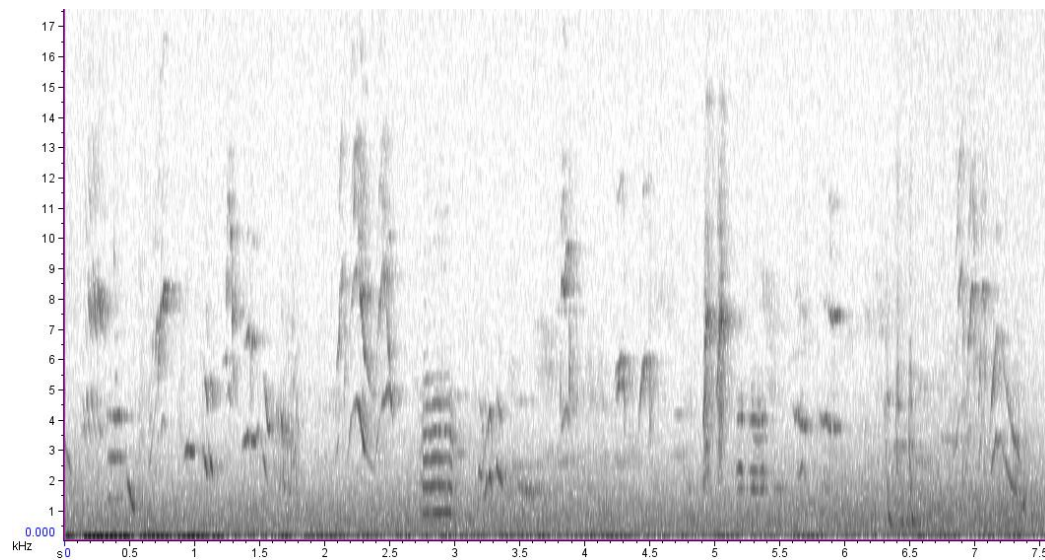
Song 106. August 3rd 2010 (17.30h). 016-2010-09-09 01_42_20. Long trill at Ecology Bush, Tawharanui. Interspersed with unique syllables, including 'A', which is a rare 'kkarh'.



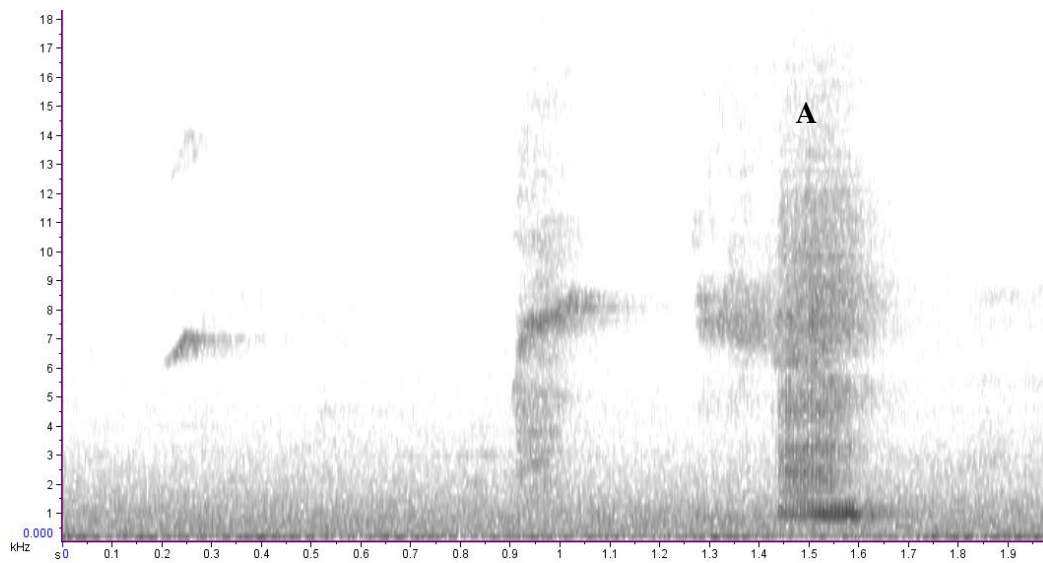
Song 107. August 3rd 2010 (17.30h). 017-2010-09-09 01_42_20. Song at Ecology Bush, Tawharanui.



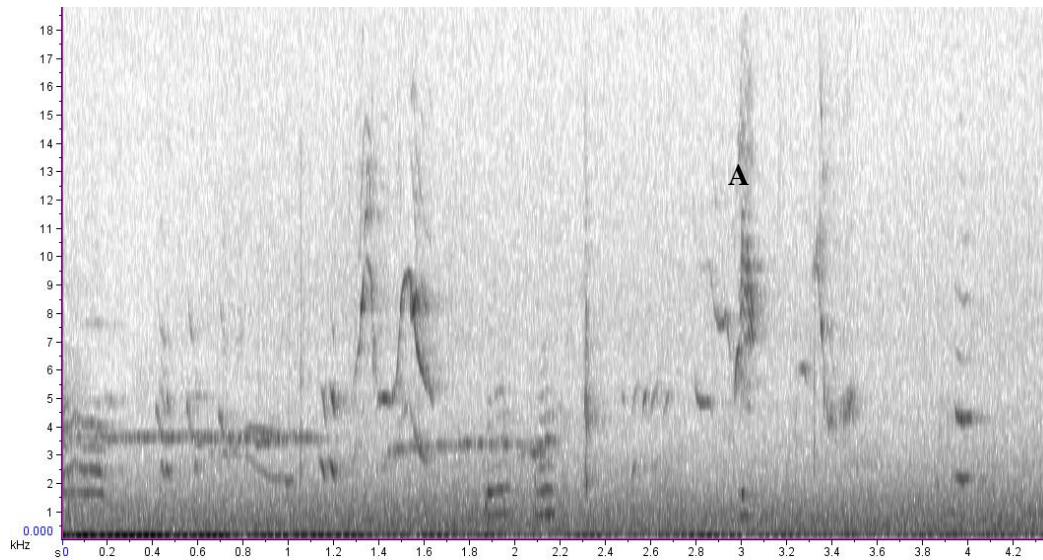
Song 108. August 3rd 2010 (17.30h). 020-2010-09-09 01_42_20. Song at Ecology Bush, Tawharanui.



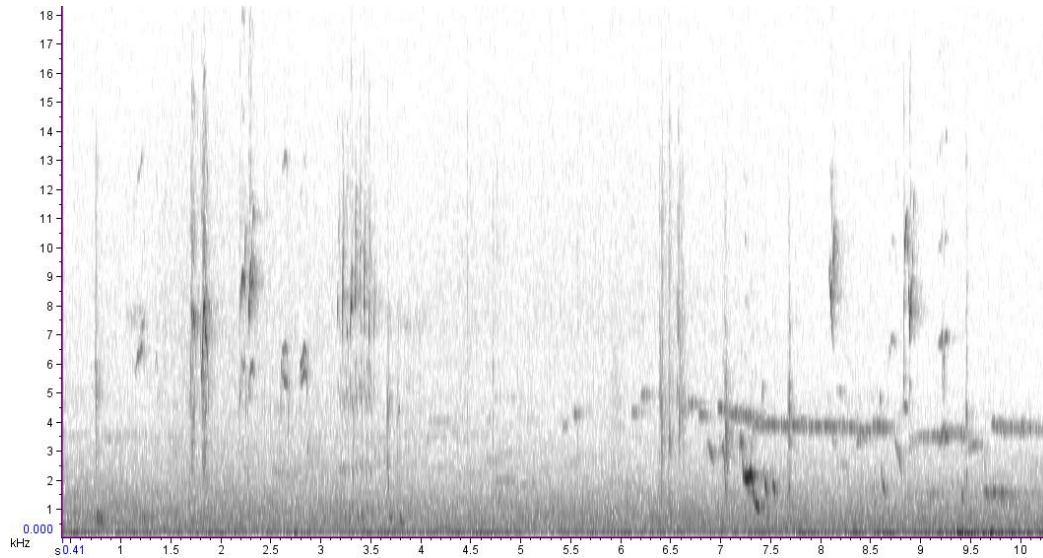
Song 109. August 3rd 2010 (17.30h). 021-2010-09-09 01_42_20. Very short song at Ecology Bush, Tawharanui. Culminates in the 'kkaarh' syllable as heard above ('A').



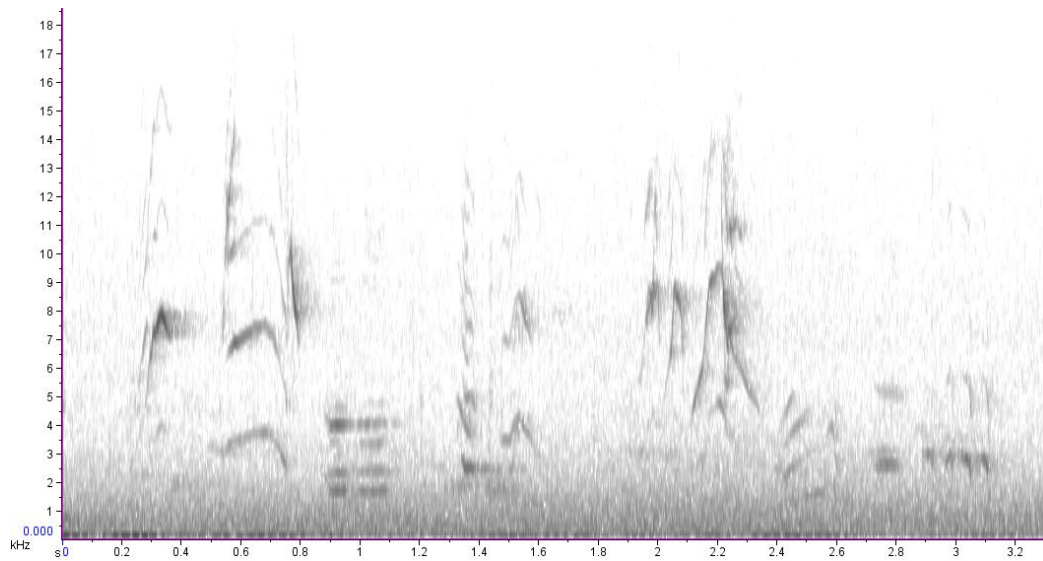
Song 110. August 3rd 2010 (17.30h). 022-2010-09-09 01_42_20. Song at Ecology Bush, Tawharanui. Includes rare syllable 'A'. Sounds similar to an electronic computerised sound.



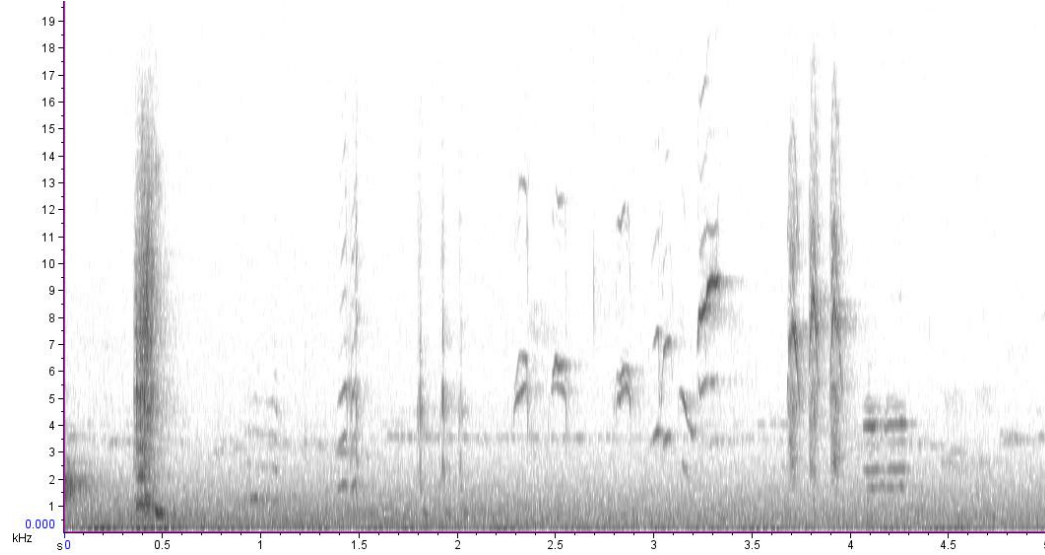
Song 111. August 3rd 2010 (17.30h). 023-2010-09-09 01_42_20. 2 songs here at Ecology Bush, Tawharanui. Second song diluted by grey warbler song.



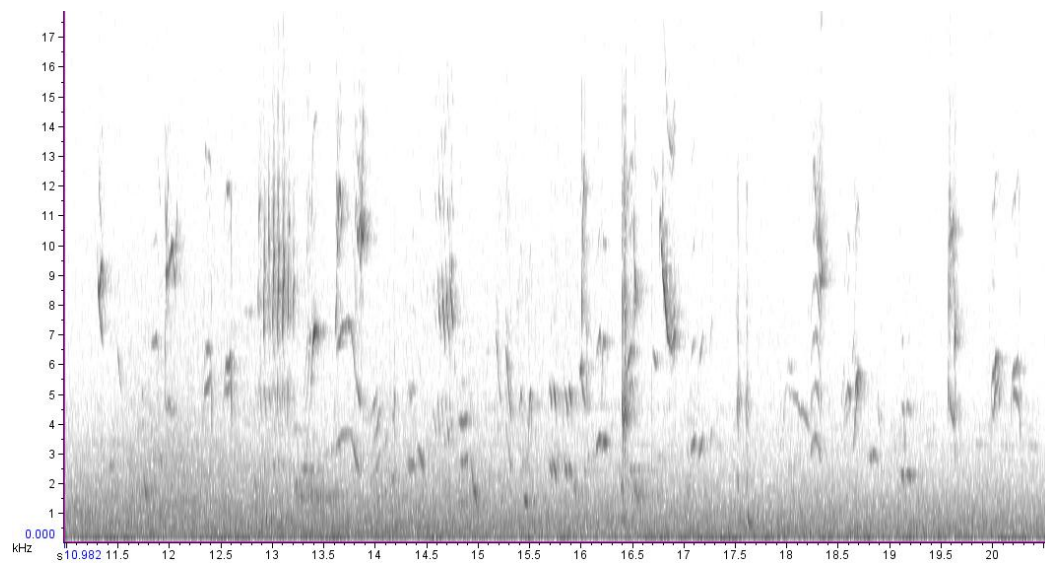
Song 112. August 3rd 2010 (17.35h). 025-2010-09-09 01_42_20. Short song at dusk, Ecology Bush, Tawharanui.



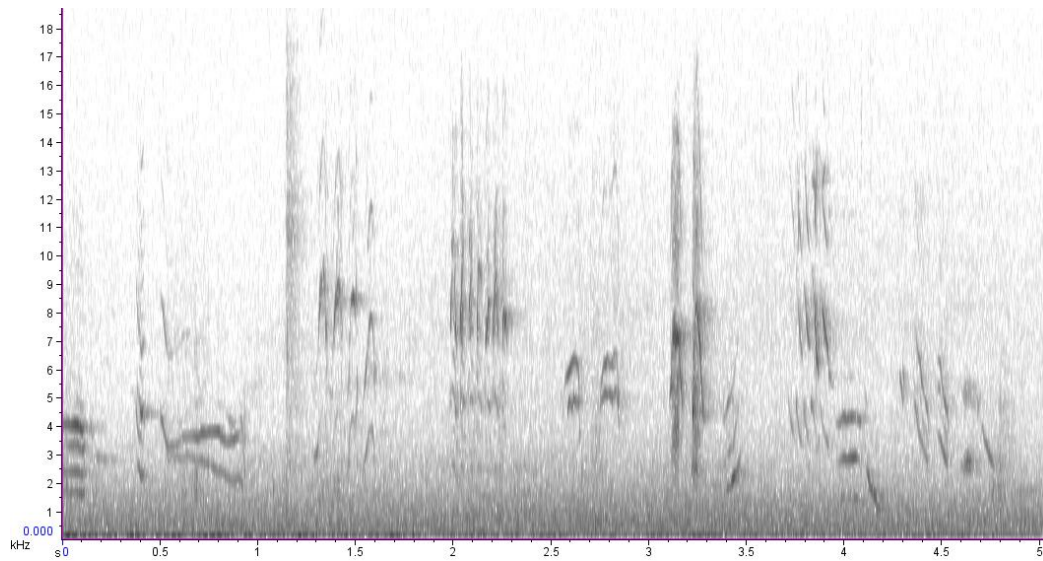
Song 113. August 3rd 2010 (17.35h). 026-2010-09-09 01_42_20. Song at Ecology Bush, Tawharanui.



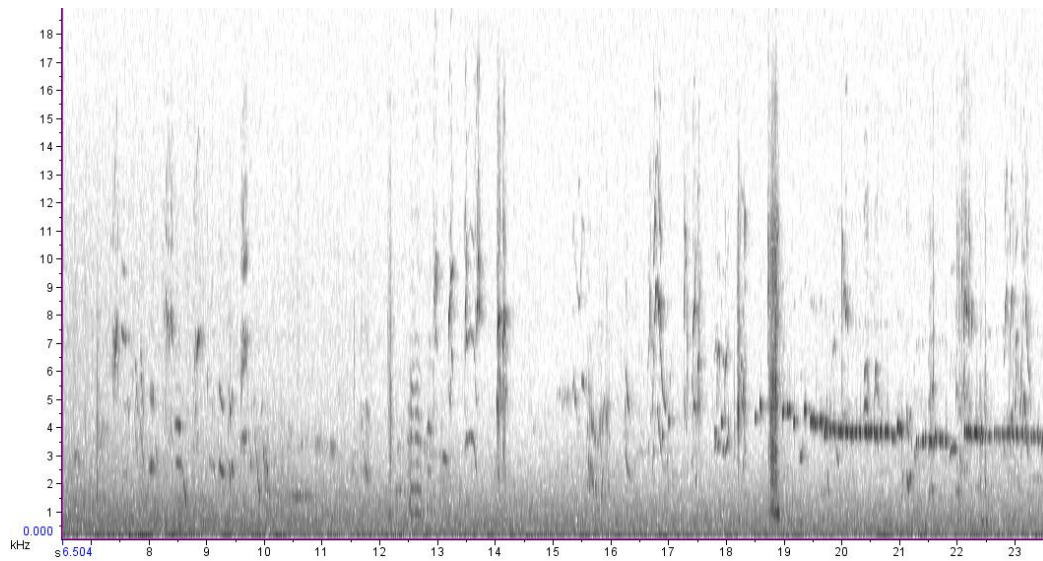
Song 114. August 3rd 2010 (17.35h). 026-2010-09-09 01_42_20 (2). Song at Ecology Bush, Tawharanui.



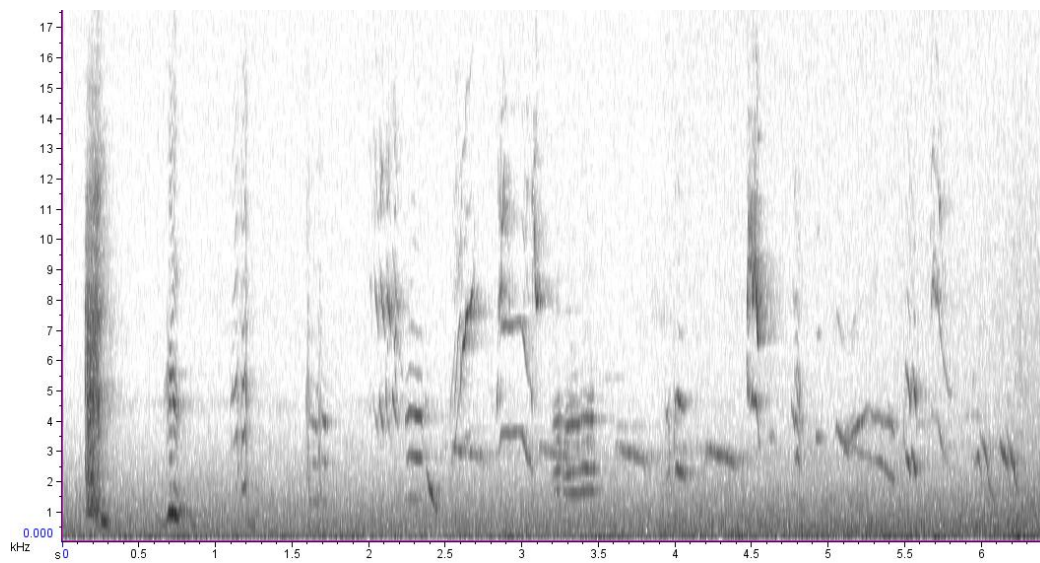
Song 115. August 3rd 2010 (17.35h). 027-2010-09-09 01_42_20. Song at Ecology Bush, Tawharanui.



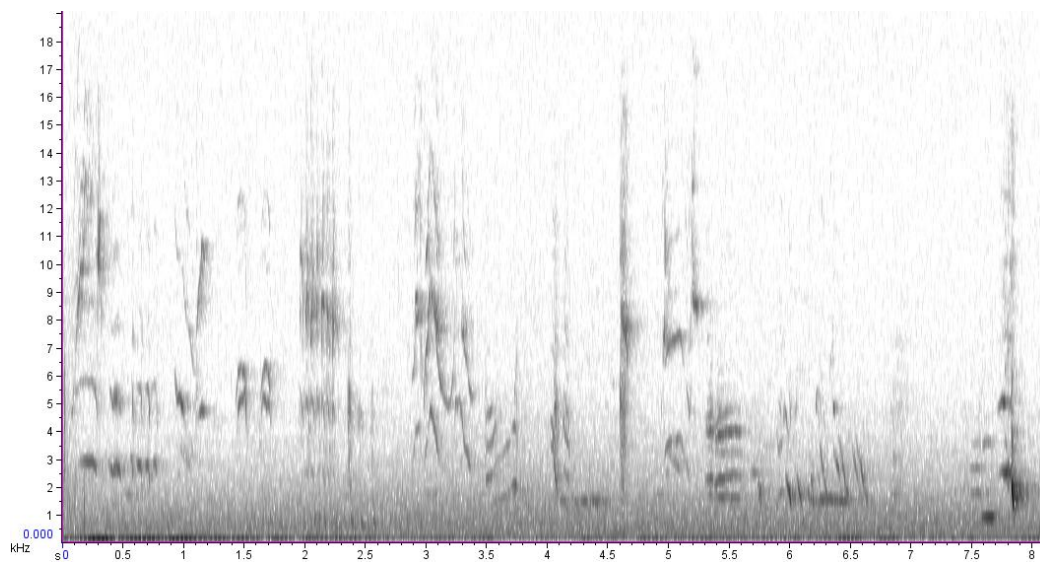
Song 116. August 3rd 2010 (17.40h). 028-2010-09-09 01_42_20. Long trill at Ecology Bush, Tawharanui. Grey warbler dilutes the tui song at c.19s.



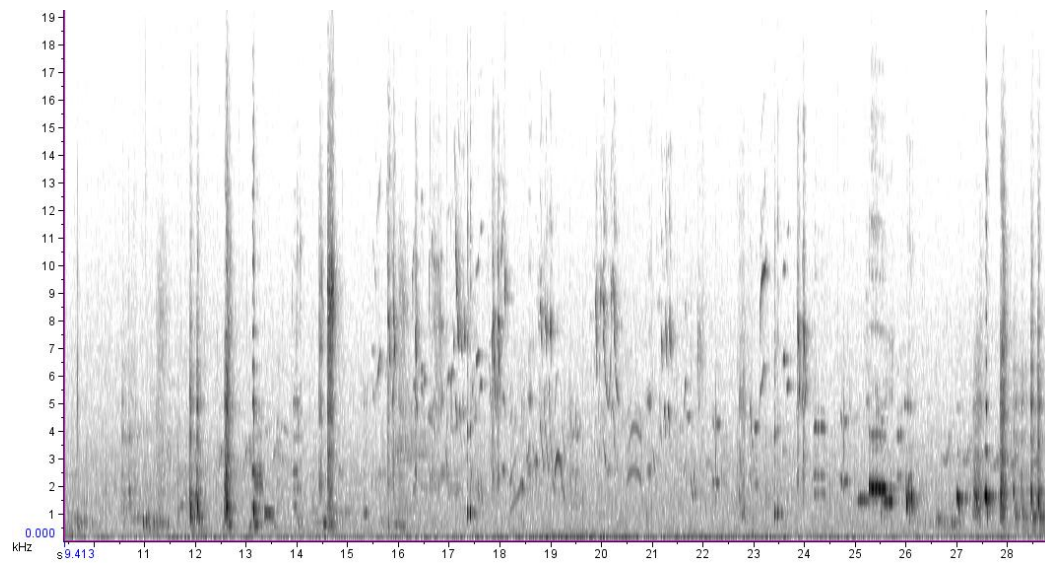
Song 117. August 3rd 2010 (17.35h). 029-2010-09-09 01_42_20. Song at Ecology Bush, Tawharanui.



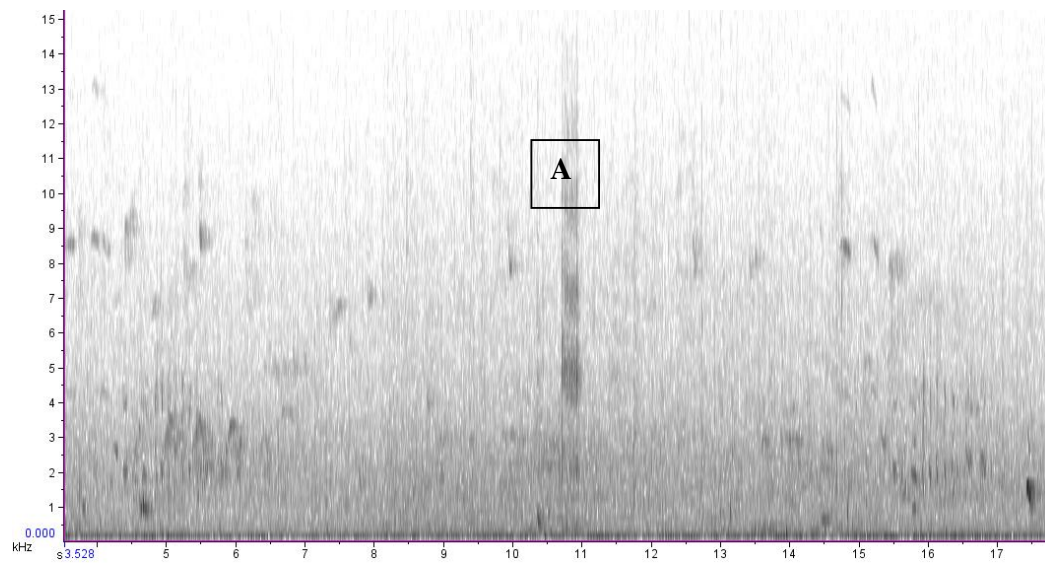
Song 118. August 3rd 2010 (17.35h). 030-2010-09-09 01_42_20. Song at Ecology Bush, Tawharanui.



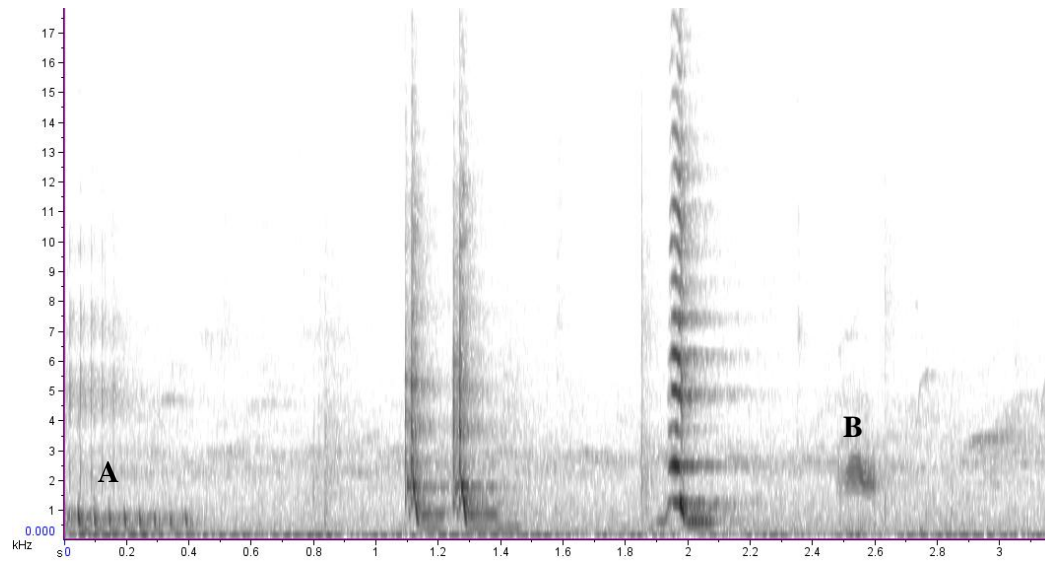
Song 119. August 14th 2010 (13.00h). 002-2010-09-09 01_52_37. LbW-YM (130g male ID: Y14671) at Jones Bay, Tawharanui. Another individual in the vicinity also singing and song-matching occasional syllables with the subject bird.



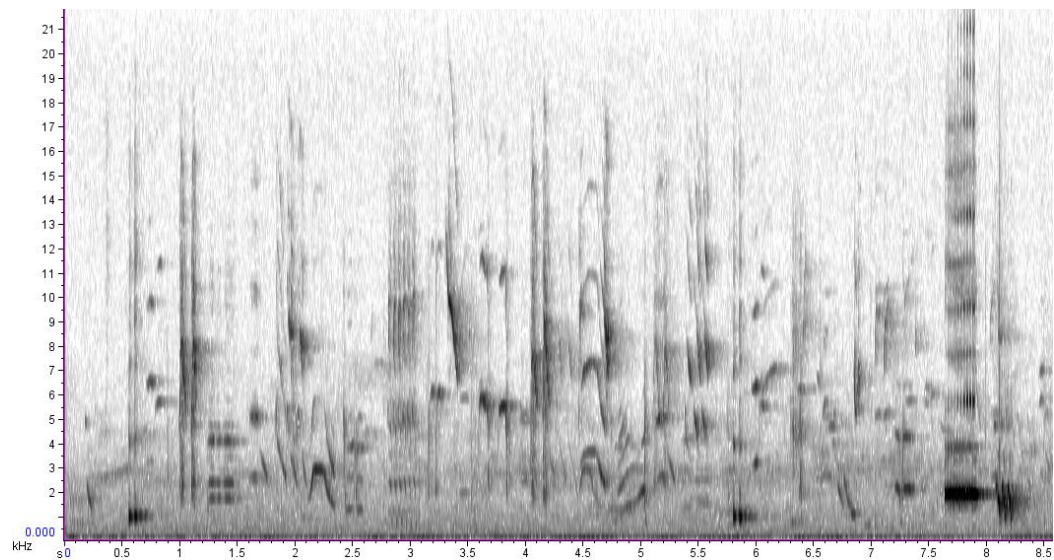
Song 120. August 14th 2010 (13.00h). 003-2010-09-09 01_52_37. Song at Jones Bay, Tawharanui, with soft, subtle, low-frequency sounds interspersed with a trill and a 'rusty zip'-sounding syllable marked 'A'. LbW-YM.



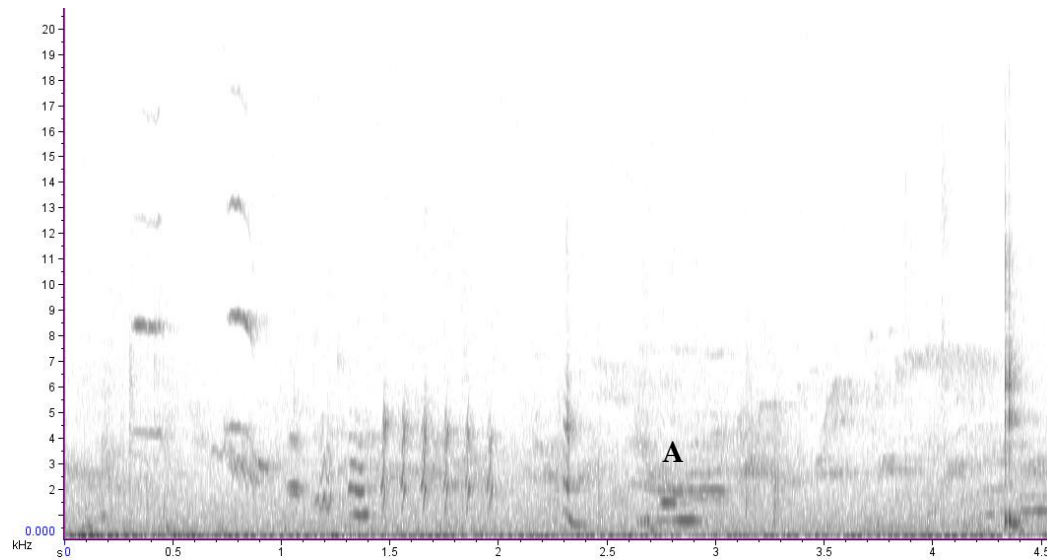
Song 121. August 14th 2010 (13.00h). 012-2010-09-09 01_52_37. Song at Jones Bay, Tawharanui. A variation of the common kokokok syllable 'A' and a rare syllable marked 'B'.



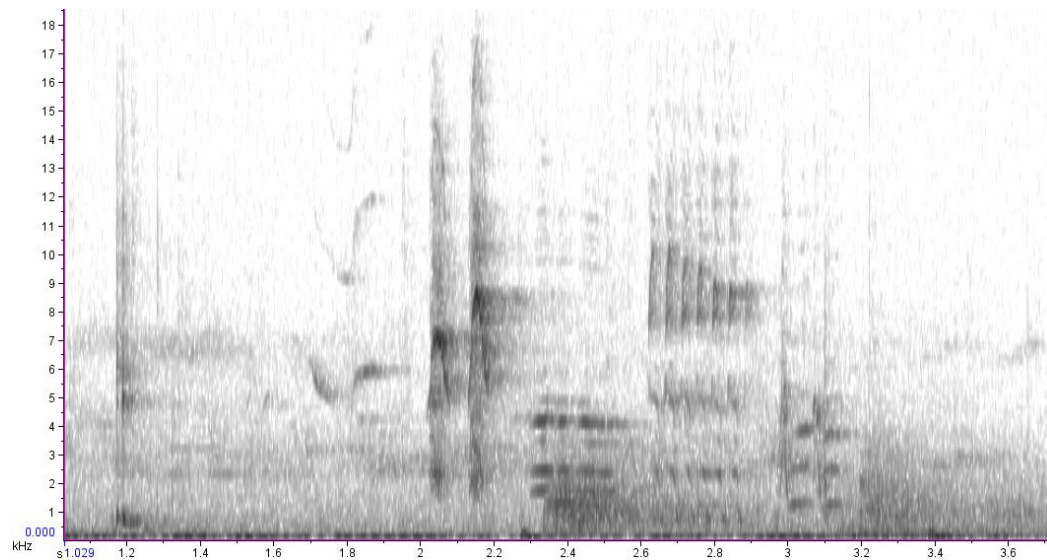
Song 122. August 14th 2010 (13.30h). 013-2010-09-09 01_52_37. Complex trill in the Flame Tree at Jones Bay, Tawharanui.



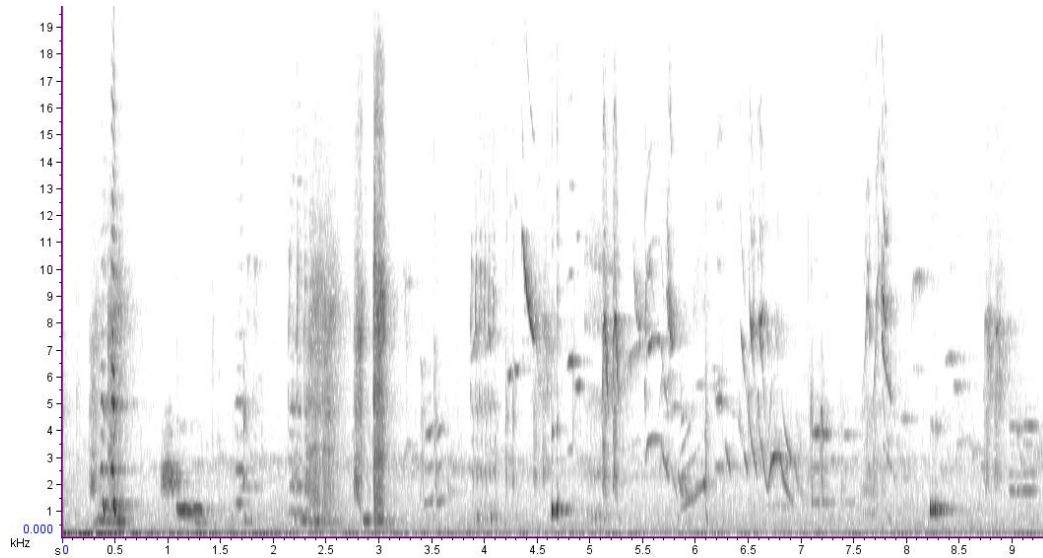
Song 123. August 14th 2010 (13.30h). 014-2010-09-09 01_52_37. Song at Jones Bay, Tawharanui. Flute-like syllable at 'A'.



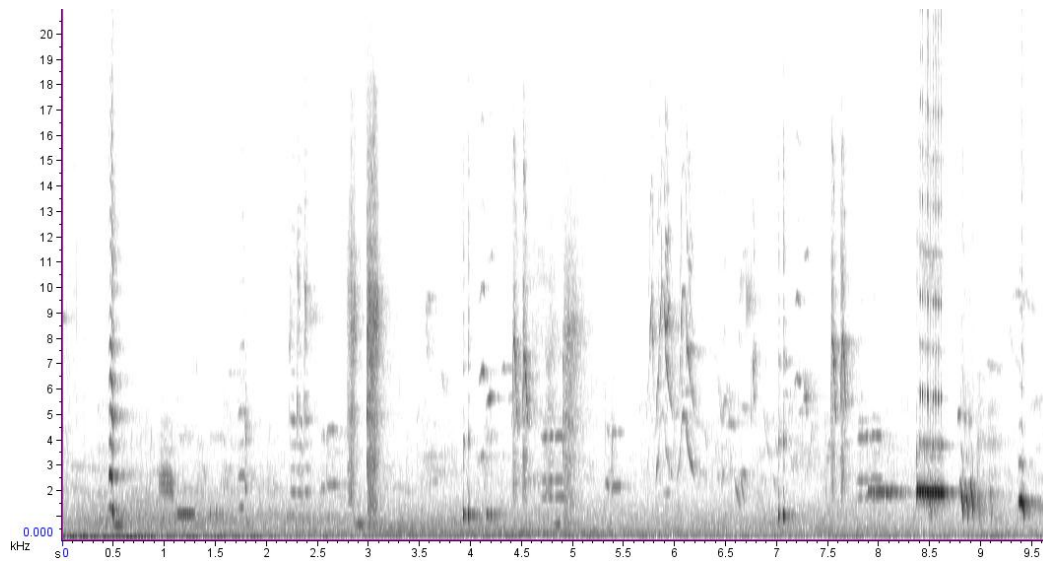
Song 124. August 14th 2010 (13.40h). 015-2010-09-09 01_52_37. Jones Bay song at Tawharanui. Includes rare banging sounds (although this may have been produced by a nearby refuse collecting truck!)



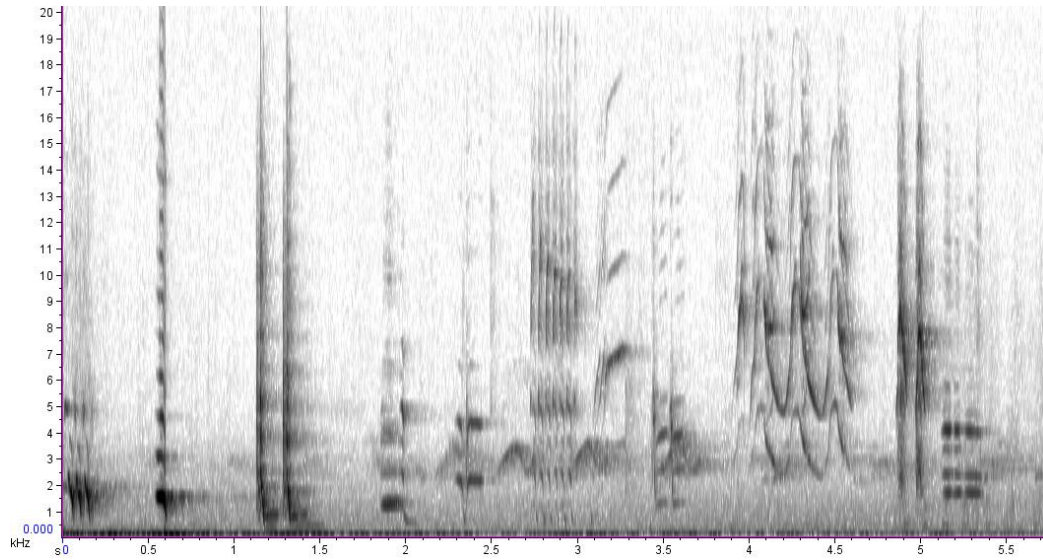
Song 125. August 14th 2010 (13.45h). 017-2010-09-09 01_52_37. Complex trill and other regular syllables at Jones Bay, Tawharanui.



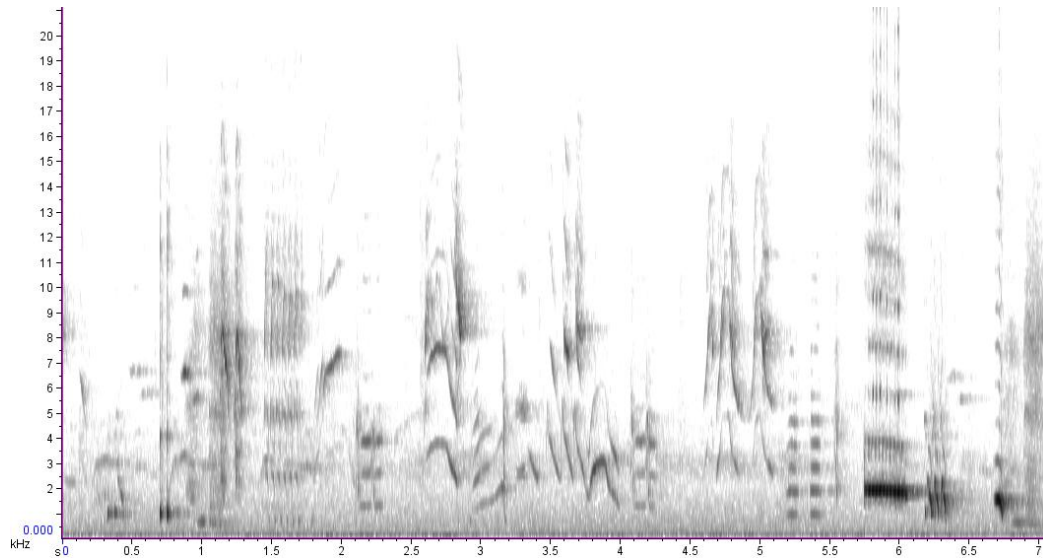
Song 126. August 14th 2010 (13.45h). 019-2010-09-09 01_52_37. Song at Jones Bay, Tawharanui.



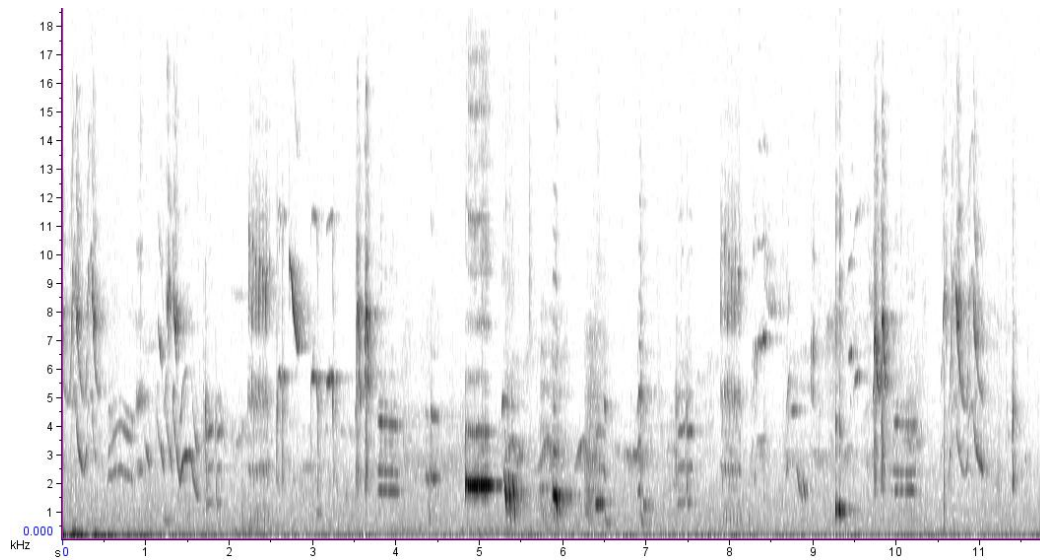
Song 127. August 14th 2010 (13.50h). 022-2010-09-09 01_52_37. song at Jones Bay, Tawharanui.



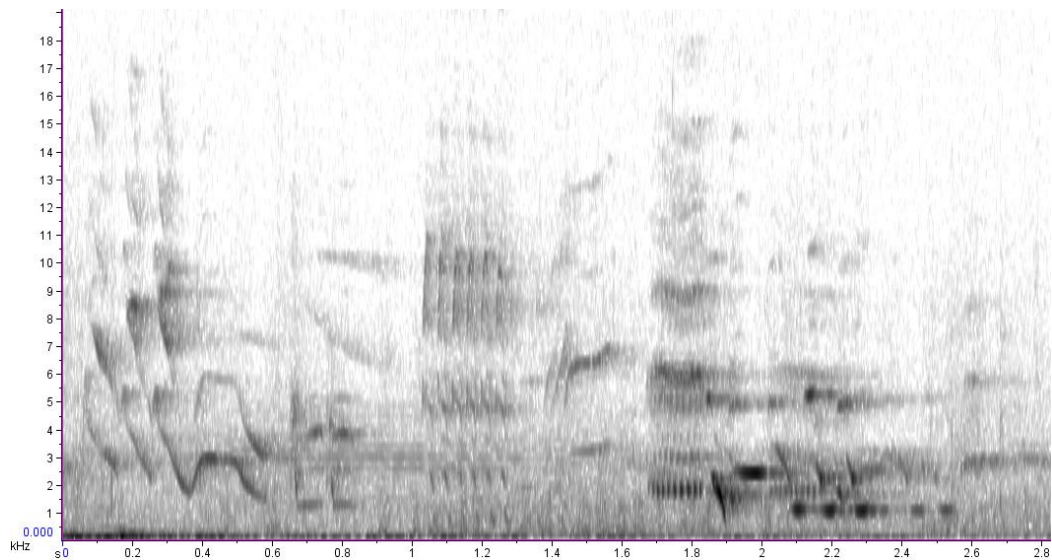
Song 128. August 14th 2010 (14.00h). 023-2010-09-09 01_52_37. Song at Jones Bay, Tawharanui.



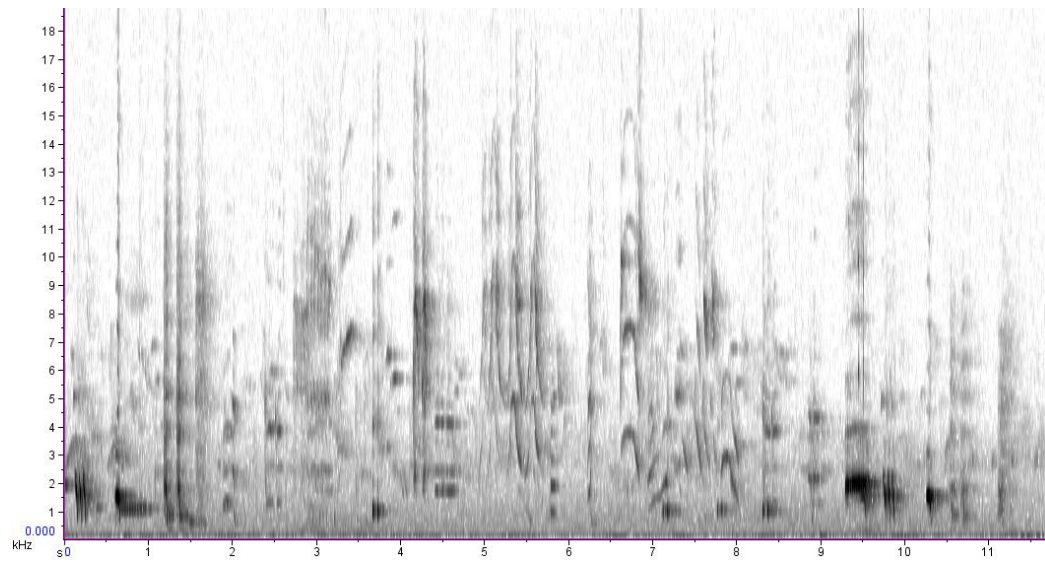
Song 129. August 14th 2010 (14.00h). 001-2010-09-09 01_57_36. Song at Jones Bay, Tawharanui.



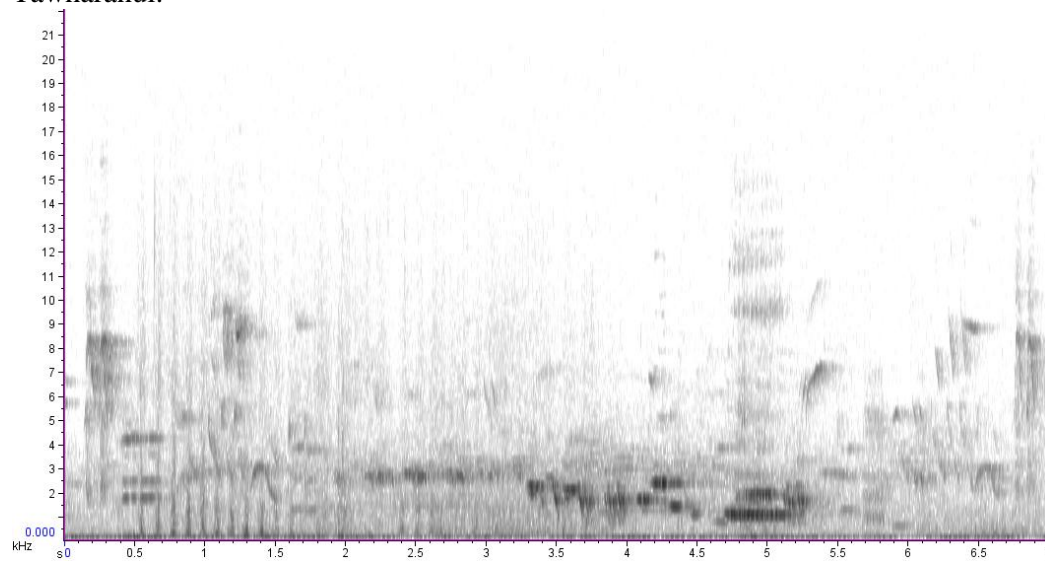
Song 130. August 14th 2010 (14.00h). 004-2010-09-09 01_57_36. Song at Jones Bay, Tawharanui.



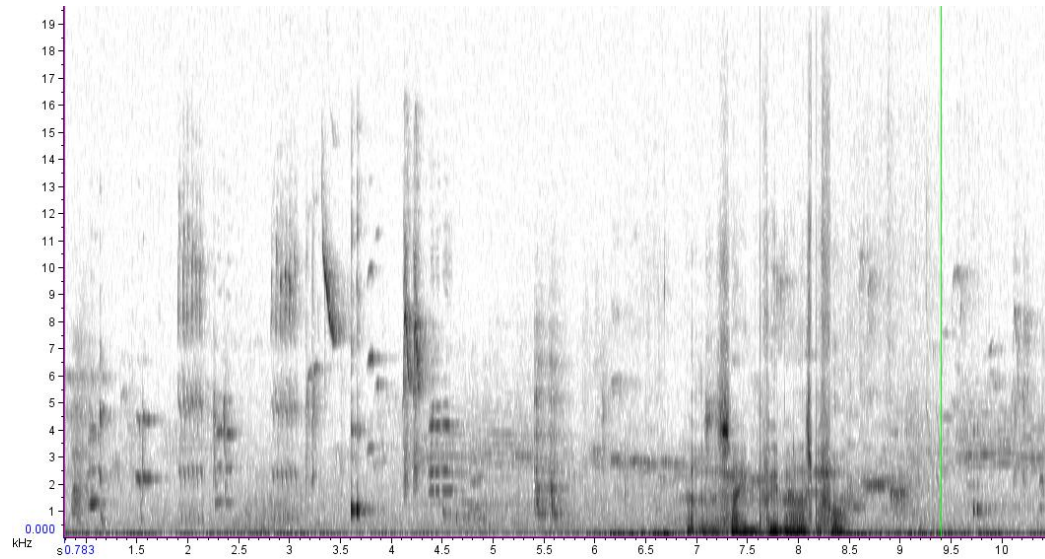
Song 131. August 14th 2010 (14.00h). 006-2010-09-09 01_57_36. Song at Jones Bay, Tawharanui.



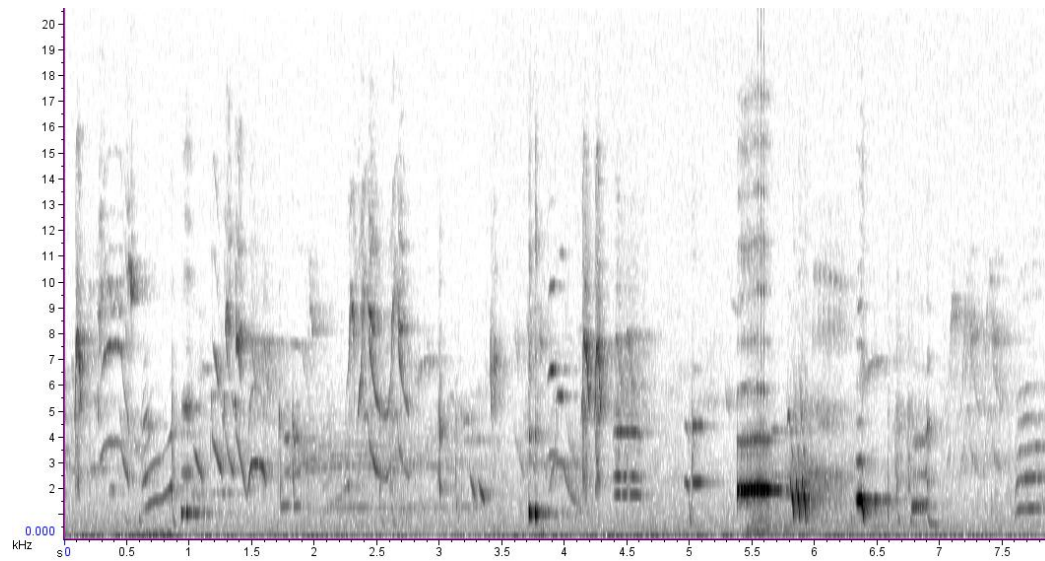
Song 132. August 14th 2010 (14.00h). 009-2010-09-09 01_57_36. Song at Jones Bay, Tawharanui.



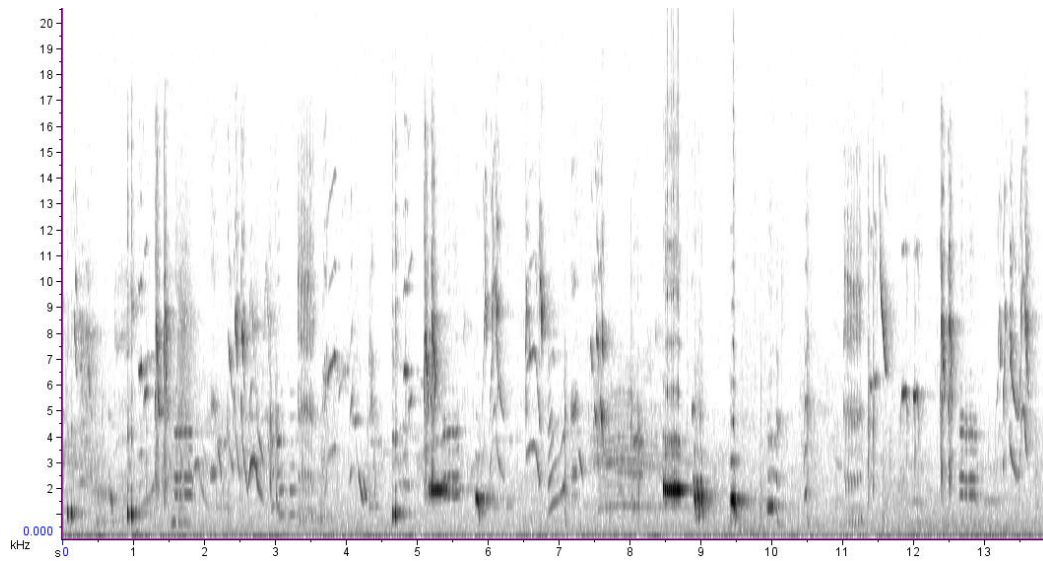
Song 133. August 14th 2010 (14.00h). 010-2010-09-09 01_57_36. Female (partner of LbW-YM?) at Flame Tree, Jones Bay, Tawharanui.



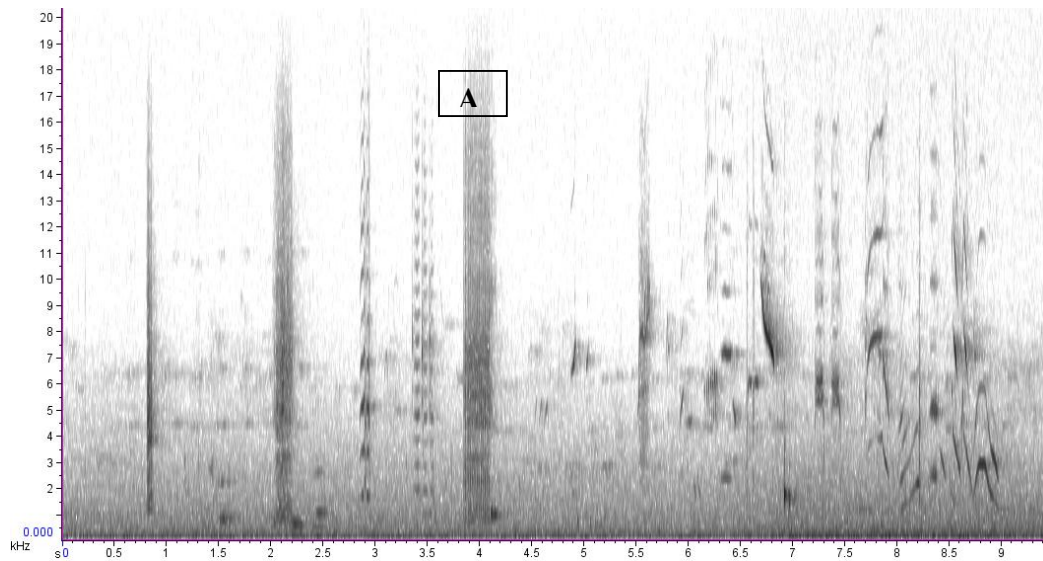
Song 134. August 14th 2010 (14.00h). 011-2010-09-09 01_57_36. Song at Jones Bay, Tawharanui.



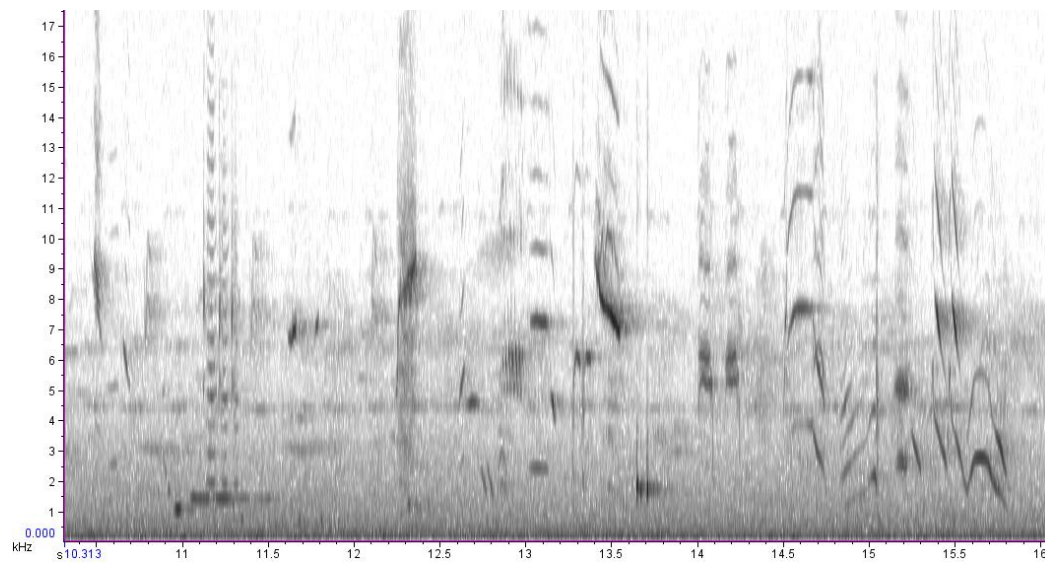
Song 135. August 14th 2010 (14.00h). 013-2010-09-09 01_57_36. Complex song at Jones Bay, Tawharanui.



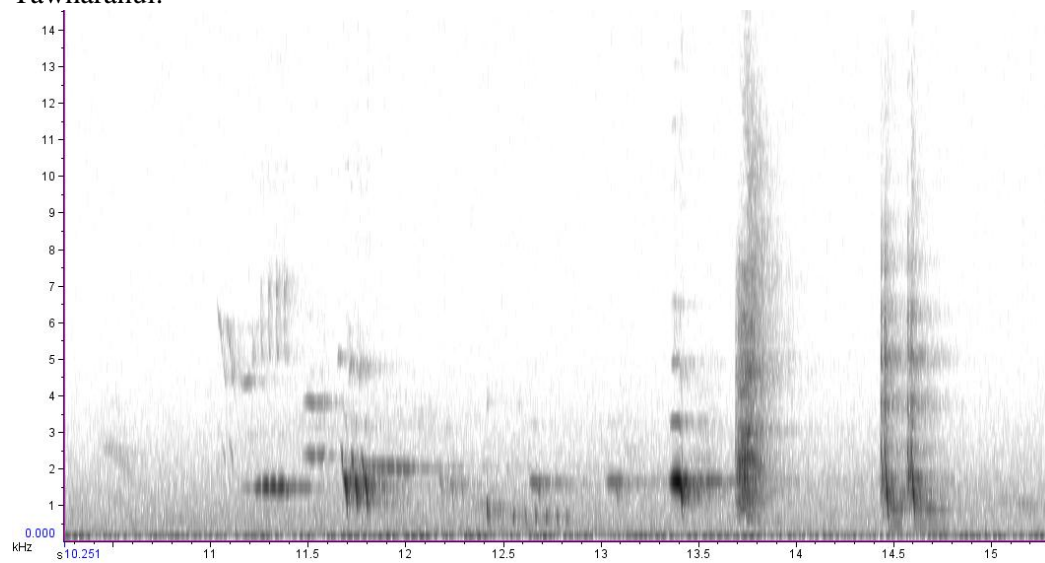
Song 136. August 14th 2010 (17.30h). 003-2010-09-09 02_01_27. Anchor Bay, Tawharanui. Includes slightly shorter than normal cork-popping syllable (13) marked here 'A'.



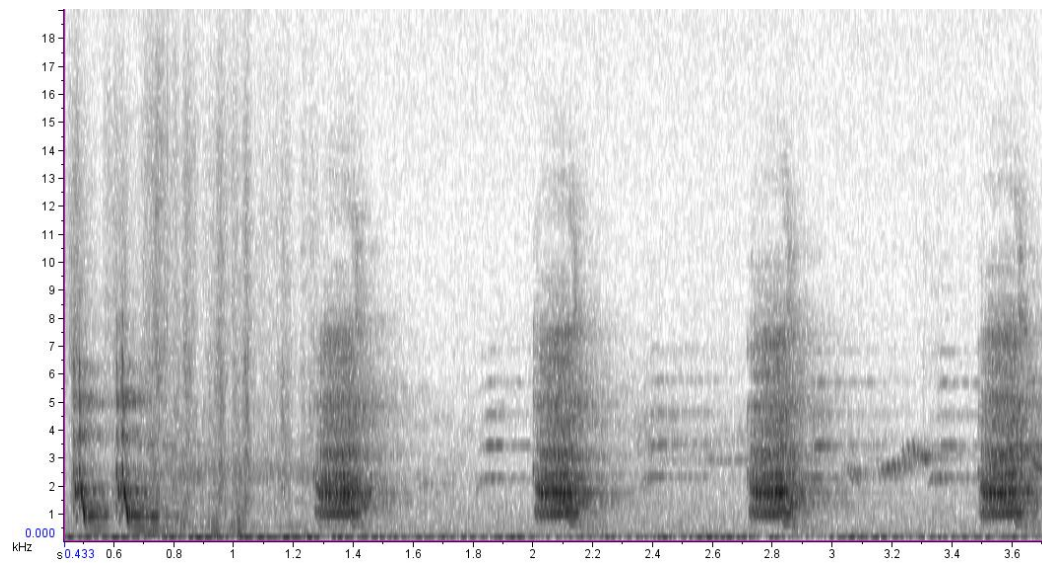
Song 137. August 14th 2010 (17.35h). 005-2010-09-09 02_01_27. Anchor Bay, Tawharanui.



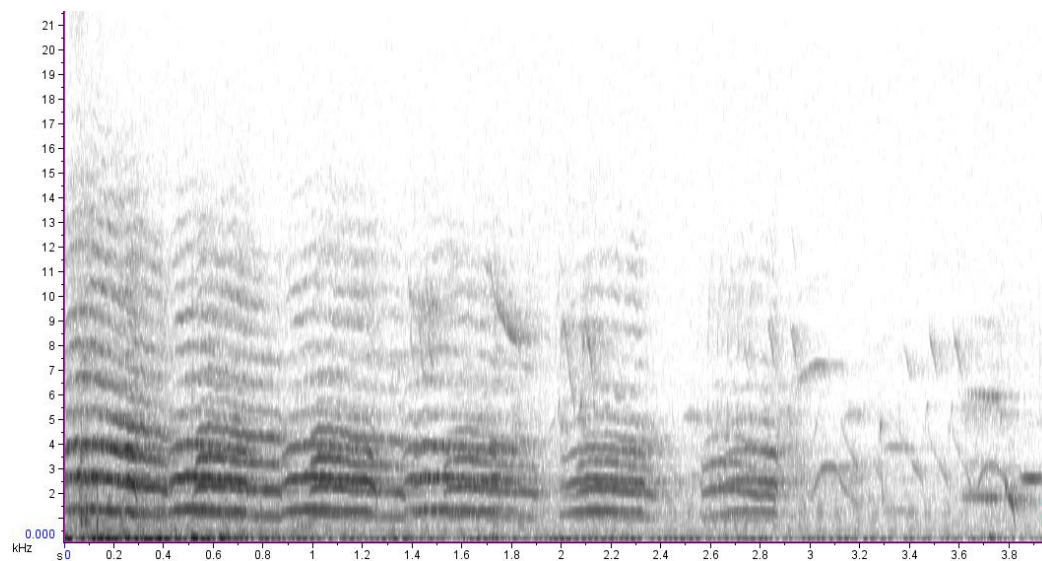
Song 138. August 14th 2010 (18.00h). 004-2010-09-09 02_05_06. Jones Bay, Tawharanui.



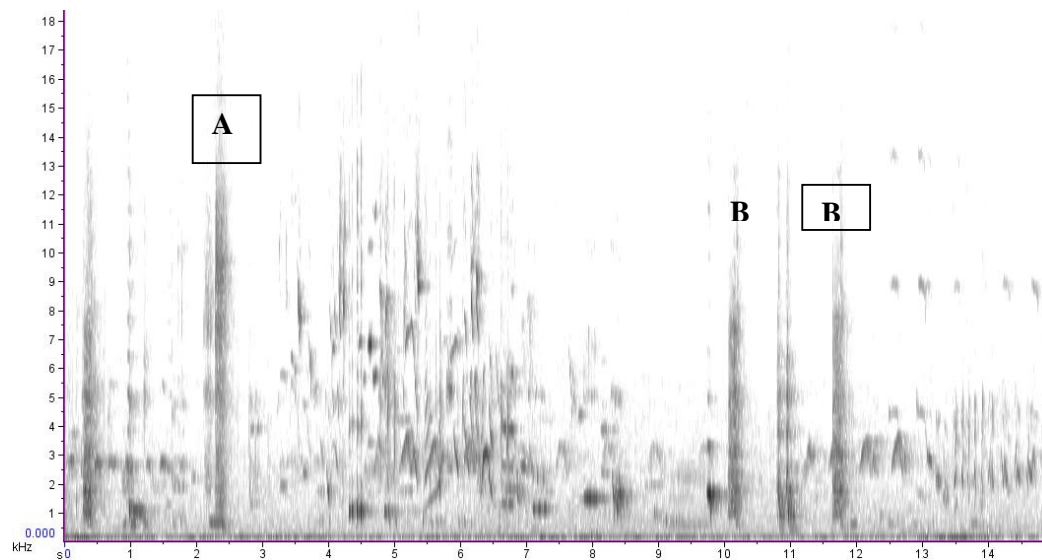
Song 139. August 20th 2010 (17.00h). 004-2010-09-09 02_08_49. Partner of LbW-YM at Jones Bay, Tawharanui. Similar to 'kkuh' but a slightly different sound.



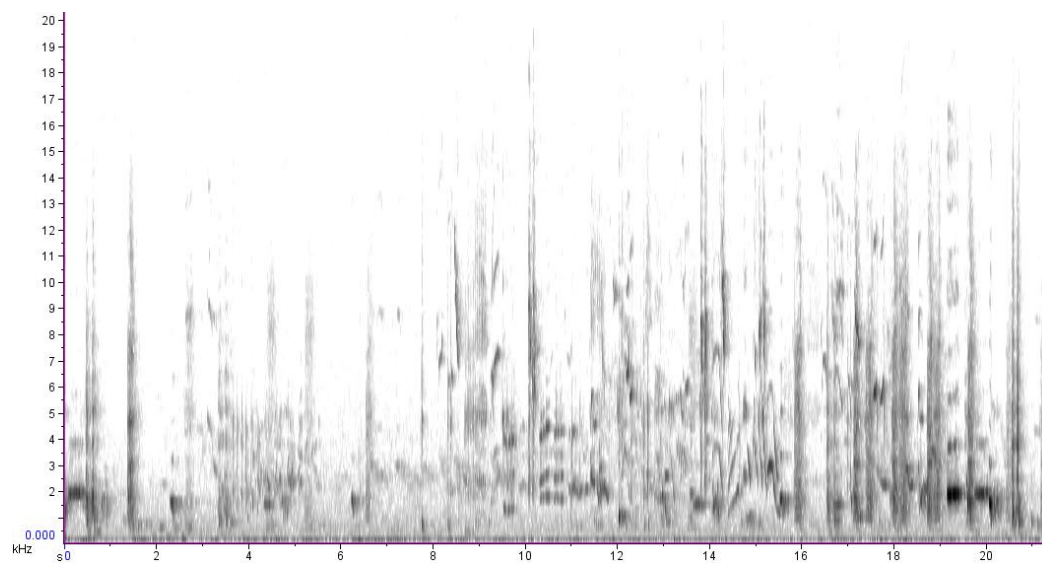
Song 140. August 20th 2010 (17.00h). 012-2010-09-09 02_08_49. Descending alarm call, followed by short trill at Jones Bay, Tawharanui.



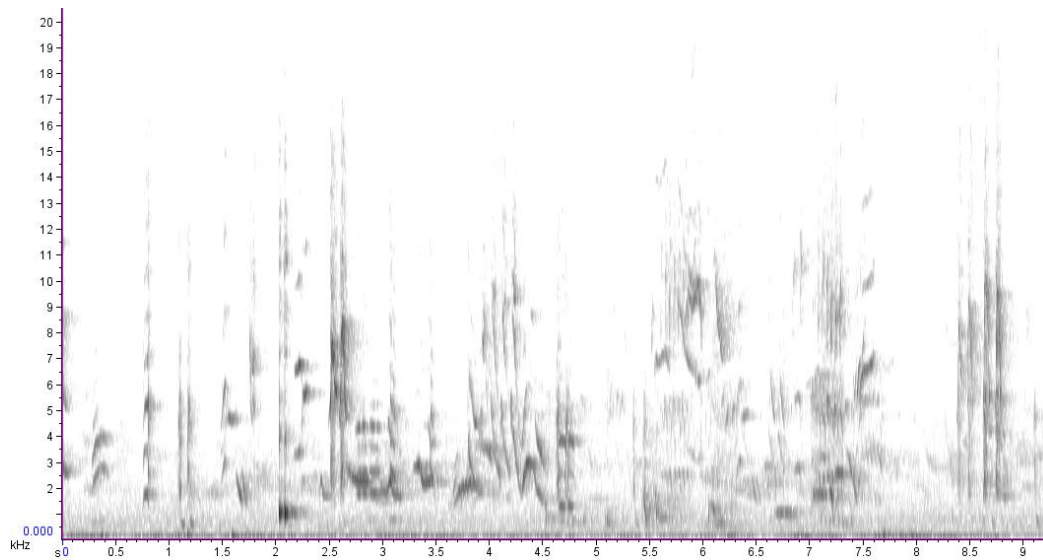
Song 141. August 20th 2010 (17.00h). 014-2010-09-09 02_08_49. Trill mixed with common Jones Bay syllables at Jones Bay, Tawharanui. Bellbird-like syllable 'A' and a type of kkuh at 'B'.



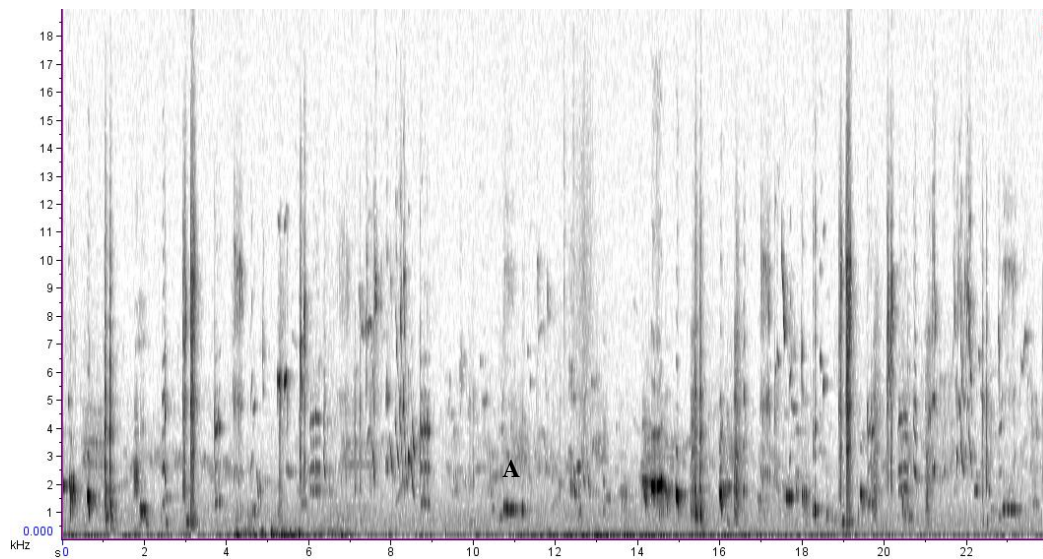
Song 142. August 20th 2010 (17.10h). 017-2010-09-09 02_08_49. Duets and trills (difficult to distinguish, but enough data here to count an extra different song in the tally of repertoire).



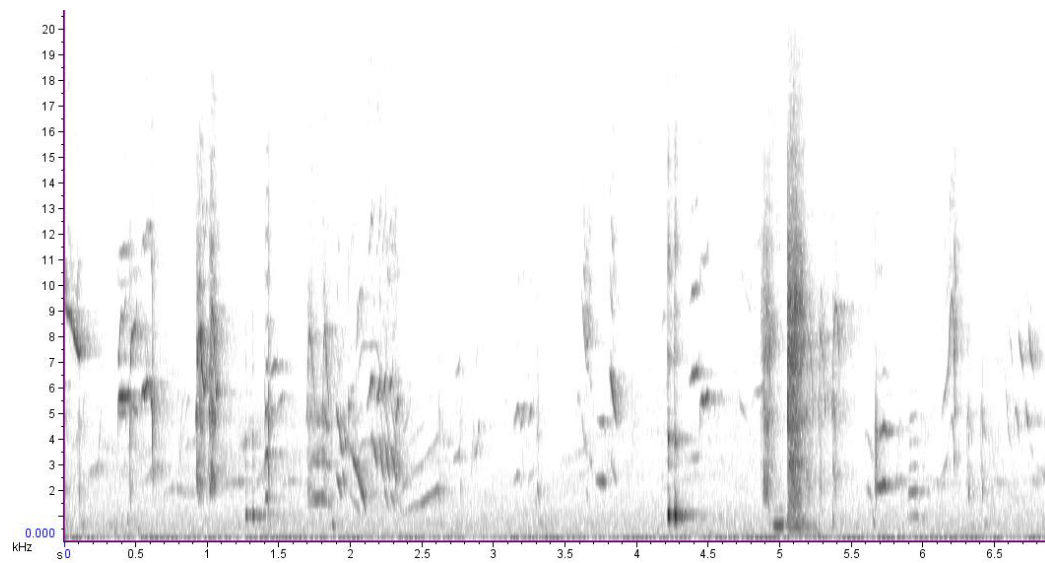
Song 143. August 20th (17.15h). 018-2010-09-09 02_08_49. Trill and other syllables at Jones Bay, Tawharanui.



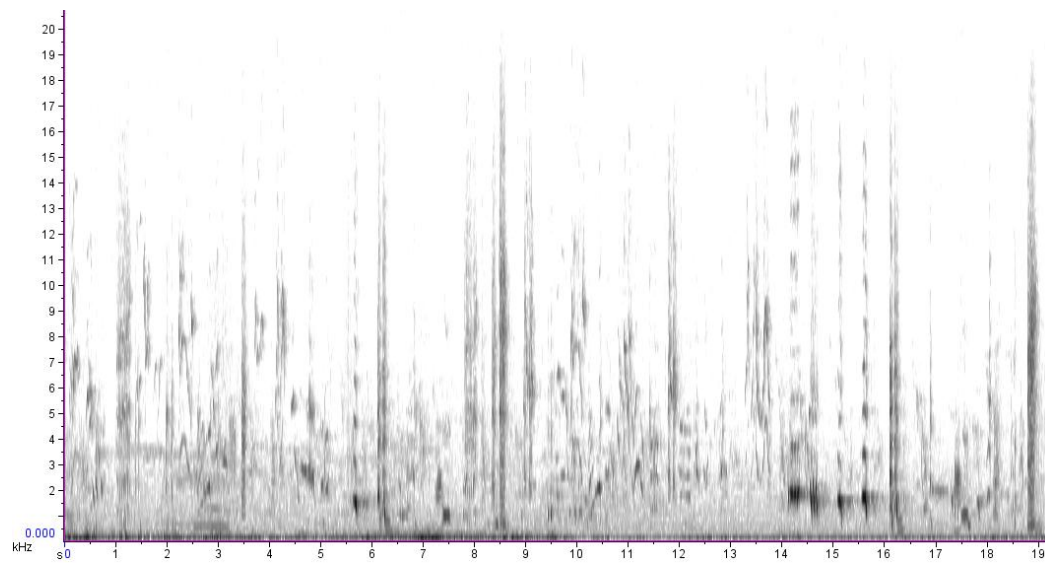
Song 144. August 20th 2010 (17.15h). 022-2010-09-09 02_08_49. Long song at Jones Bay, Tawharanui. Common Jones Bay syllable at c. 11s (marked 'A').



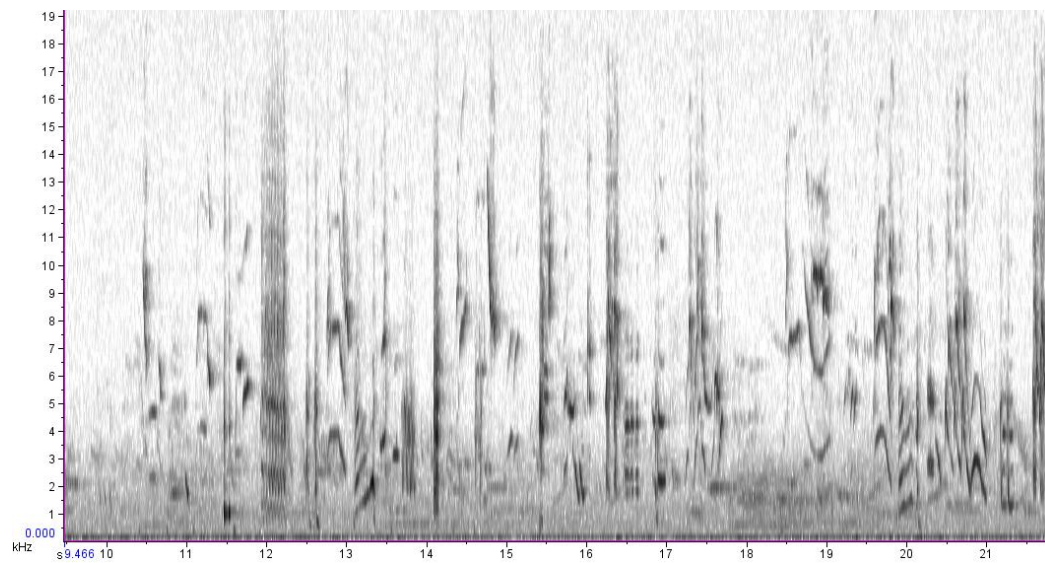
Song 145. August 20th 2010 (17.15h). 023-2010-09-09 02_08_49. Jones Bay, Tawharanui.



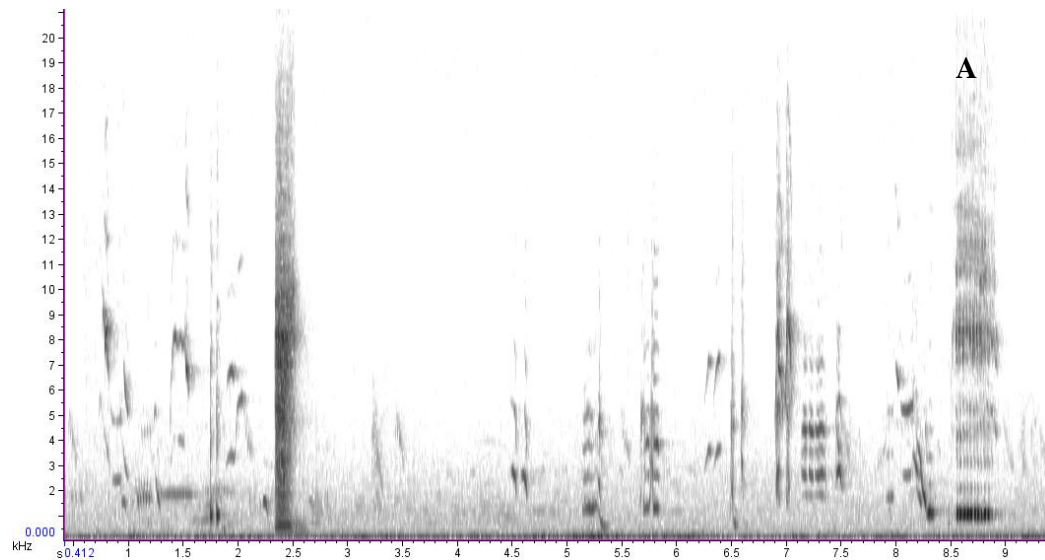
Song 146. September 3rd 2010 (10.00h). 003-2010-09-09 02_14_49. Jones Bay, Tawharanui. Terminal syllable is the bellbird-like syllable.



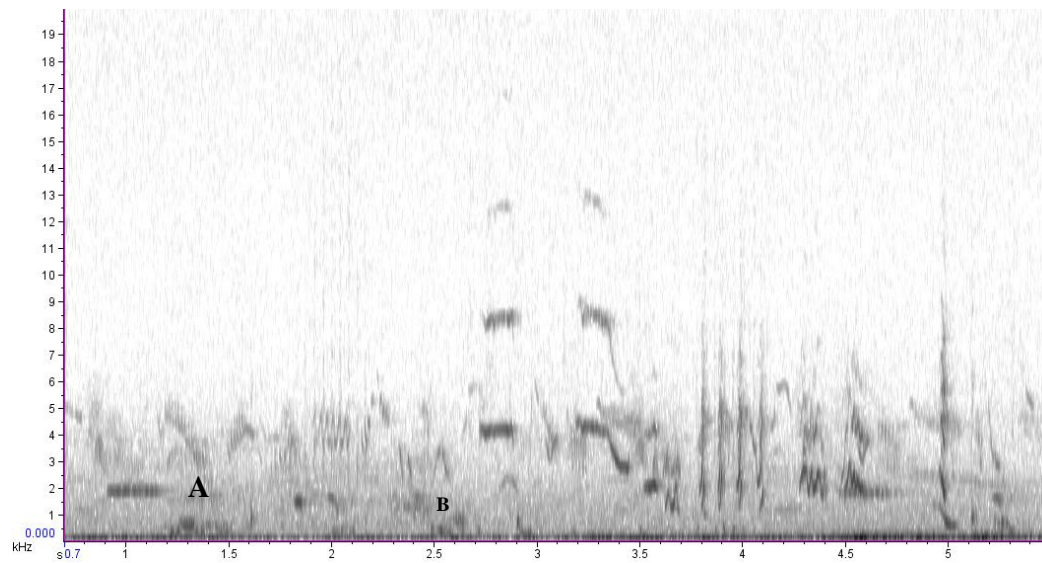
Song 147. September 3rd 2010 (10.00h). 007-2010-09-09 02_14_49. Jones Bay, Tawharanui.



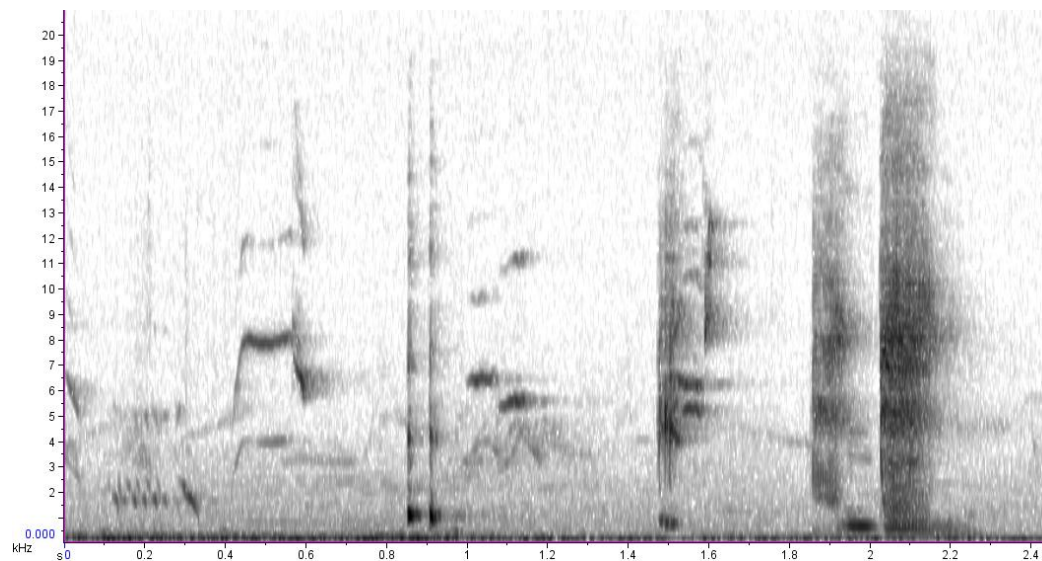
Song 148. September 3rd 2010 (17.15h). 011-2010-09-09 02_14_49. Song at Jones Bay, Tawharanui. Culminates in the common Jones Bay syllable. 'A'.



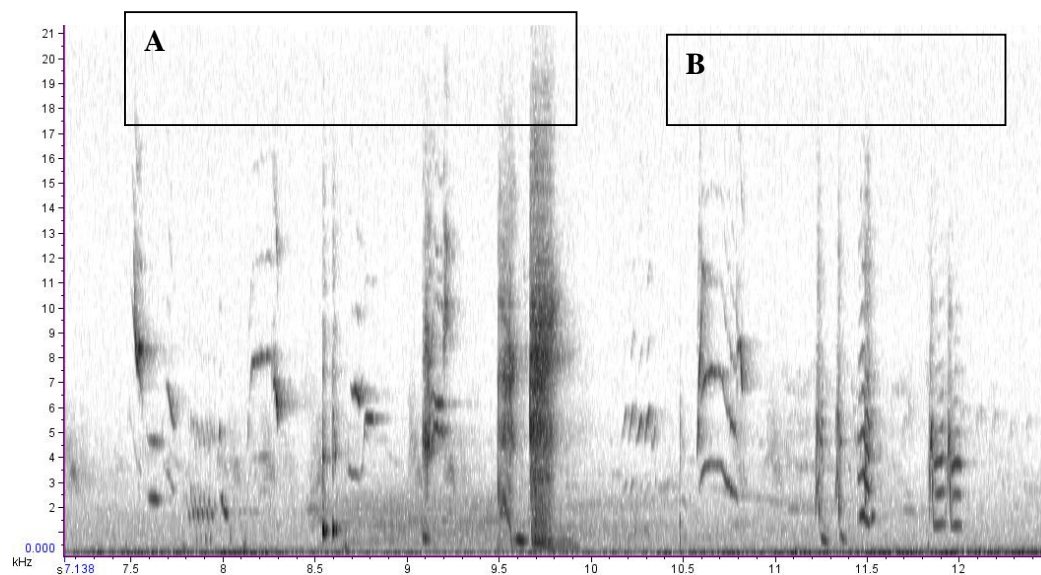
Song 149. September 3rd 2010 (17.15h). 012-2010-09-09 02_14_49. Song at Jones Bay, Tawharanui. Very low frequency frog-like syllables at 'A' and 'B'.



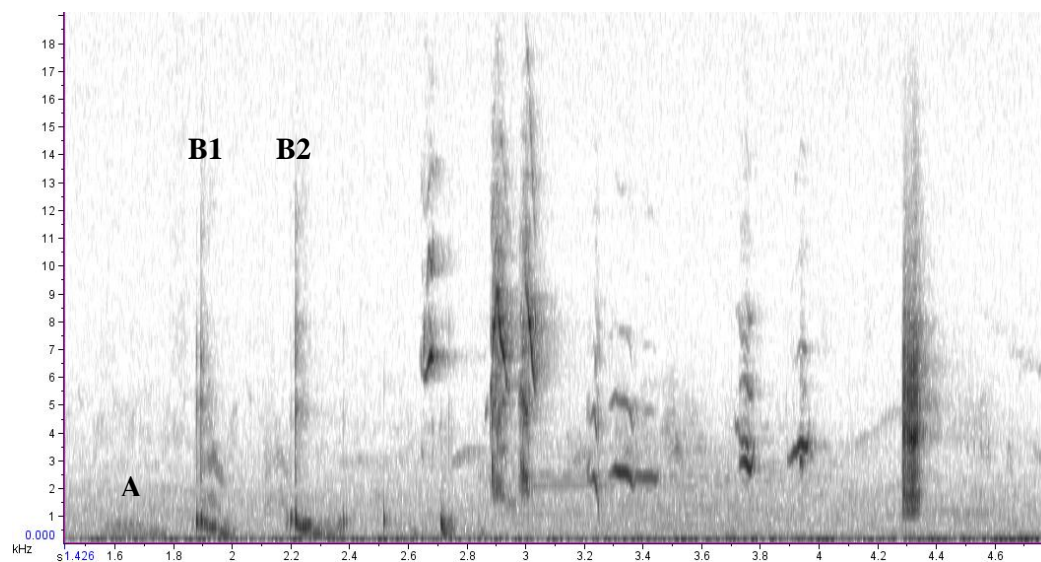
Song 150. September 3rd 2010 (17.15h). 013-2010-09-09 02_14_49. Song at Jones Bay, Tawharanui. Culminating in the bellbird-like syllable.



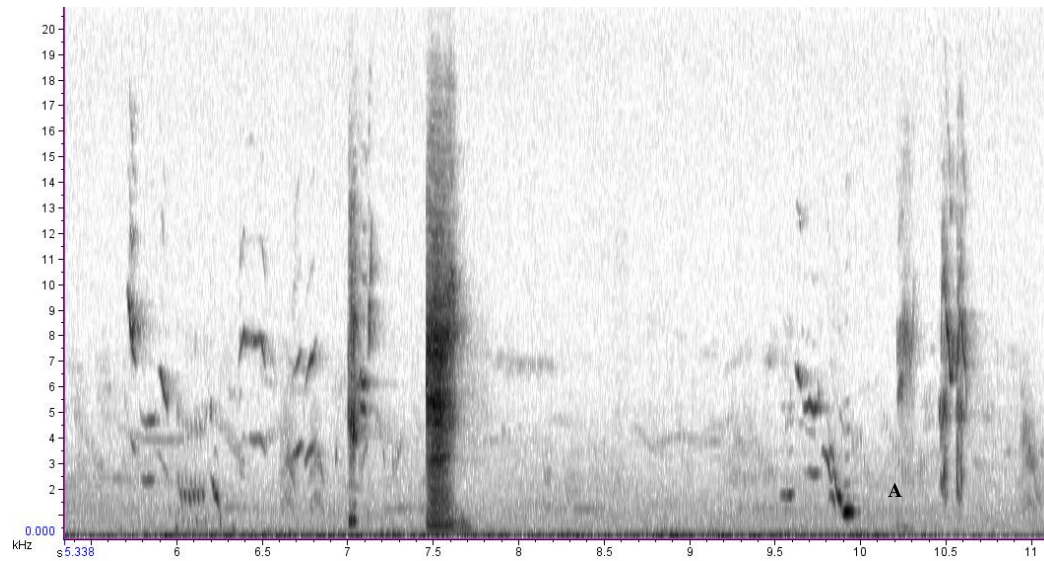
Song 151. September 3rd 2010 (17.20h). 014-2010-09-09 02_14_50. Song at Jones Bay. The first half ('A') is the same as the one above, but extra syllables added afterwards ('B').



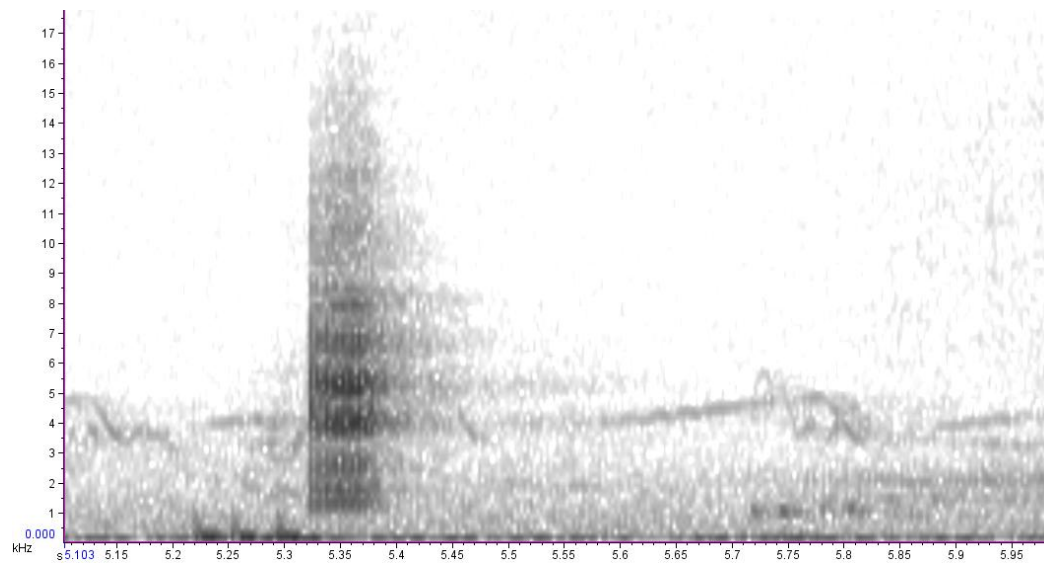
Song 152. 014-2010-09-09 02_14_50. Jones Bay song, Tawharanui. Begins with a very low frequency syllable ('A') followed by two 'kohs' ('B1' and 'B2').



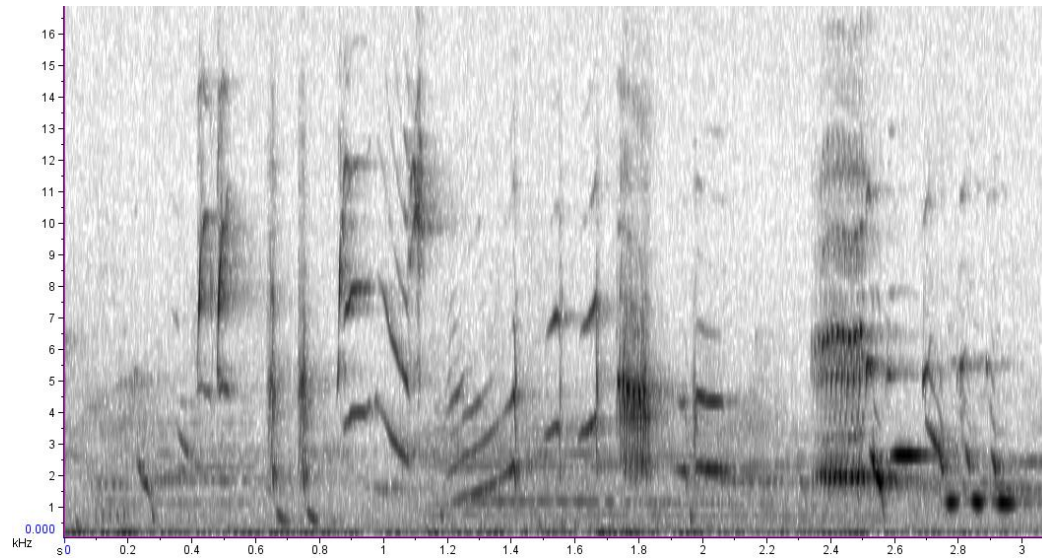
Song 153. September 3rd 2010 (17.20h). 015-2010-09-09 02_14_50. Song at Jones Bay. Bellbird-like syllable at c. 7.5s.



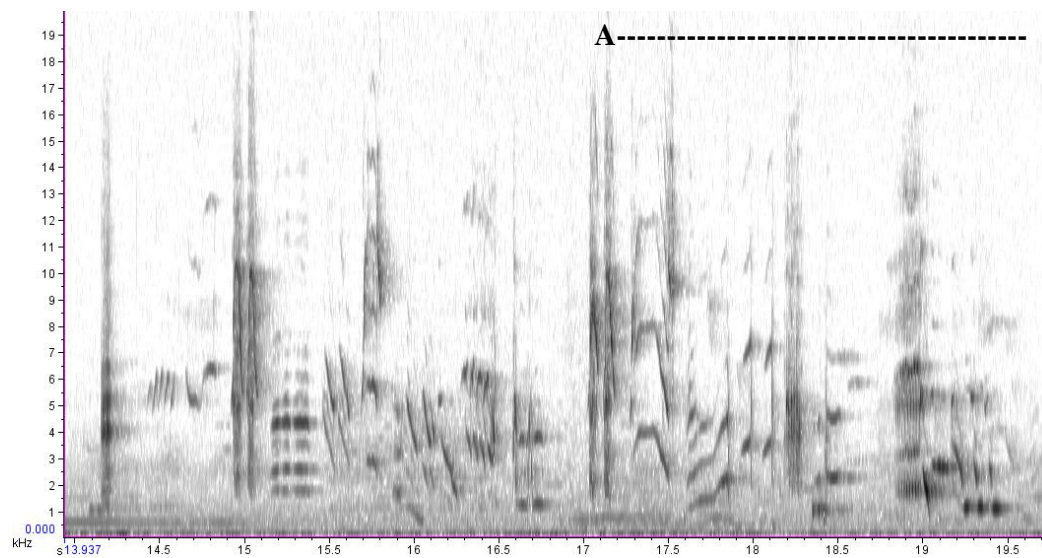
Song 154. September 3rd 2010 (17.30h). 020-2010-09-09 02_14_50. Very short song, consisting of two different syllables at Jones Bay, Tawharanui. In tree by car park at Jones Bay (by entrance).



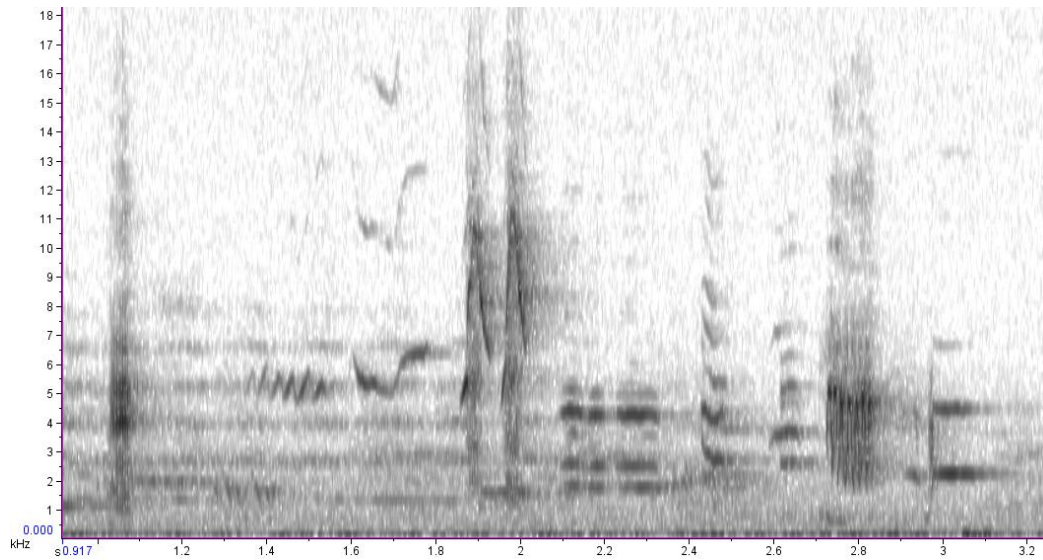
Song 155. September 3rd 2010 (17.30h). 025-2010-09-09 02_14_50. Song at Jones Bay, Tawharanui.



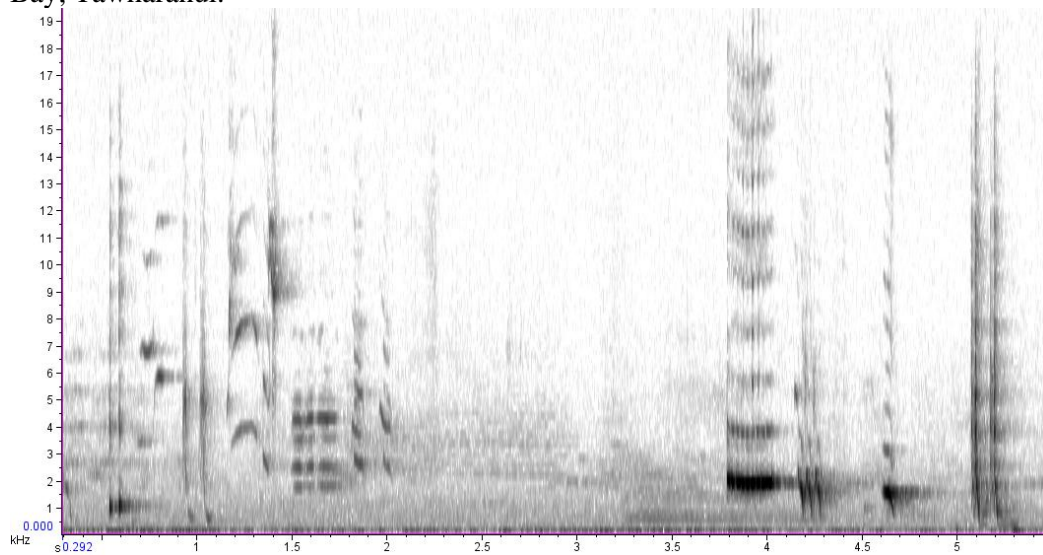
Song 156. September 3rd 2010 (17.30h). 028-2010-09-09 02_14_50. Song at Jones Bay, Tawharanui. The part marked 'A' is the same song as immediately above. The c. 3s part before 'A' classes this as a different song.



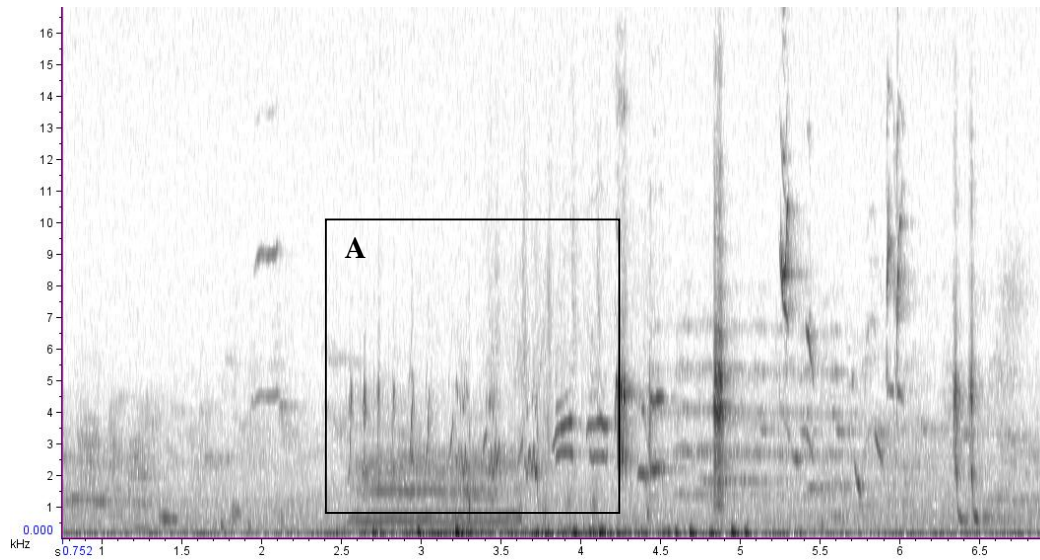
Song 157. September 3rd 2010 (17.30h). 026-2010-09-09 02_14_50. Ends in two syllables sounding like 'Powhiri'. Jones Bay, Tawharanui.



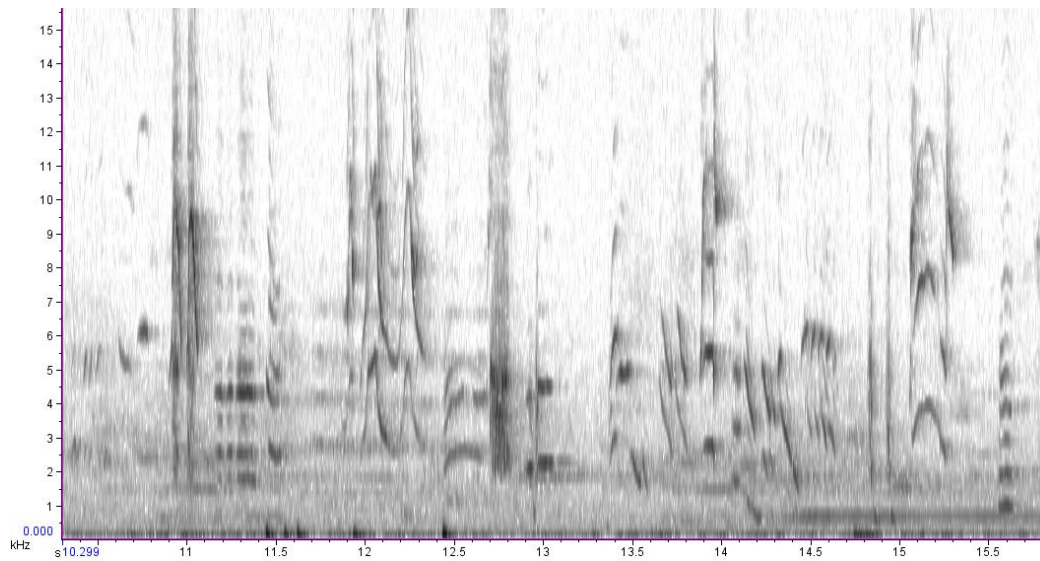
Song 158. September 3rd 2010 (17.30h). 028-2010-09-09 02_14_50. Song at Jones Bay, Tawharanui.



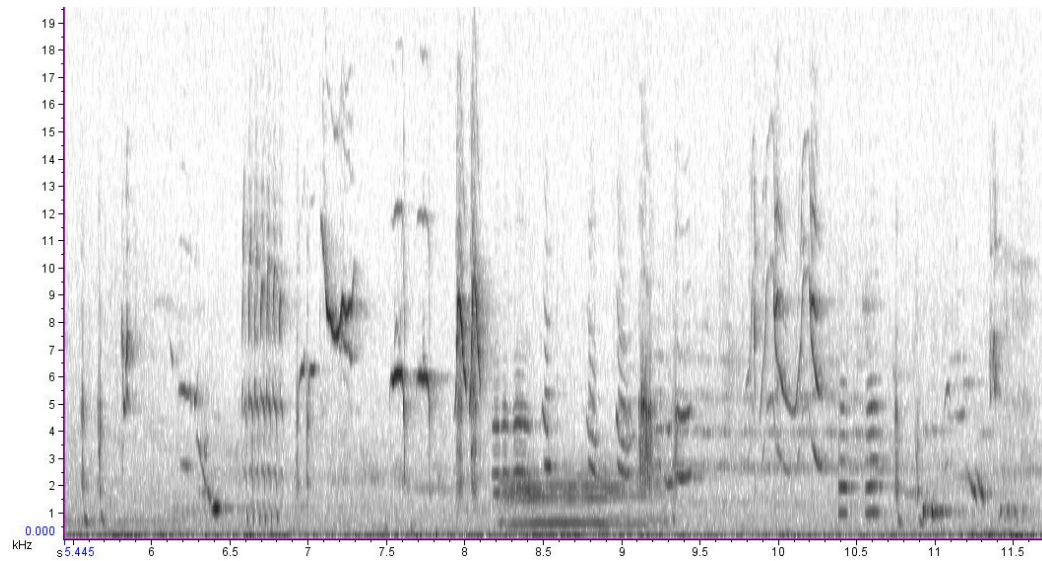
Song 159. September 3rd 2010 (17.30h). 029-2010-09-09 02_14_50. Song at Jones Bay, Tawharanui. 'A' sounds remarkably similar to song of blackbird (*Turdus merula*).



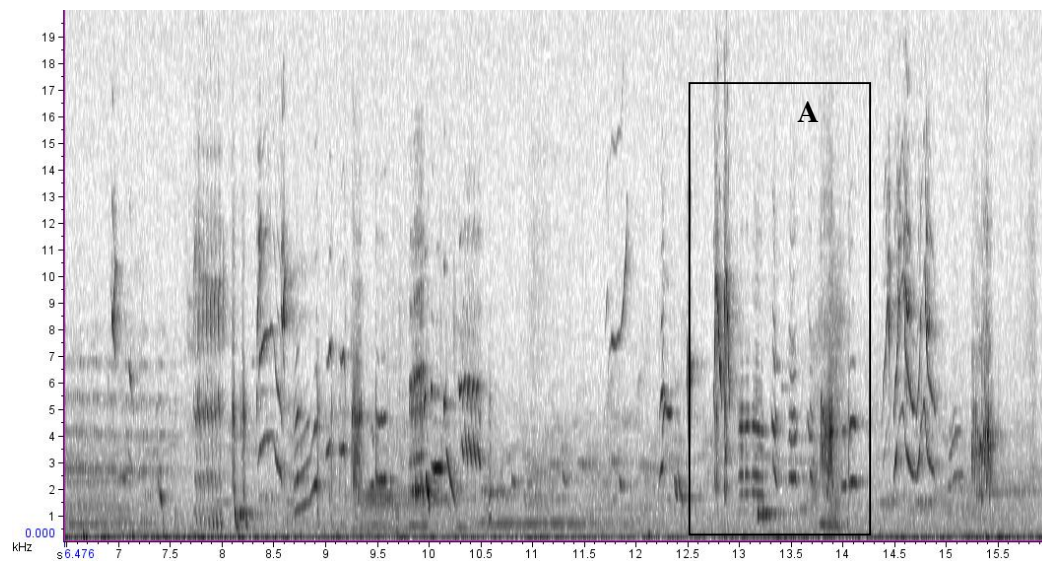
Song 160. September 3rd 2010 (17.35h). 029-2010-09-09 02_14_50 (2). Song at Jones Bay.



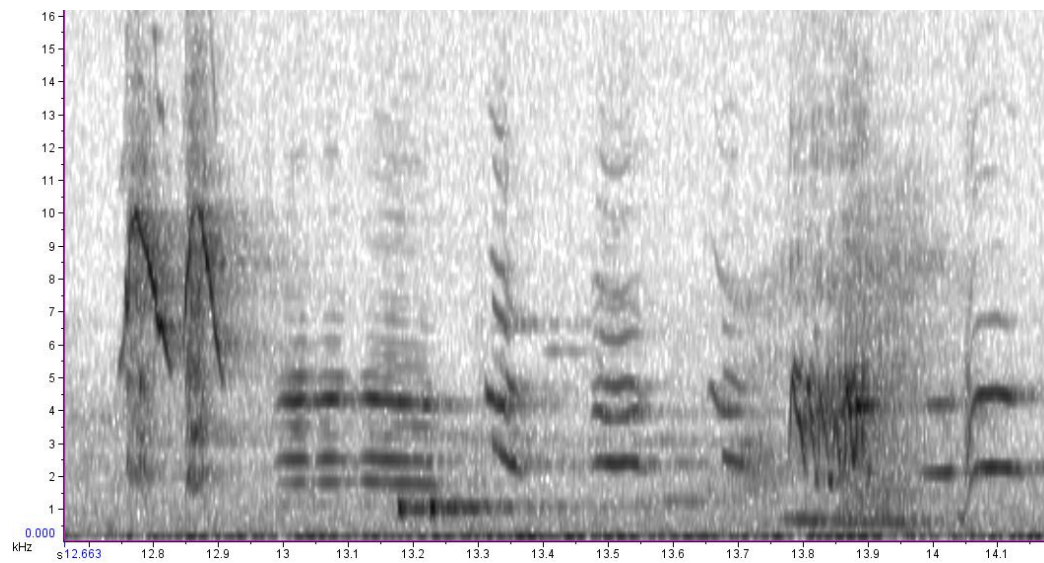
Song 161. September 3rd 2010 (17.35h). 030-2010-09-09 02_14_50. Song at Jones Bay, Tawharanui.



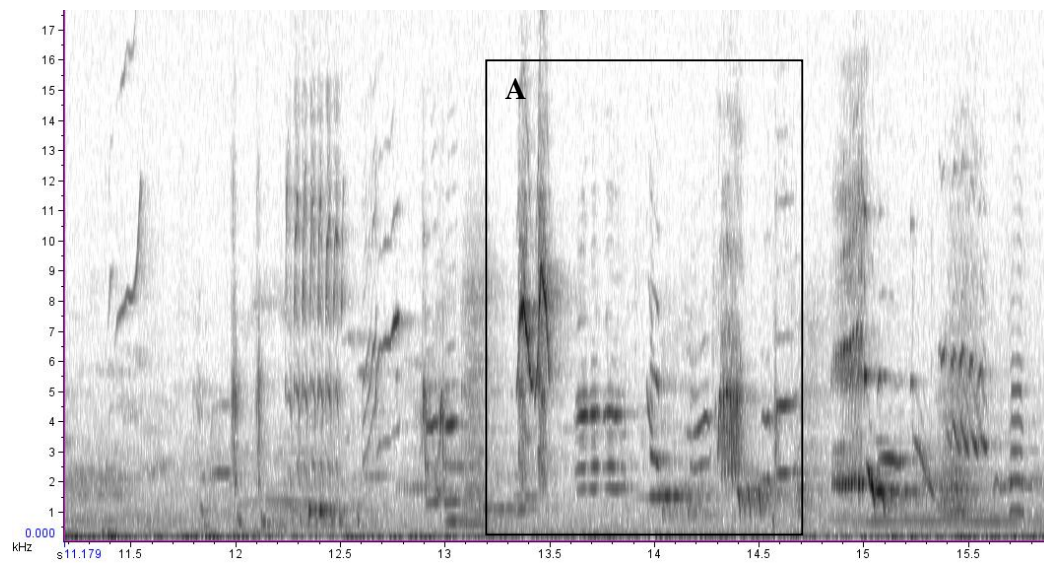
Song 162. September 3rd 2010 (17.35h). 031-2010-09-09 02_14_50. Song at Jones Bay, Tawharanui. Region 'A' is relatively homogeneous in the last few entries (slight alterations of this section in the different songs, sung by the same individual).



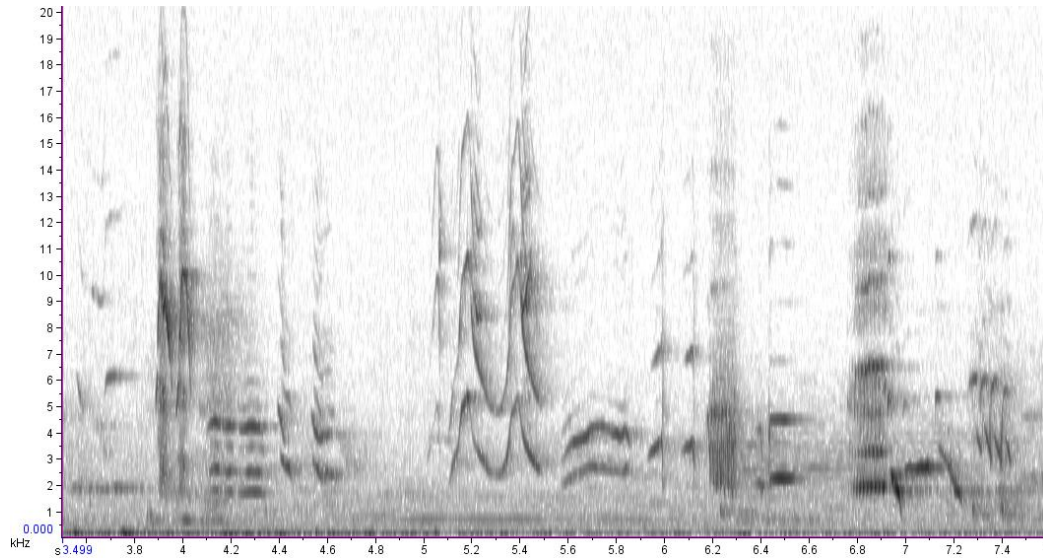
Song 163. 031-2010-09-09 02_14_50. Relatively homogeneous region of last few songs (zoomed in from 'A' from the last song). The syllables are varied around this region, but this region remains the same, in the last few entries.



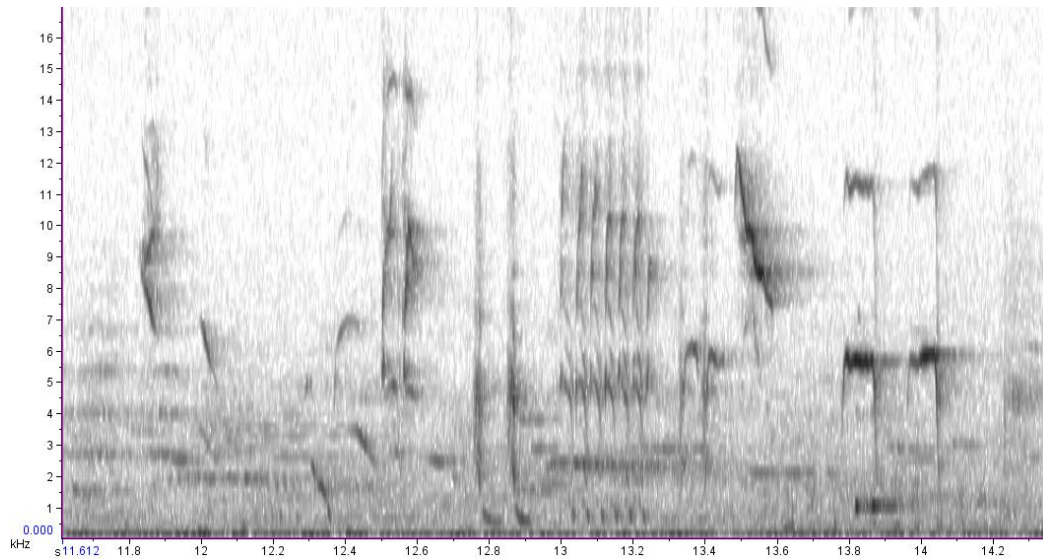
Song 164. September 3rd 2010 (17.35h). 033-2010-09-09 02_14_50. Song at Jones Bay. 'A' is the relatively homogeneous region within the last few songs.



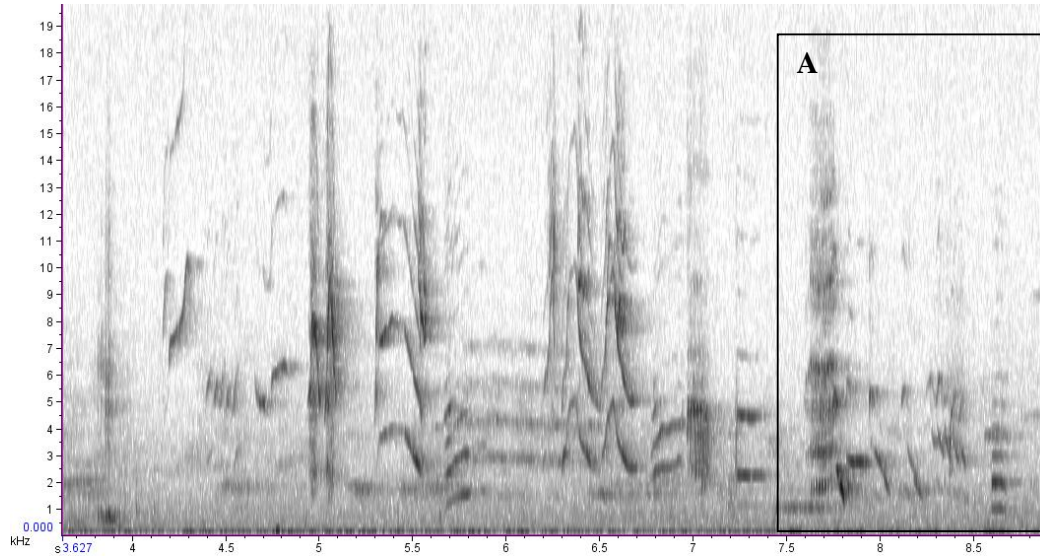
Song 165. September 3rd 2010 (17.40h). 034-2010-09-09 02_14_50. Song at Jones Bay, includes a variation of the homogeneous zone of the last few songs and the Jones Bay 'M'-shaped syllable.



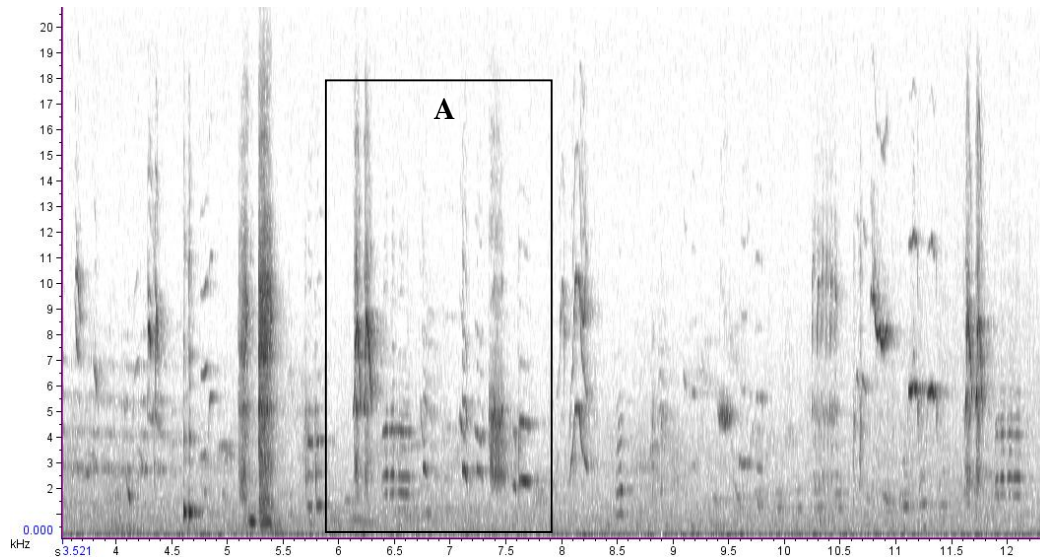
Song 165. September 3rd 2010 (17.40h). 034-2010-09-09 02_14_50 (2). Song at Jones Bay, Tawharanui.



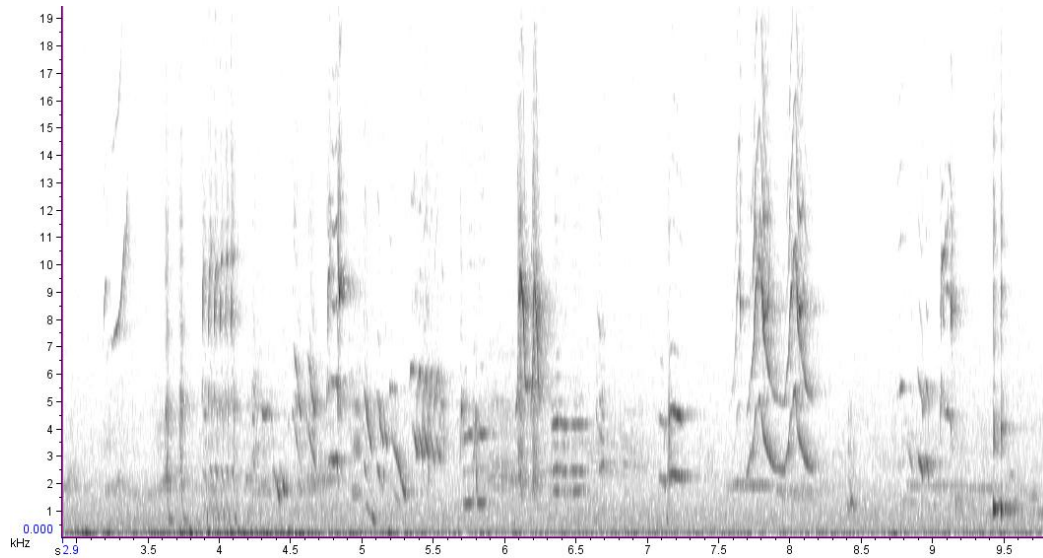
Song 166. September 3rd 2010 (17.45h). 042-2010-09-09 02_14_51. Jones Bay, Tawharanui. 'M' syllable included. Highly territorial male song, after he vigorously, aggressively chased off another male. 'A' is the same as the 'A' within song within file 47 (3rd song below this one).



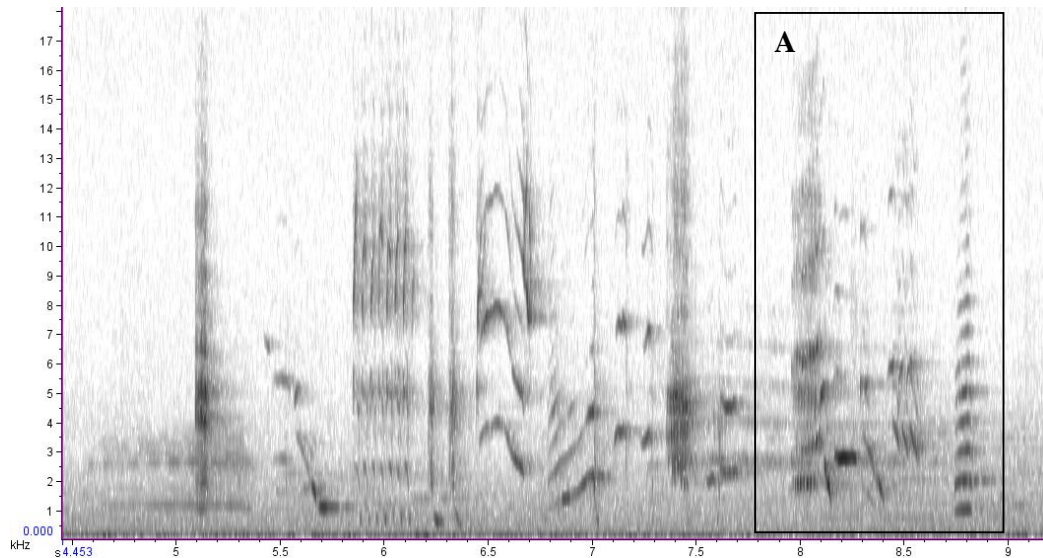
Song 167. September 3rd 2010 (17.45h). 043-2010-09-09 02_14_51. Song at Jones Bay, Tawharanui. Includes the homogeneous region 'A'. Highly territorial male song, after he vigorously, aggressively chased off another male.



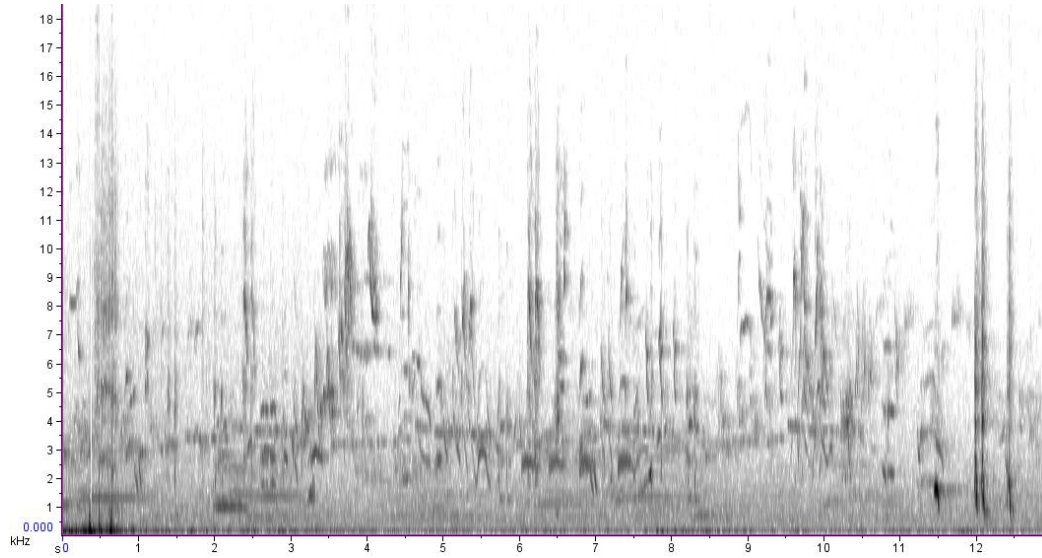
Song 168. September 3rd 2010 (17.45h). 044-2010-09-09 02_14_51. Song at Jones Bay, includes the Jones Bay 'M' syllable and ends in a variation of a 'kokok' syllable. Highly territorial male song, after he vigorously, aggressively chased off another male.



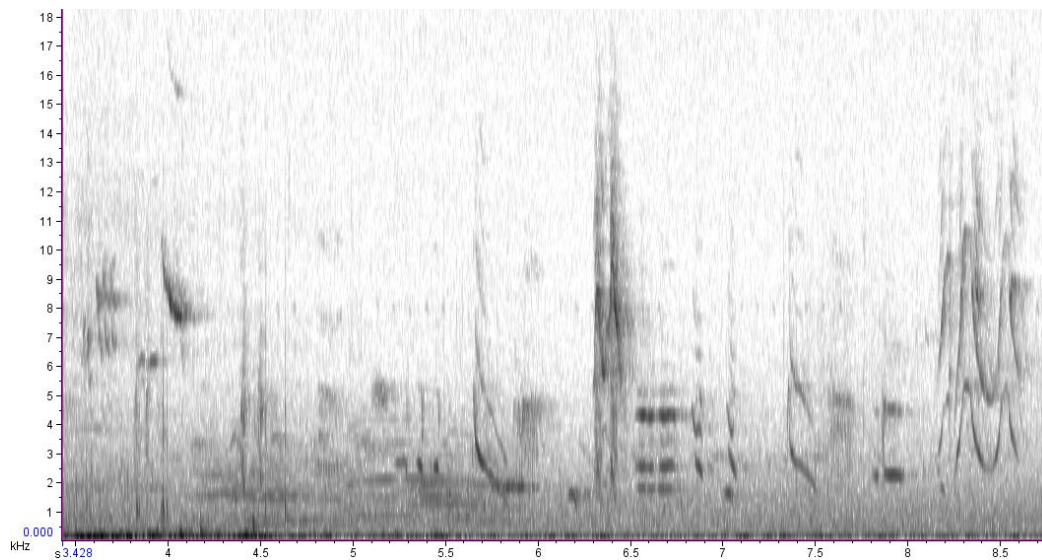
Song 169. 047-2010-09-09 02_14_51. 'A' is a repeated portion of song heard above (in song within file 42).



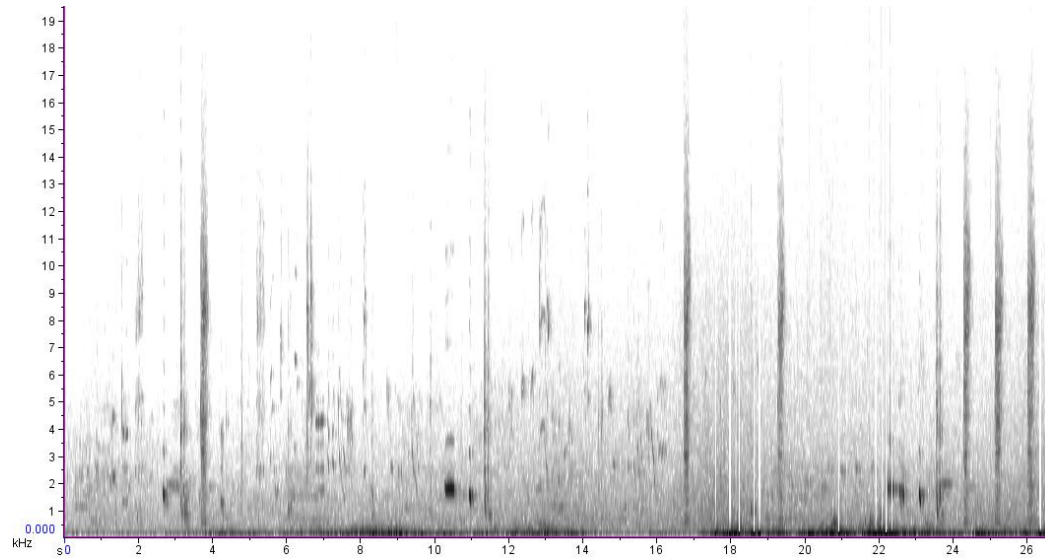
Song 170. September 3rd 2010 (17.50h). 002-2010-09-09 02_26_59
(TawhJulyAugSept2010, Folder 26, File 2). In tree by car park at Jones Bay,
Tawharanui.



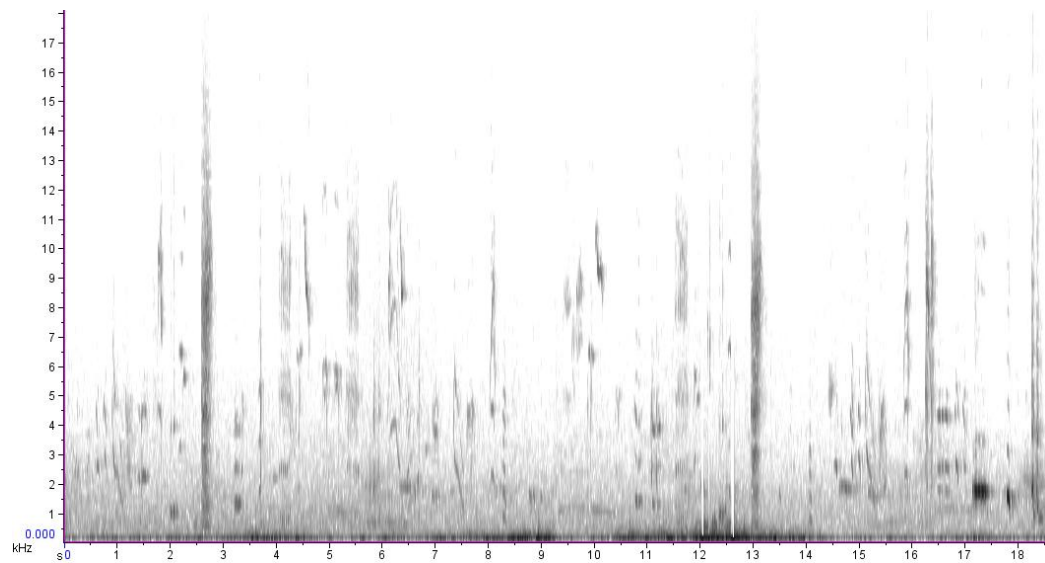
Song 171. September 3rd 2010 (11.00h). 004-2010-09-09 02_26_59. Song by the
Head Ranger's House, Jones Bay, Tawharanui. Culminates in the 'M' syllable.



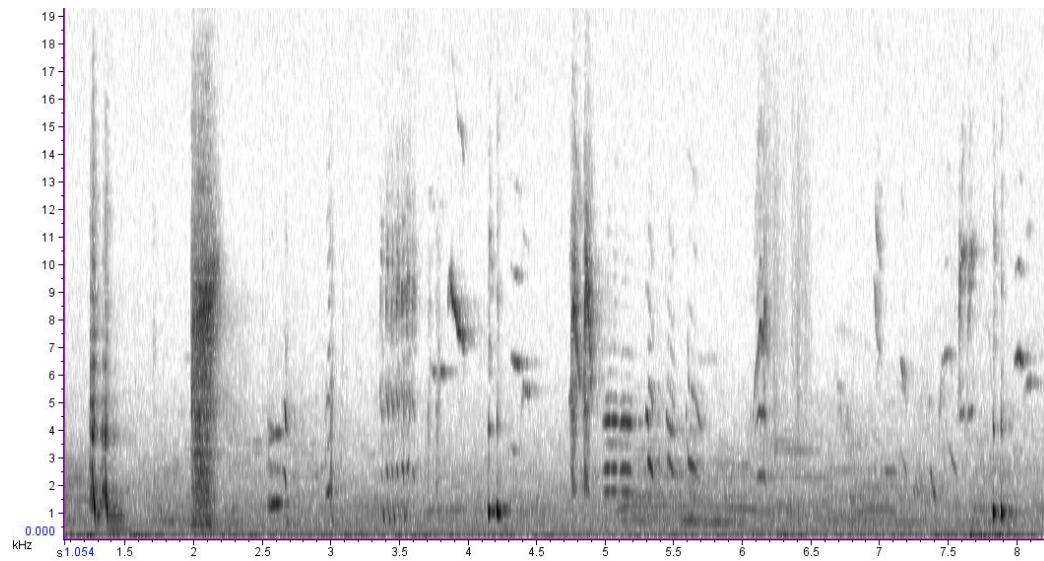
Song 172. September 3rd 2010 (11.00h). 005-2010-09-09 02_26_59. Long song by the Head Ranger's House, Jones Bay, Tawharanui. Culminates in 3 repeated bellbird-like syllables.



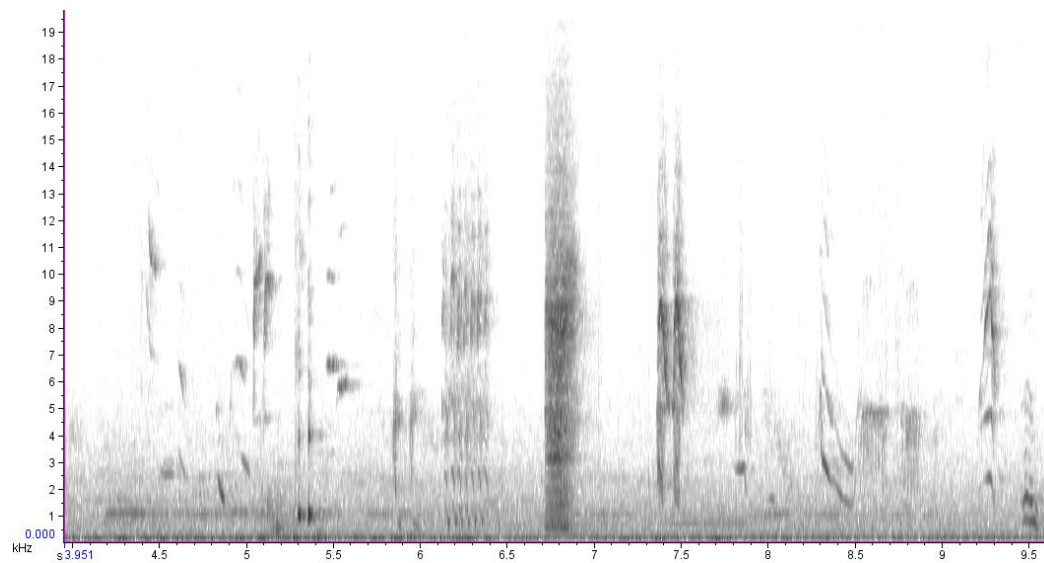
Song 173. September 3rd 2010 (11.00h). 006-2010-09-09 02_26_59. Song by the Head Ranger's House, Jones Bay, Tawharanui.



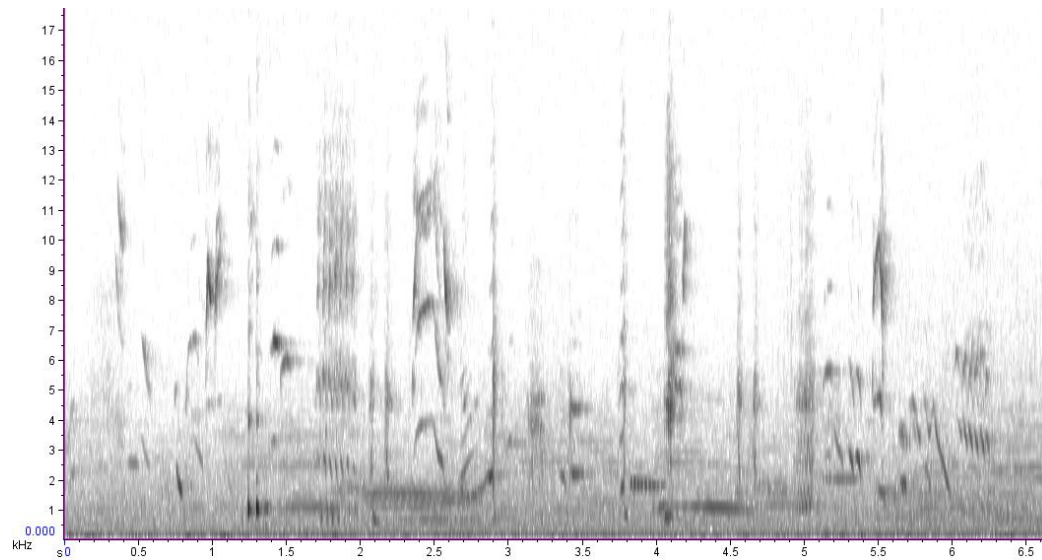
Song 174. September 3rd 2010 (11.00h). 007-2010-09-09 02_26_59. Song by the Head Ranger's House, Jones Bay, Tawharanui.



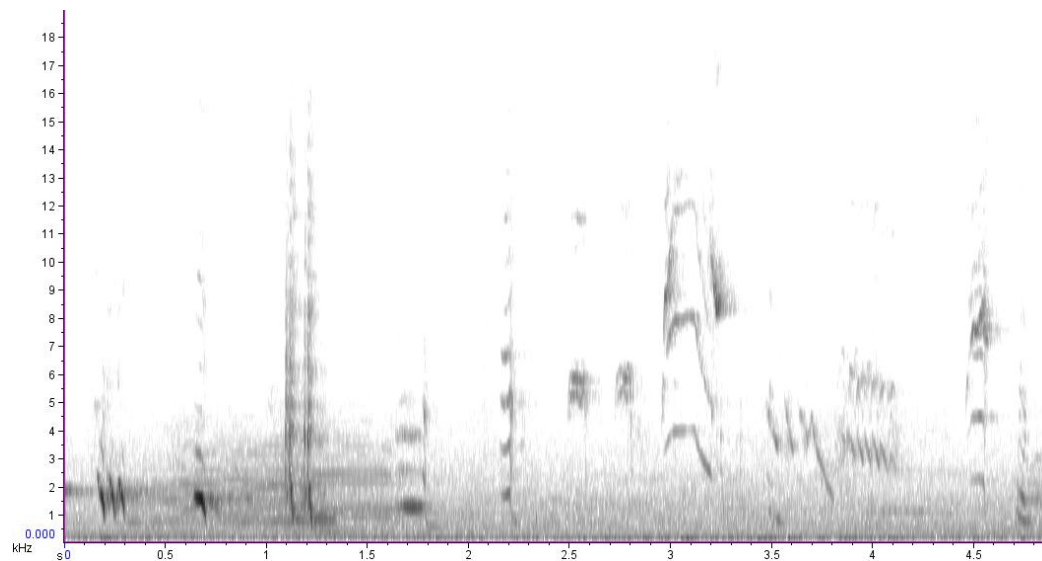
Song 175. September 3rd 2010 (11.00h). 008-2010-09-09 02_26_59. Song by the Head Ranger's House, Jones Bay, Tawharanui.



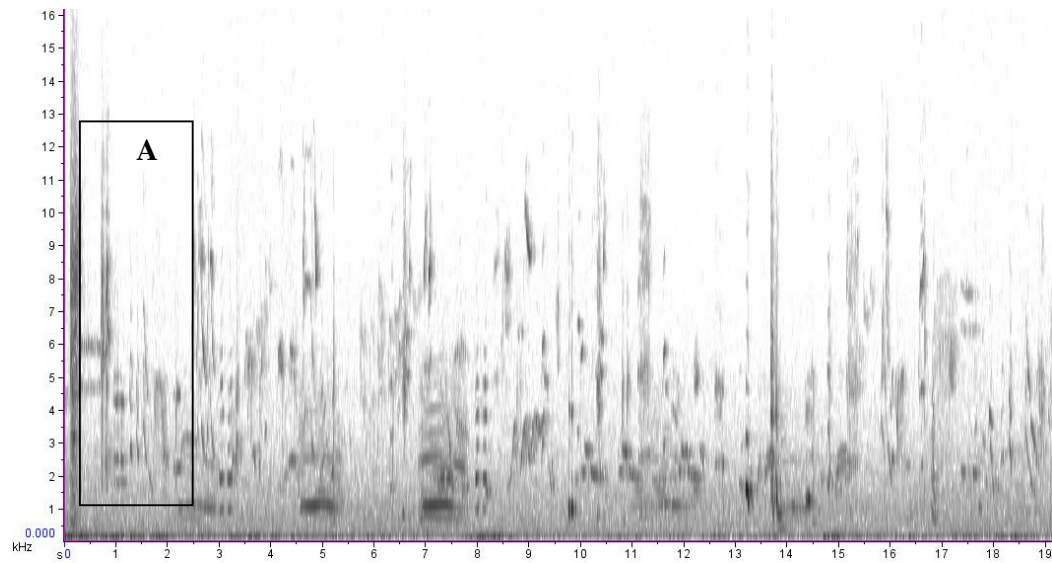
Song 176. September 3rd 2010 (11.00h). 009-2010-09-09 02_26_59. Song by the Head Ranger's House, Jones Bay, Tawharanui.



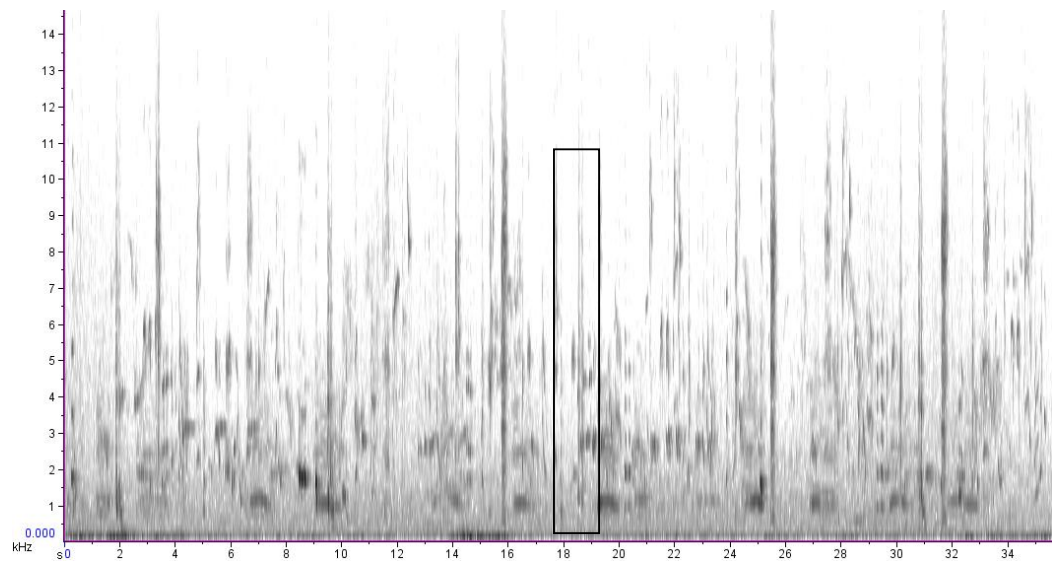
Song 177. September 3rd 2010 (11.00h). 010-2010-09-09 02_26_59. Song by the Head Ranger's House, Jones Bay, Tawharanui.



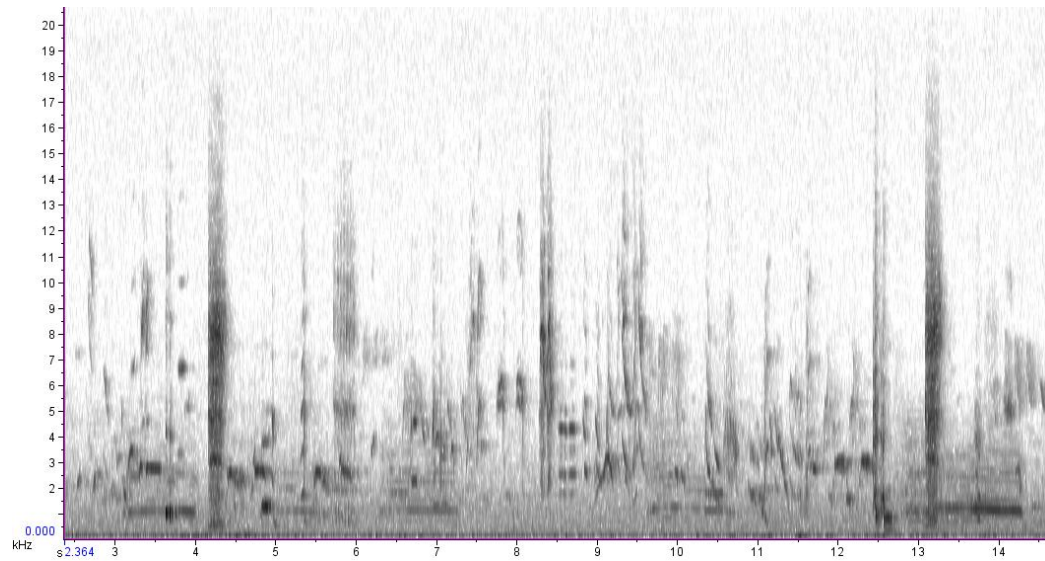
Song 178. September 3rd 2010 (11.00h). 012-2010-09-09 02_26_59. Song by the Head Ranger's House, Jones Bay, Tawharanui. 'A' is the 'homogeneous' region as heard in some of the songs above (at Jones Bay).



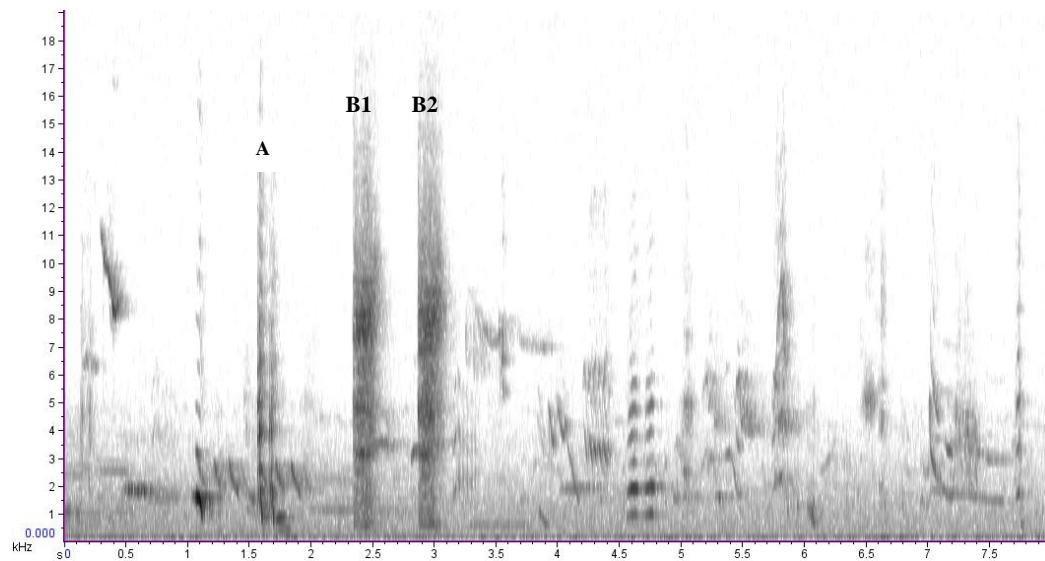
Song 179. September 3rd 2010 (11.15h). 013-2010-09-09 02_26_59. Long, complex trill interspersed with the bellbird-like syllable and other common Jones Bay syllables (such as the Jones Bay two-note syllable) by a male at the Head Ranger's House, Tawharanui. Rare 'dry-retch' syllable indicated at 'A'.



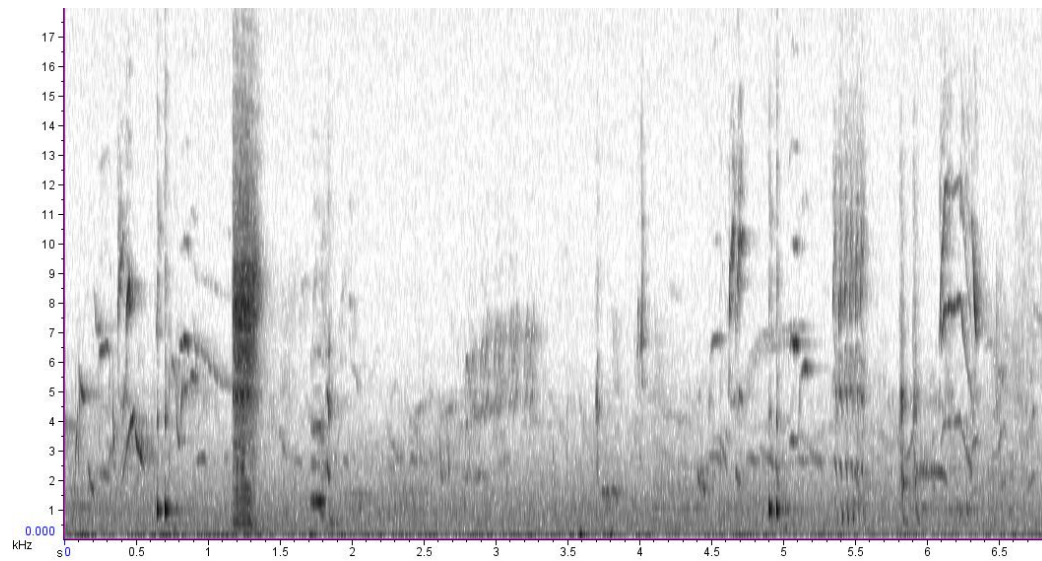
Song 180. September 3rd 2010 (11.30h). 014-2010-09-09 02_26_59. Song by the Head Ranger's House, Jones Bay, Tawharanui. Culminates in two-note syllable, then the bellbird-like syllable at c. 13.2s.



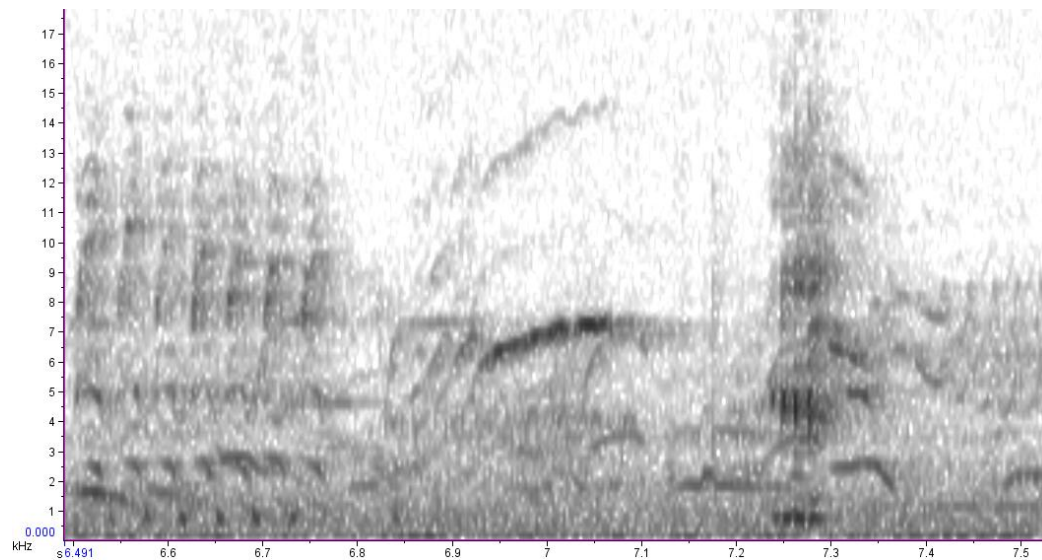
Song 181. September 3rd 2010 (11.30h). 015-2010-09-09 02_26_59. Song by the Head Ranger's House, Jones Bay, Tawharanui. Jones Bay two-note syllable ('A') followed by two repeated bellbird syllables ('B1' and 'B2').



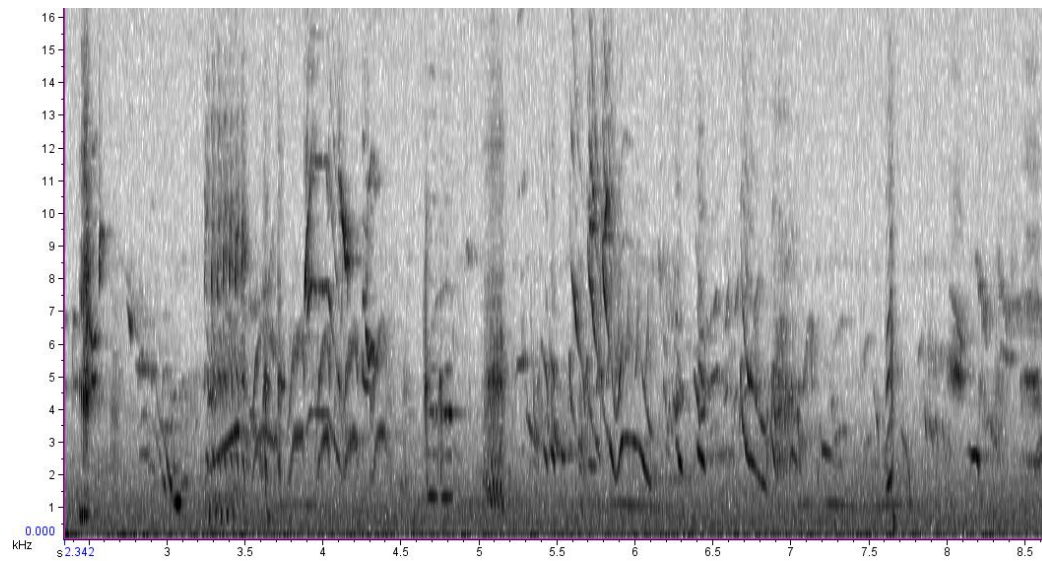
Song 182. September 3rd 2010 (11.30h). 017-2010-09-09 02_27_00. Song by the Head Ranger's House, Jones Bay, Tawharanui.



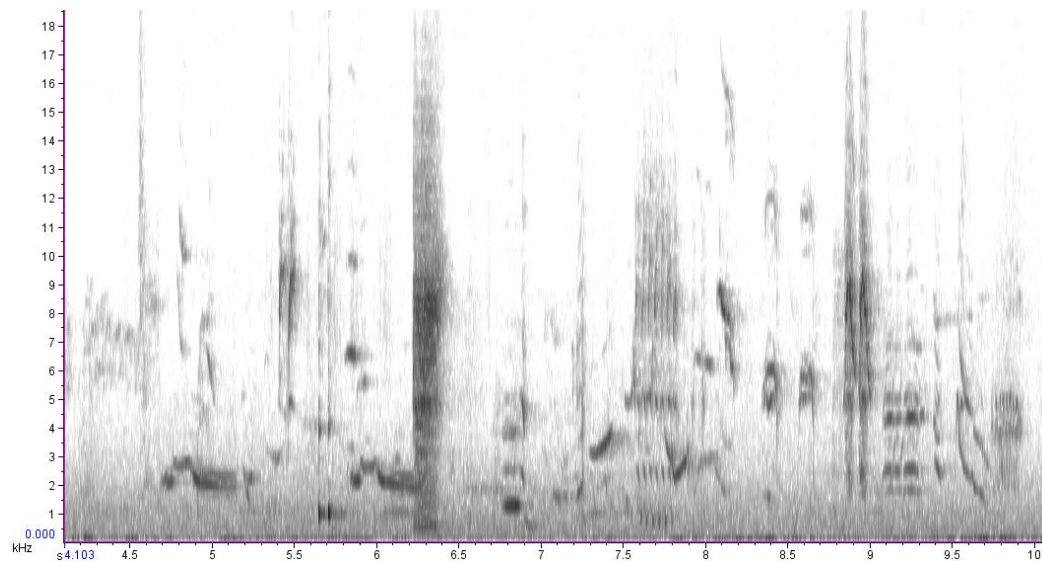
Song 183. September 3rd 2010 (11.30h). 018-2010-09-09 02_27_00. Song by the Head Ranger's House, Jones Bay, Tawharanui.



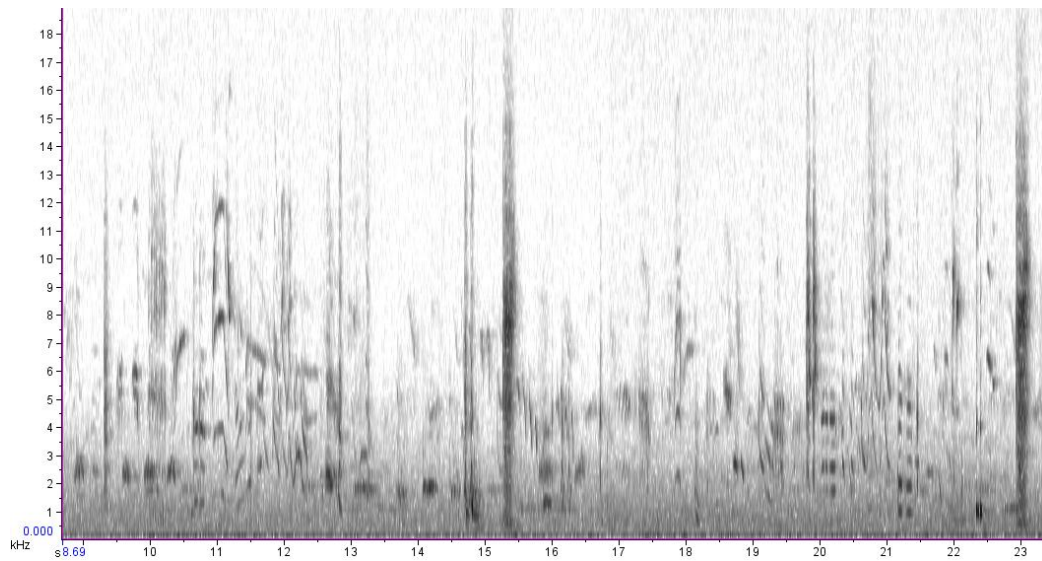
Song 184. September 3rd 2010 (11.30h). 019-2010-09-09 02_27_00. Song by the Head Ranger's House, Jones Bay, Tawharanui.



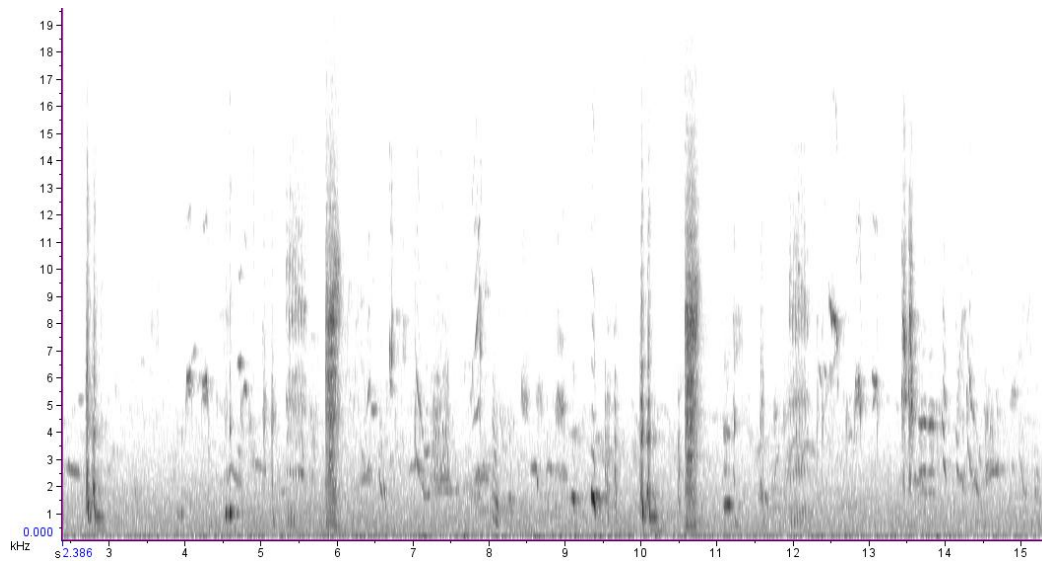
Song 185. September 3rd 2010 (11.30h). 020-2010-09-09 02_27_00. Song by the Head Ranger's House, Jones Bay, Tawharanui.



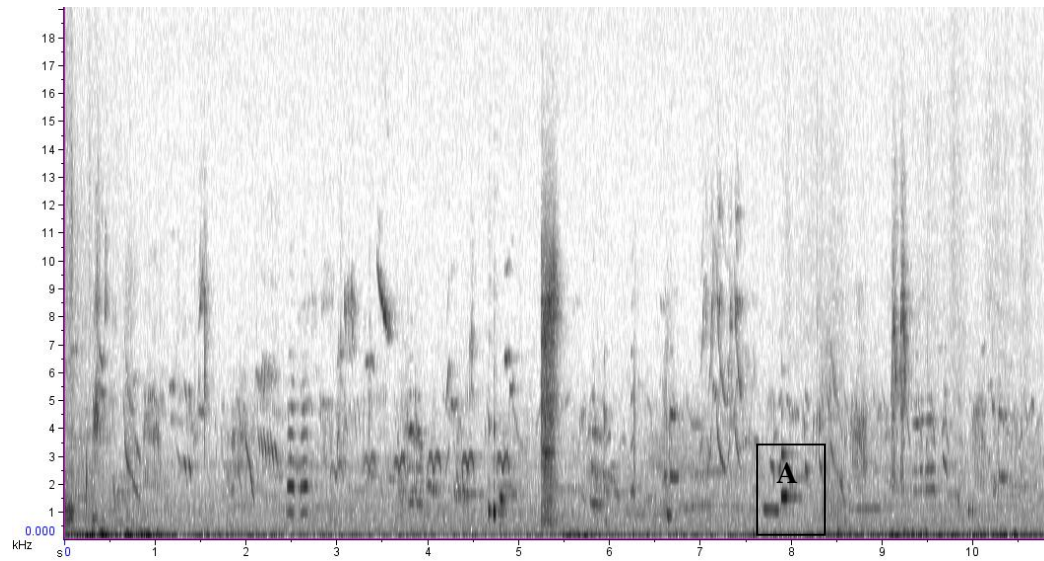
Song 186. September 3rd 2010 (11.30h). 021-2010-09-09 02_27_00. Song by the Head Ranger's House, Jones Bay, Tawharanui.



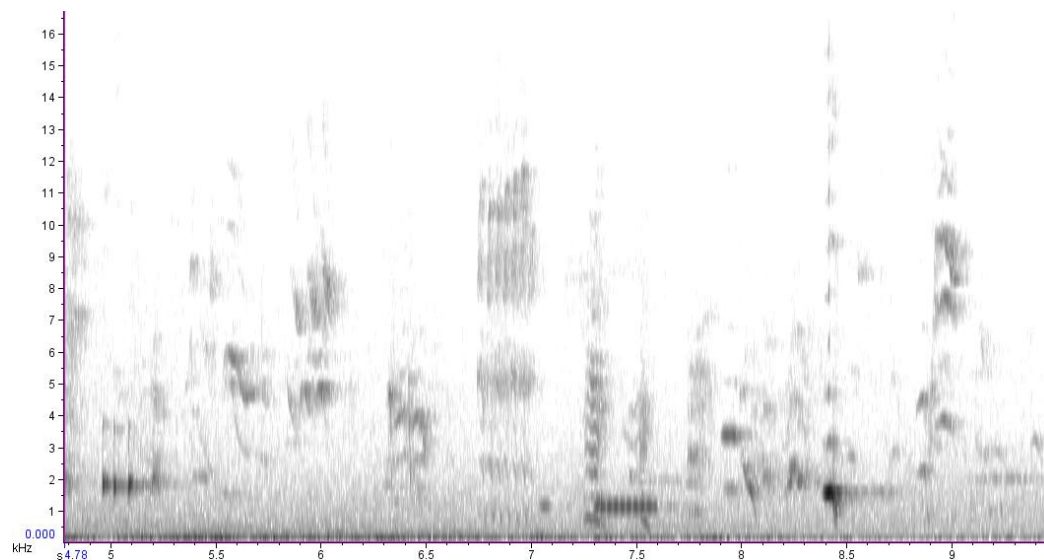
Song 187. September 3rd 2010 (11.30h). 022-2010-09-09 02_27_00. Song by the Head Ranger's House, Jones Bay, Tawharanui. Culminates in three quick-fire descending notes at the end c. 14-14.5s.



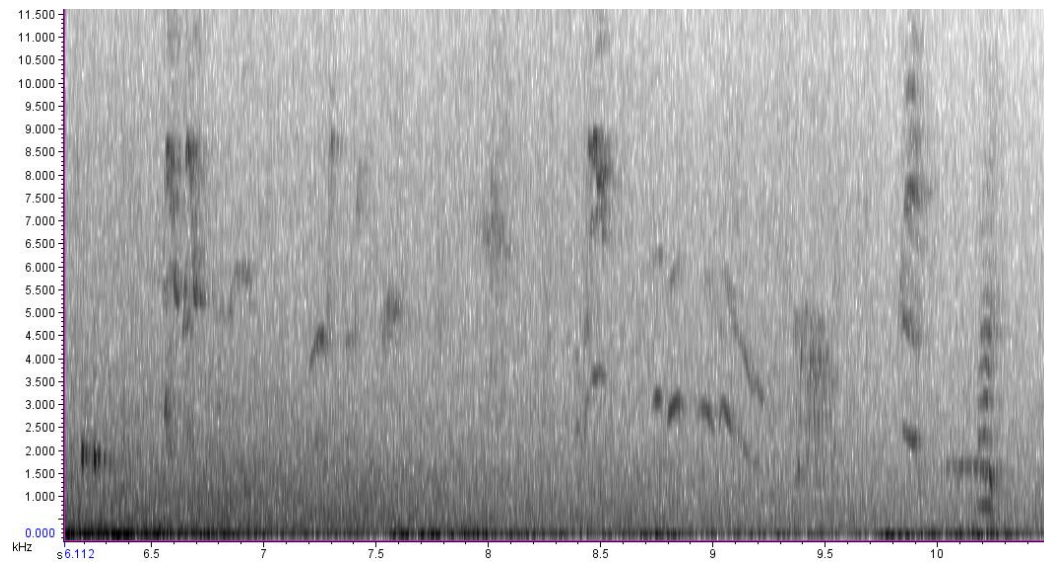
Song 188. September 3rd 2010 (11.30h). 024-2010-09-09 02_27_00. Song by the Head Ranger's House, Jones Bay, Tawharanui. Includes a wonderful sounding two-syllables together that were sung, at c. 7.7-8s. Marked 'A'. The second syllable sounds like an electronic bleep.



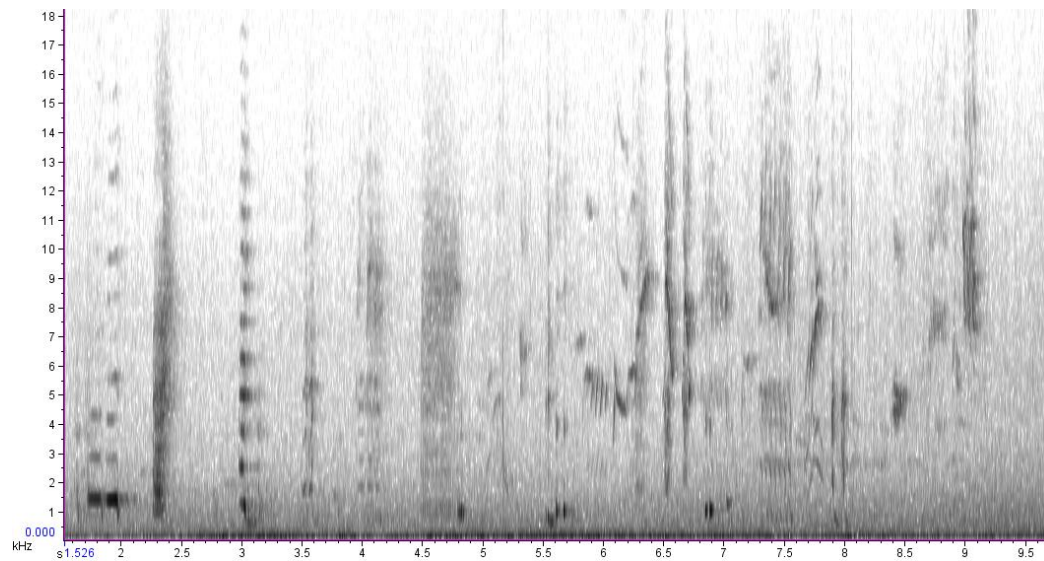
Song 189. September 3rd 2010 (12.00h). 027-2010-09-09 02_27_00. Predator-proof fence, Jones Bay, Tawharanui.



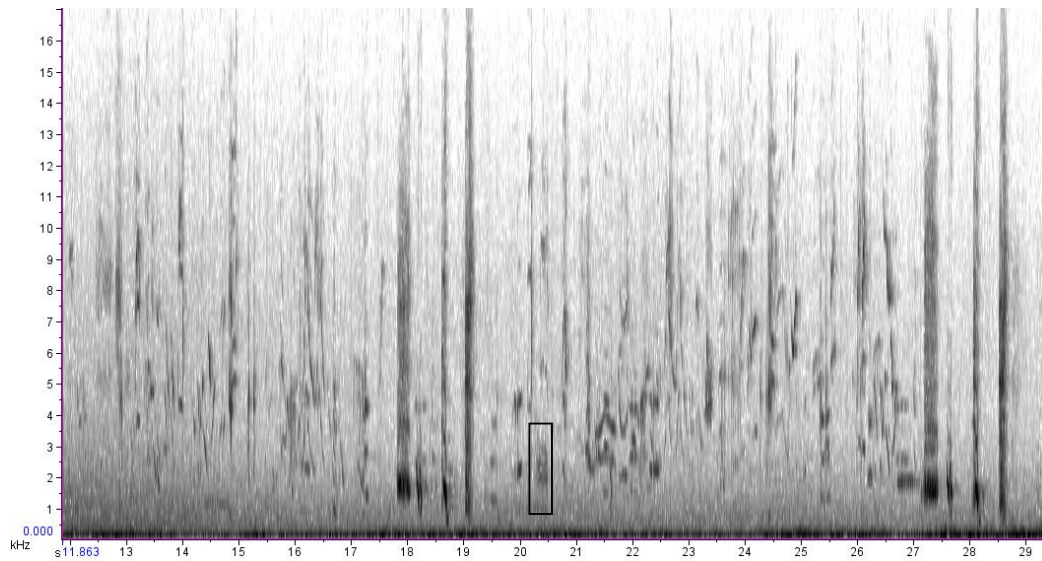
Song 190. September 3rd 2010 (12.00h). 028-2010-09-09 02_27_00. Predator-proof fence, Jones Bay, Tawharanui.



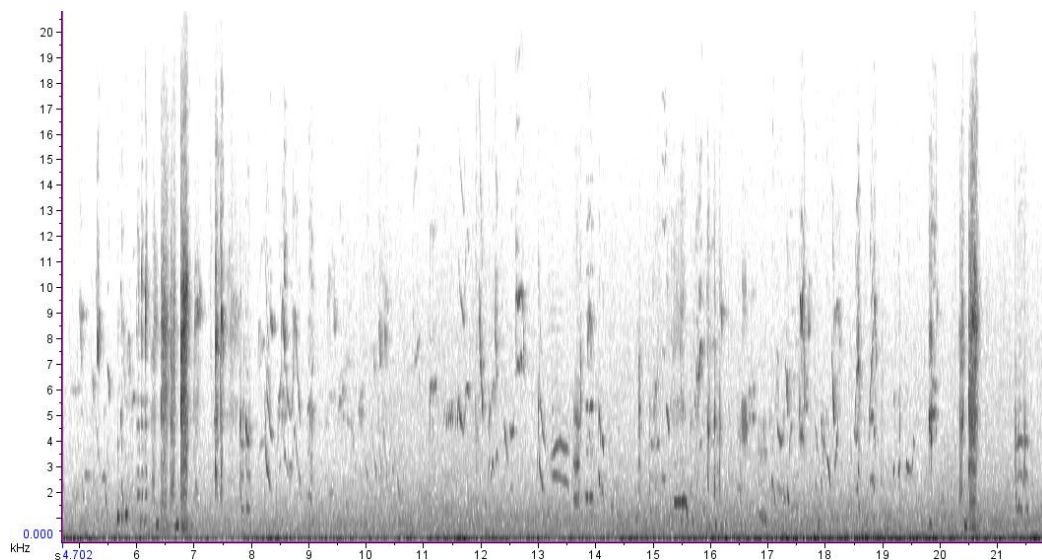
Song 191. September 3rd 2010 (12.00h). 031-2010-09-09 02_27_00. Predator-proof fence, Jones Bay, Tawharanui.



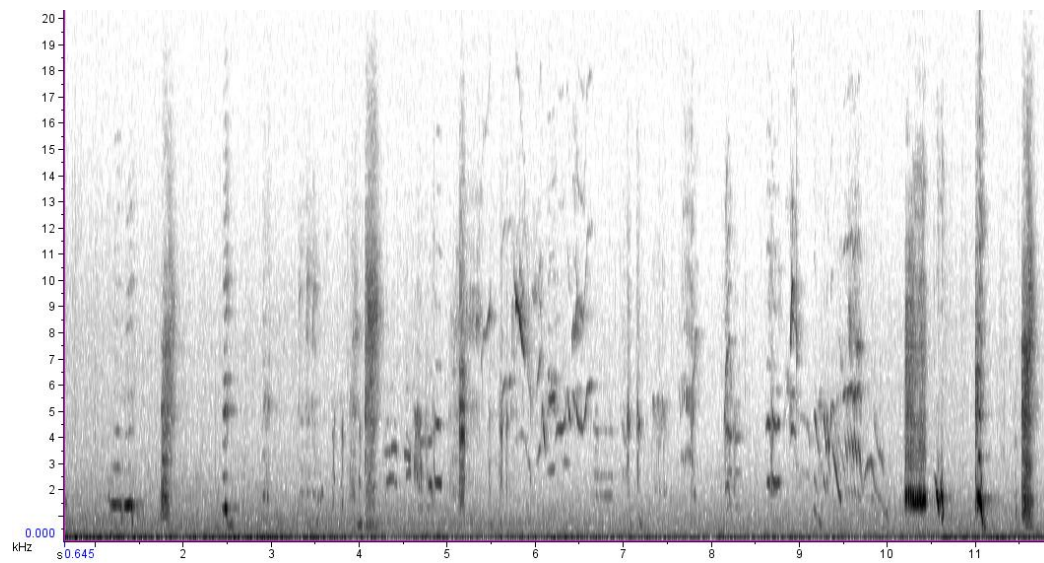
Song 192. September 3rd 2010 (12.00h). 031-2010-09-09 02_27_00. Predator-proof fence, Jones Bay, Tawharanui. The syllable in the black box is a rare low-frequency ‘nyah’-sounding syllable.



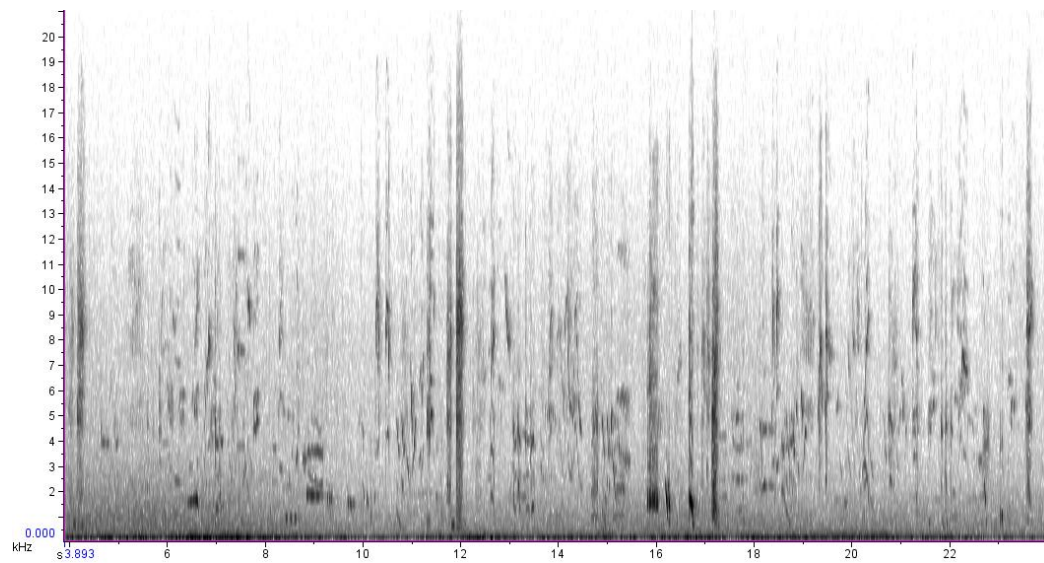
Song 193. September 3rd 2010 (12.00h). 032-2010-09-09 02_27_00. Predator-proof fence, Jones Bay, Tawharanui. Starts off with a duet.



Song 194. September 3rd 2010 (12.00h). 033-2010-09-09 02_27_00. Predator-proof fence, Jones Bay, Tawharanui.

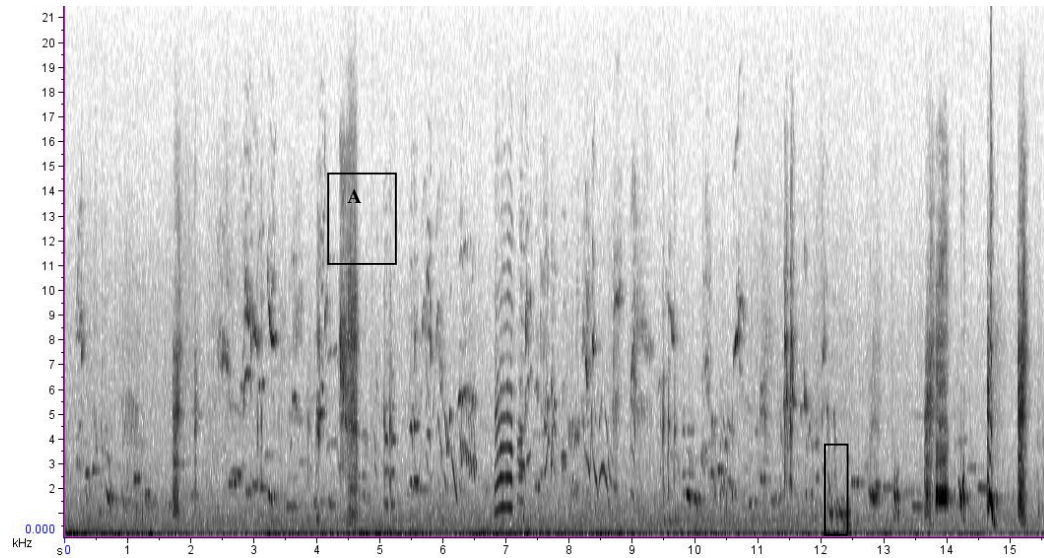


Song 195. September 3rd 2010 (12.00h). 034-2010-09-09 02_27_00. Predator-proof fence, Jones Bay, Tawharanui.

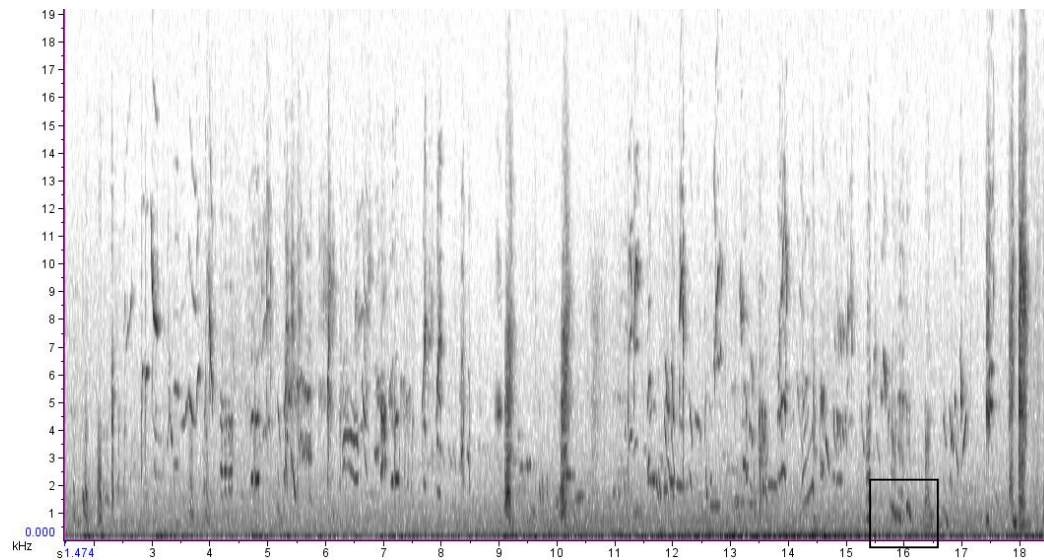


Song 196. September 3rd 2010 (12.00h). 035-2010-09-09 02_27_01. Predator-proof fence, Jones Bay, Tawharanui. Includes some rare syllables – ‘A’ and ‘B’.

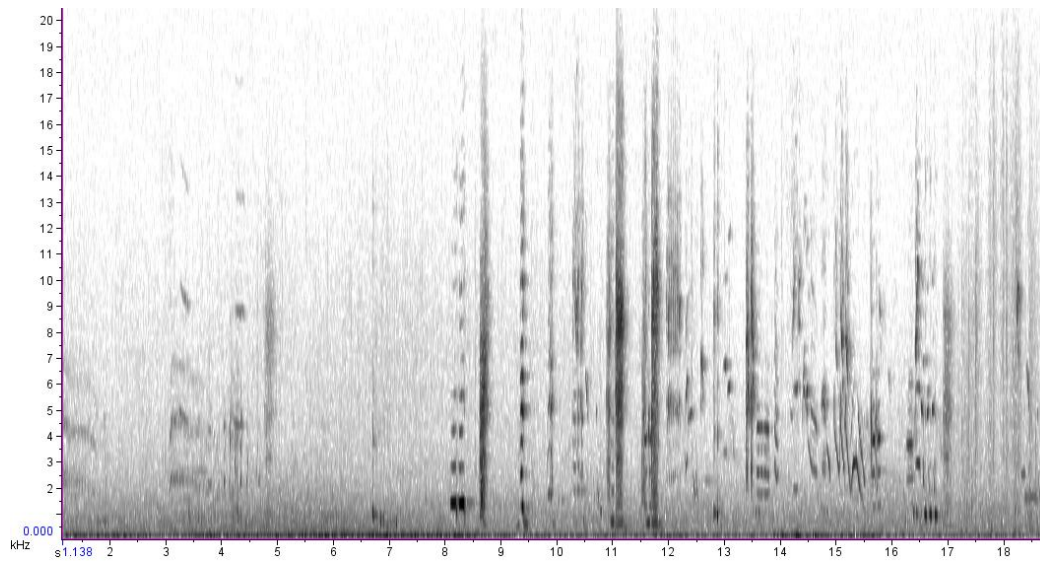
B



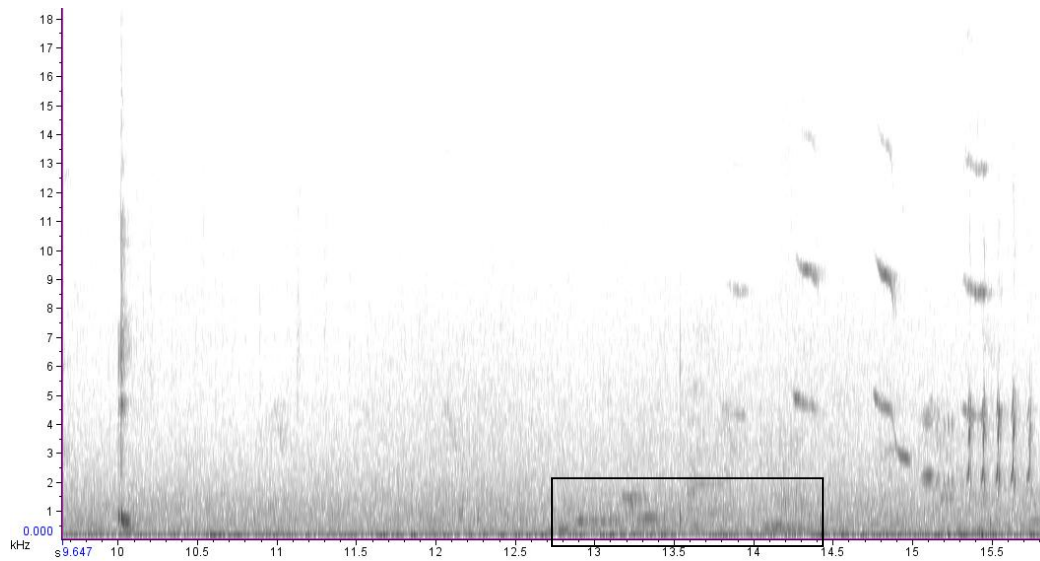
Song 197. September 3rd 2010 (12.00h). 036-2010-09-09 02_27_01. Predator-proof fence, Jones Bay, Tawharanui. Includes some rare syllables, in the black box on this figure.



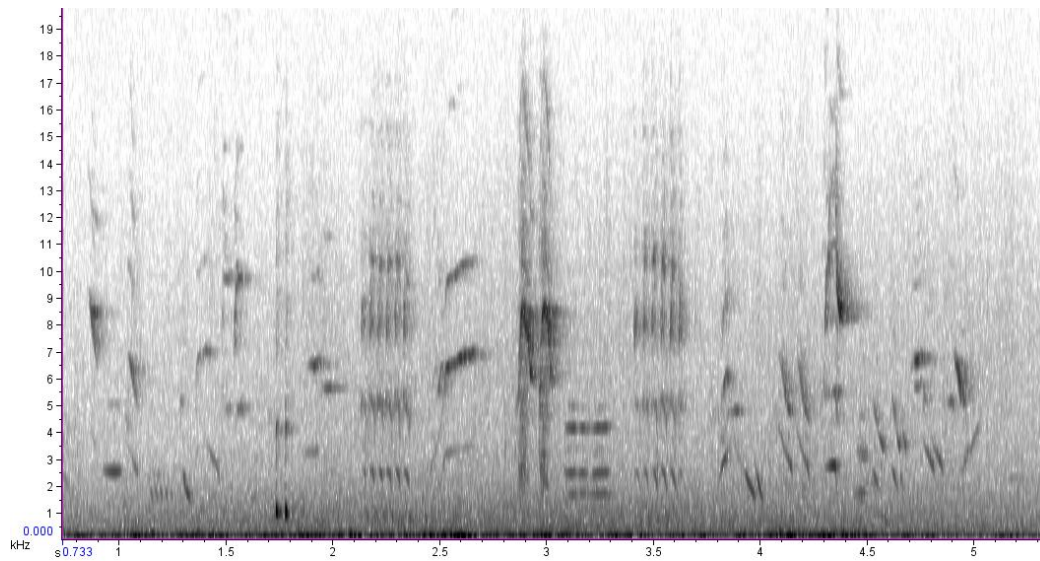
Song 198. September 3rd 2010 (12.00h). 038-2010-09-09 02_27_01. Predator-proof fence, Jones Bay, Tawharanui. Includes some rare, very low frequency syllables.



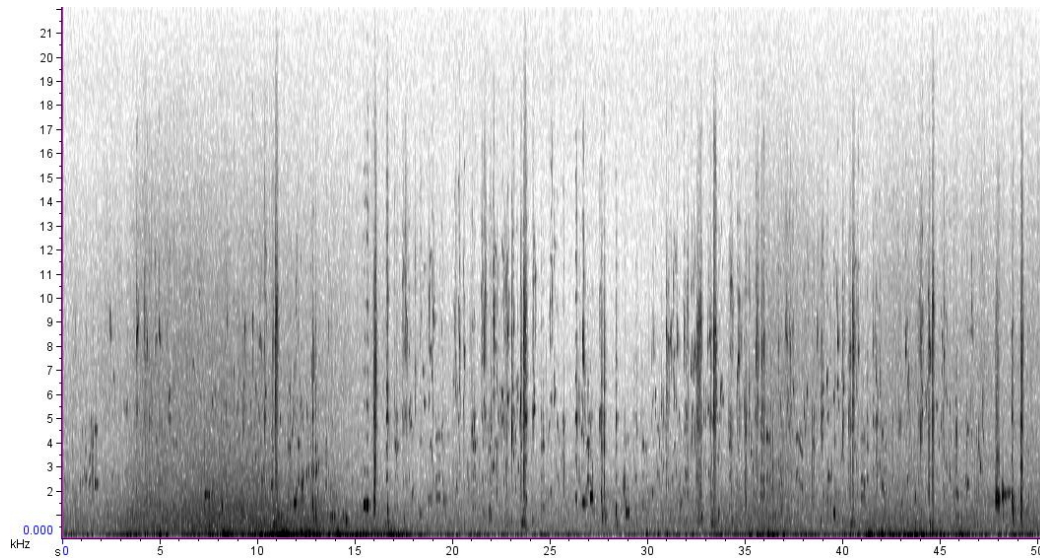
Song 199. September 3rd 2010 (12.00h). 039-2010-09-09 02_27_01. Song at the predator-proof fence, Jones Bay, Tawharanui. Includes some rare, very low frequency syllables. Here marked in the black box.



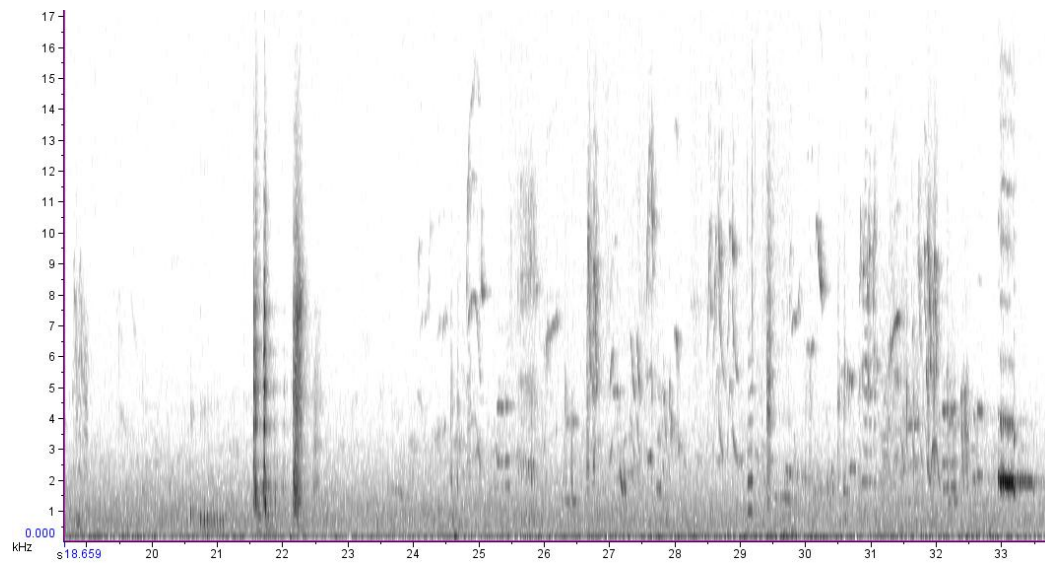
Song 200. September 3rd 2010 (12.00h). 040-2010-09-09 02_27_01. Song at the predator-proof fence, Jones Bay, Tawharanui.



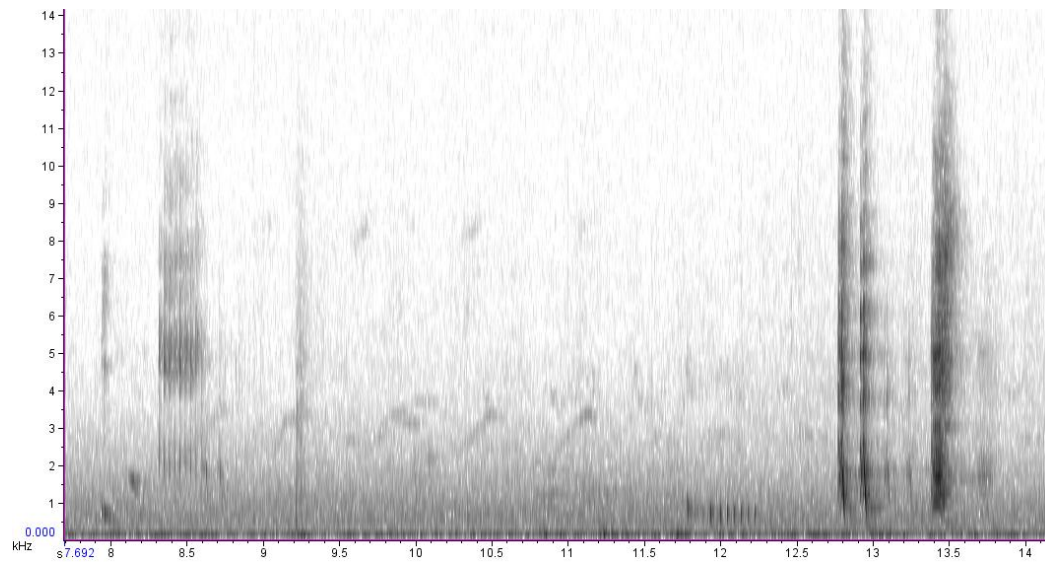
Song 201. September 3rd 2010 (12.00h). 041-2010-09-09 02_27_01. Very long song (c. 48s) near the predator-proof fence at the entrance at Jones Bay, Tawharanui.



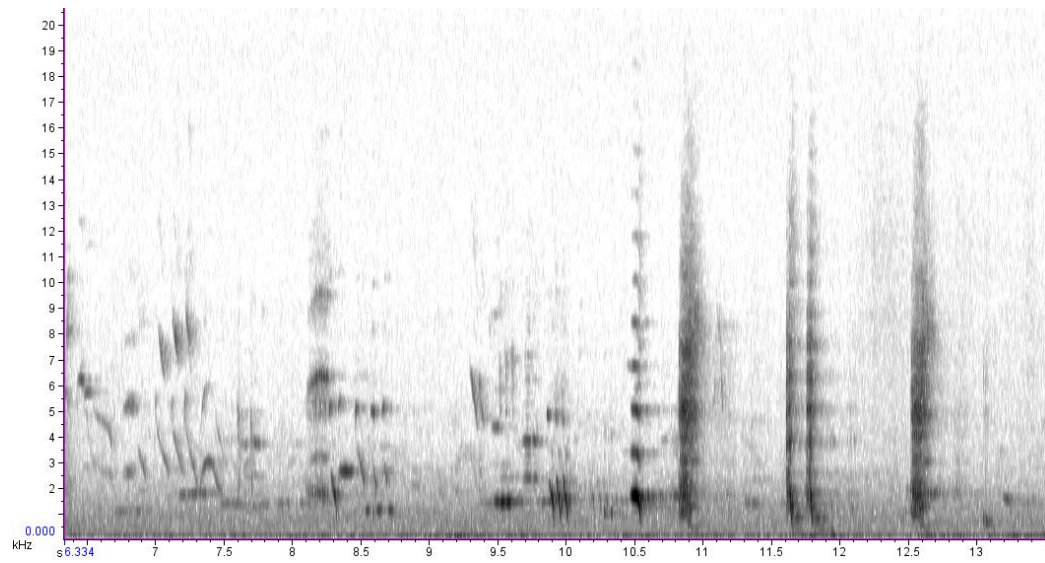
Song 202. September 3rd 2010 (12.15h). 001-2010-09-09 02_41_49. By Bunkhouse, Tawharanui. A Jones Bay syllable as the terminal syllable, which is rare.



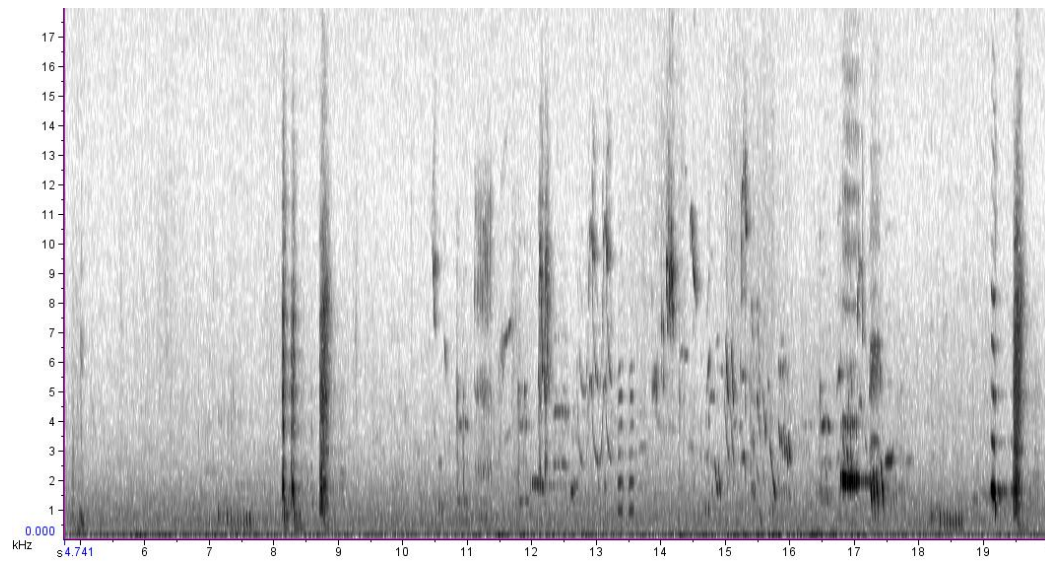
Song 203. September 3rd 2010 (12.15h). 002-2010-09-09 02_41_49. By Bunkhouse, Tawharanui. Two songs in close proximity to each other.



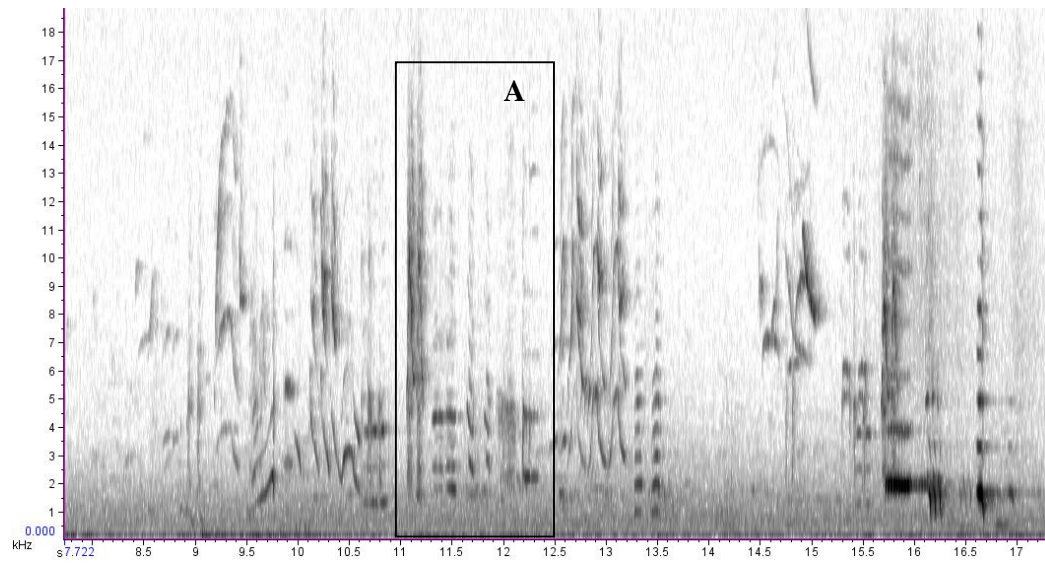
Song 204. September 3rd 2010 (12.15h). 003-2010-09-09 02_41_49. By Bunkhouse, Tawharanui. Ends on a terminal kok.



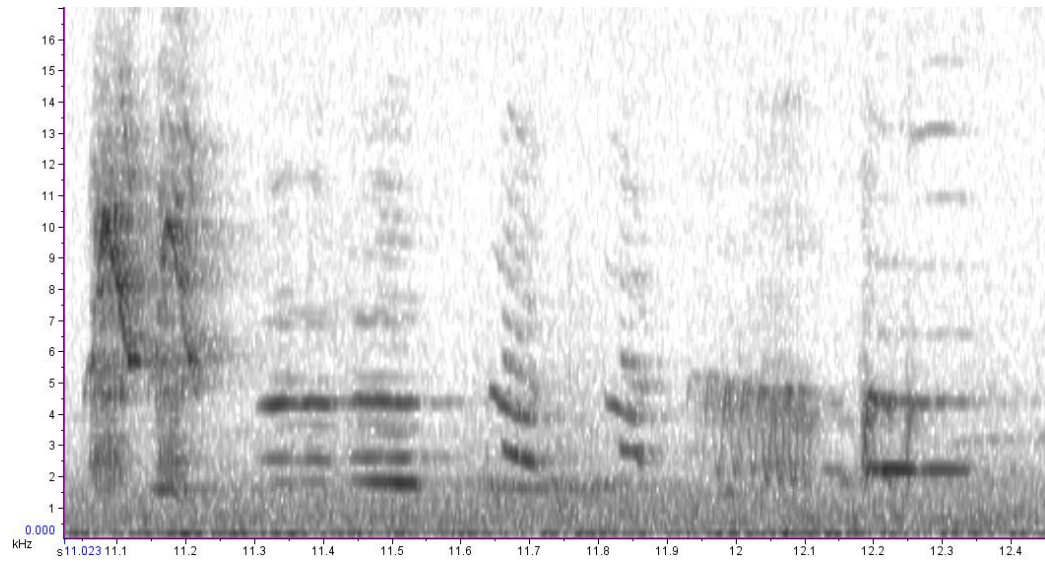
Song 205. September 3rd 2010 (12.15h). 004-2010-09-09 02_41_49. By Bunkhouse, Tawharanui.



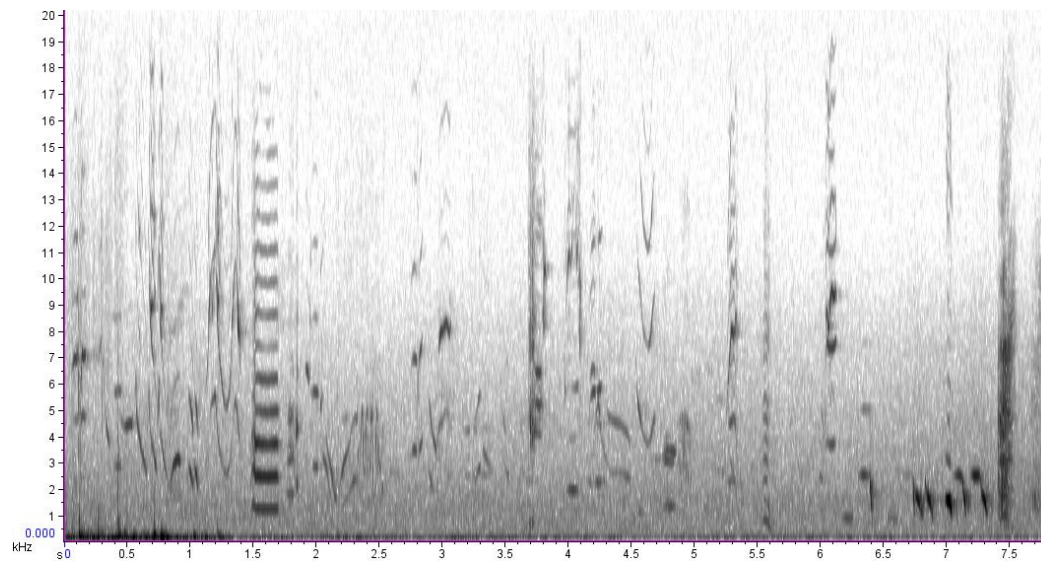
Song 206. September 3rd 2010 (12.15h). 005-2010-09-09 02_41_50. By Bunkhouse, Tawharanui.



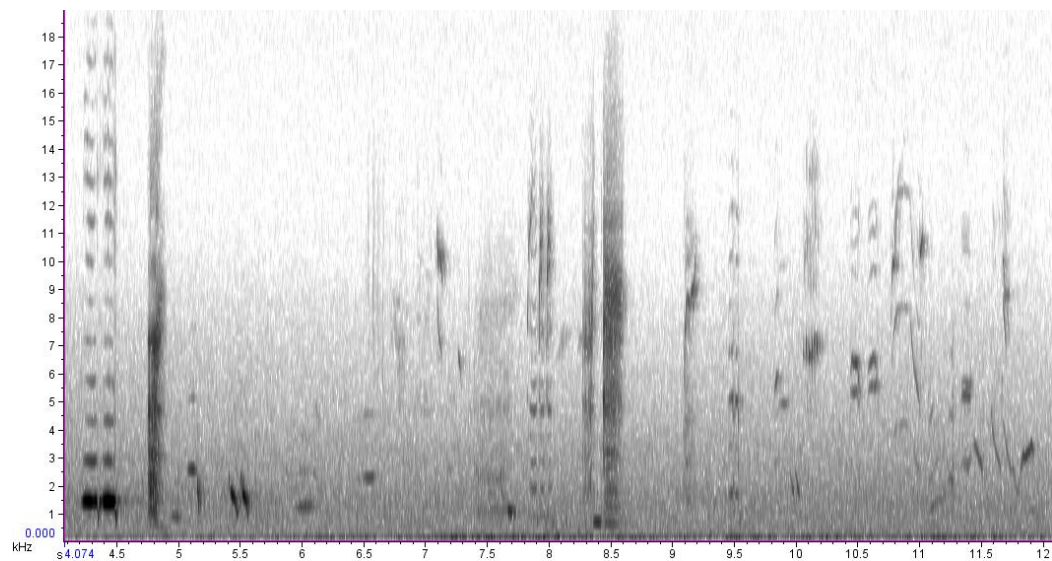
Zoomed-in Jones Bay homogeneous region of the song above ('A'). By Bunkhouse, Tawharanui.



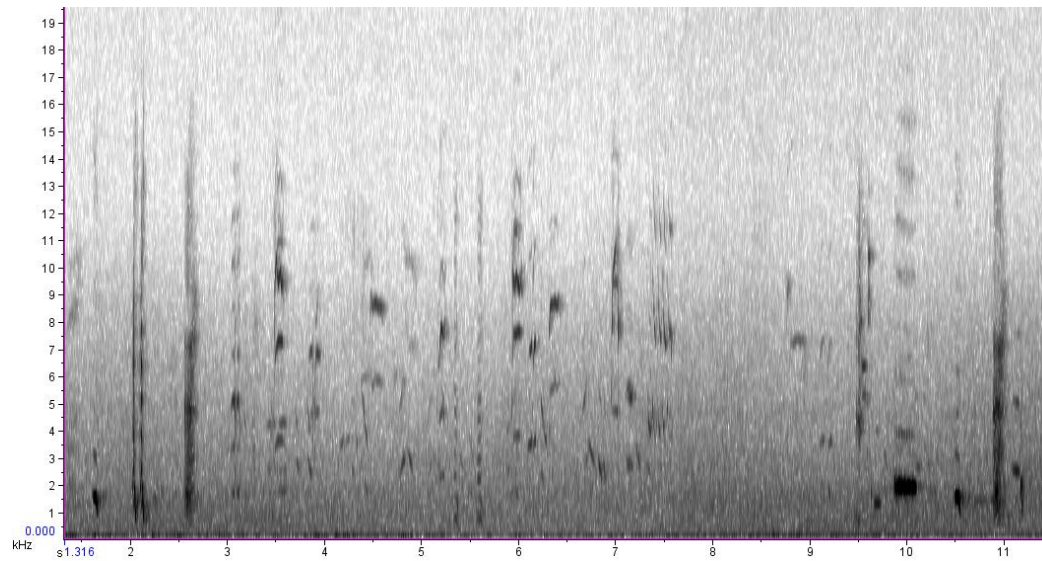
Song 207. September 3rd 2010 (12.30h). 001-2010-09-09 02_48_04. By Bunkhouse, Tawharanui.



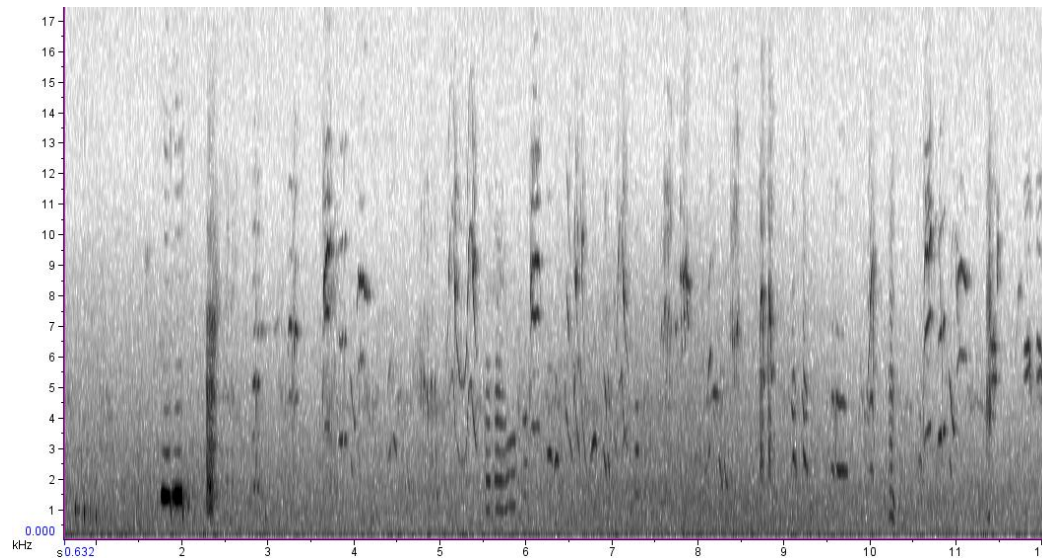
Song 208. September 3rd 2010 (12.30h). 002-2010-09-09 02_48_04. By Bunkhouse, Tawharanui.



Song 209. September 3rd 2010 (12.30h). 003-2010-09-09 02_48_04. By Bunkhouse, Tawharanui.

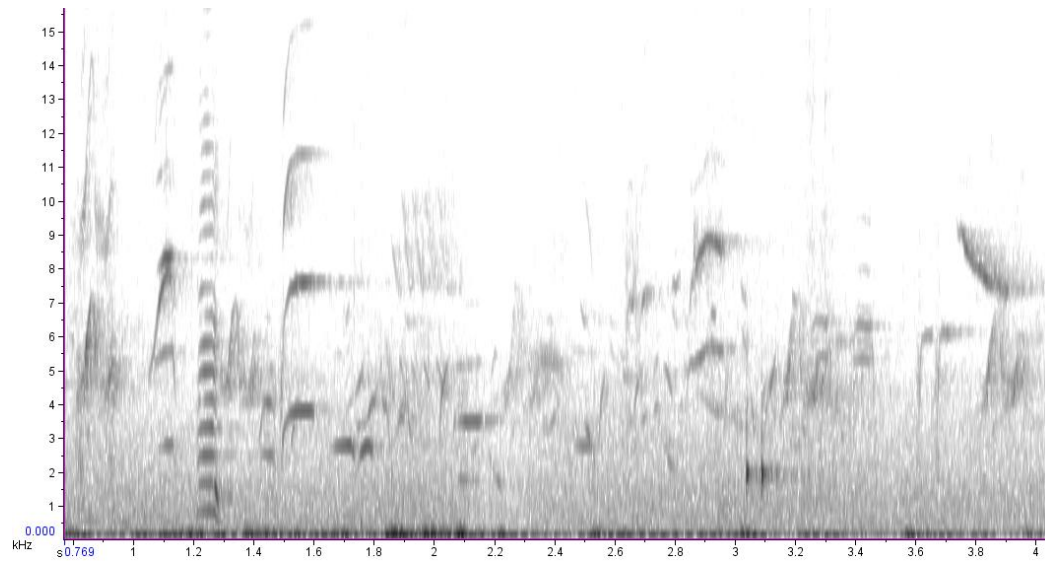


Song 210. September 3rd 2010 (12.30h). 004-2010-09-09 02_48_04 (TawhJulyAugSept2010, Folder 28). By Bunkhouse, Tawharanui.

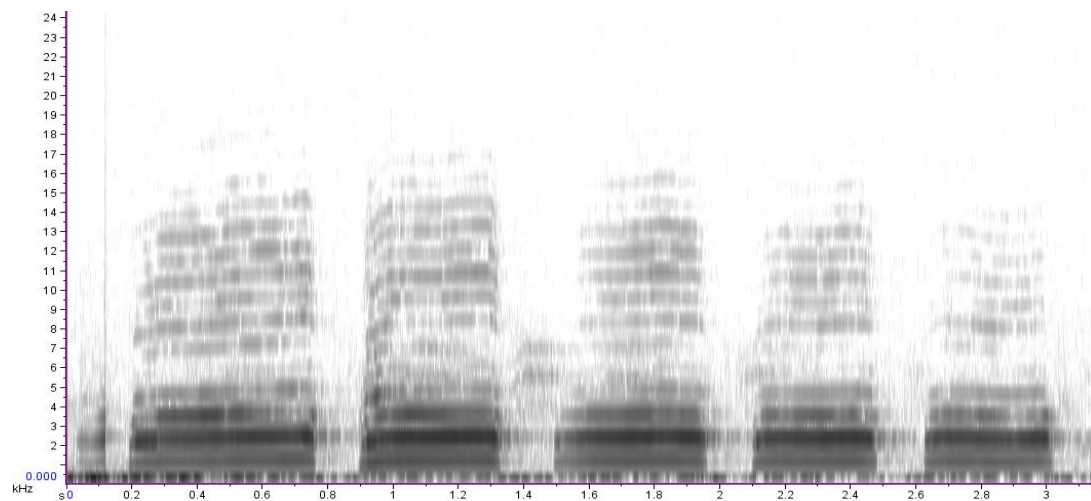


BREEDING SEASON

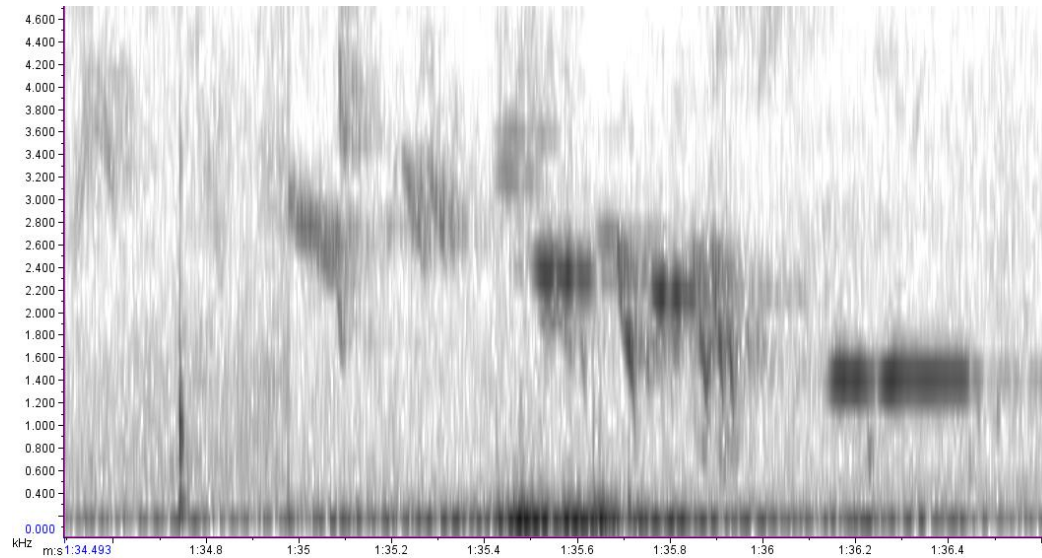
Song 211. November 30th 2010.



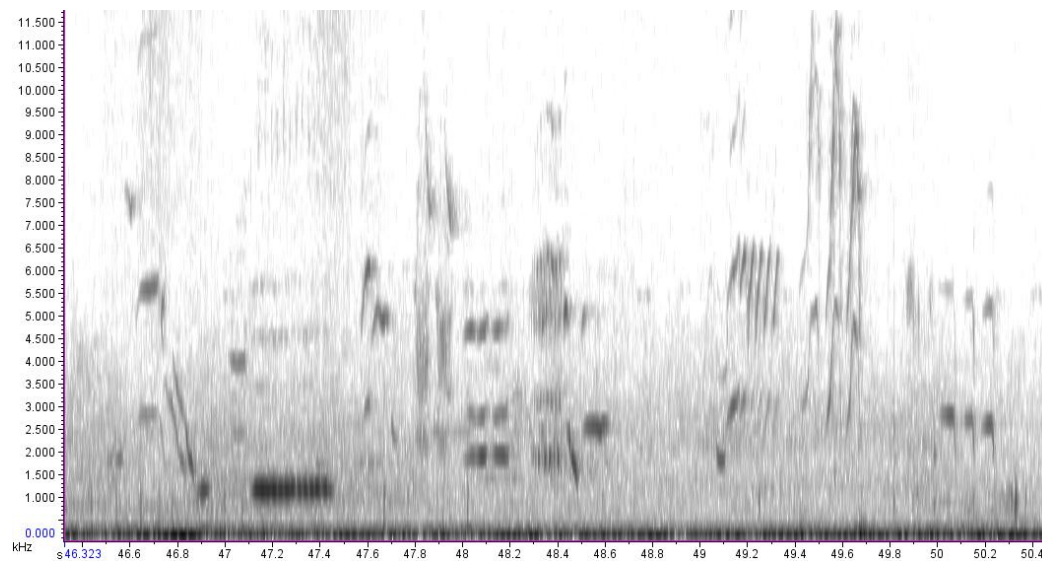
Song 212. November 30th 2010. Jones Bay. Distress call.



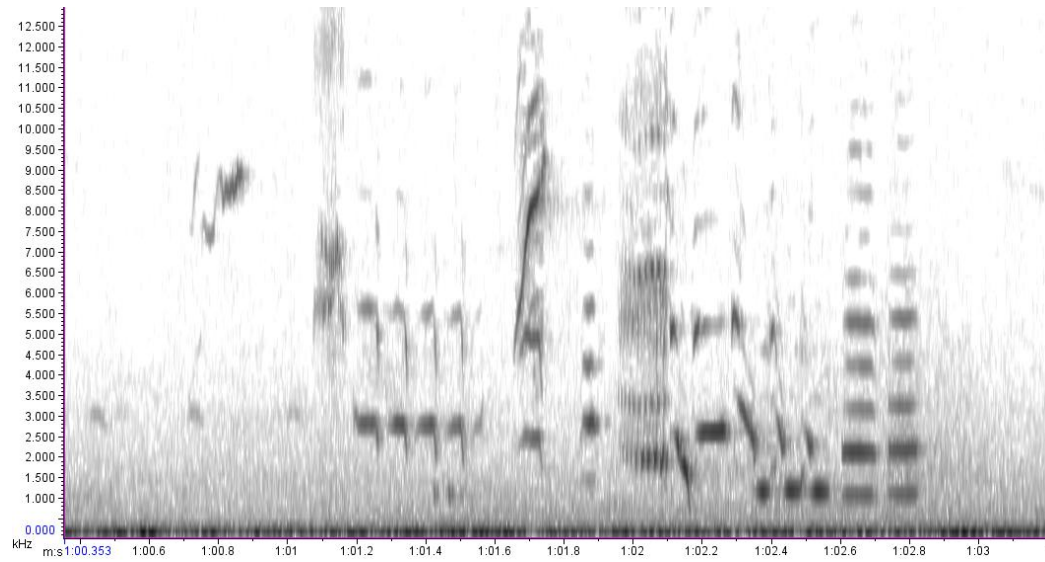
Song 213. November 30th 2010 (10.00h). 1002. Short song at 2nd Bunkhouse by Wool Shed (around Jones Bay/Lagoon area). Similar to song heard at Jones Bay, but with 2 extra notes (1 syllable) following. GO-WM.



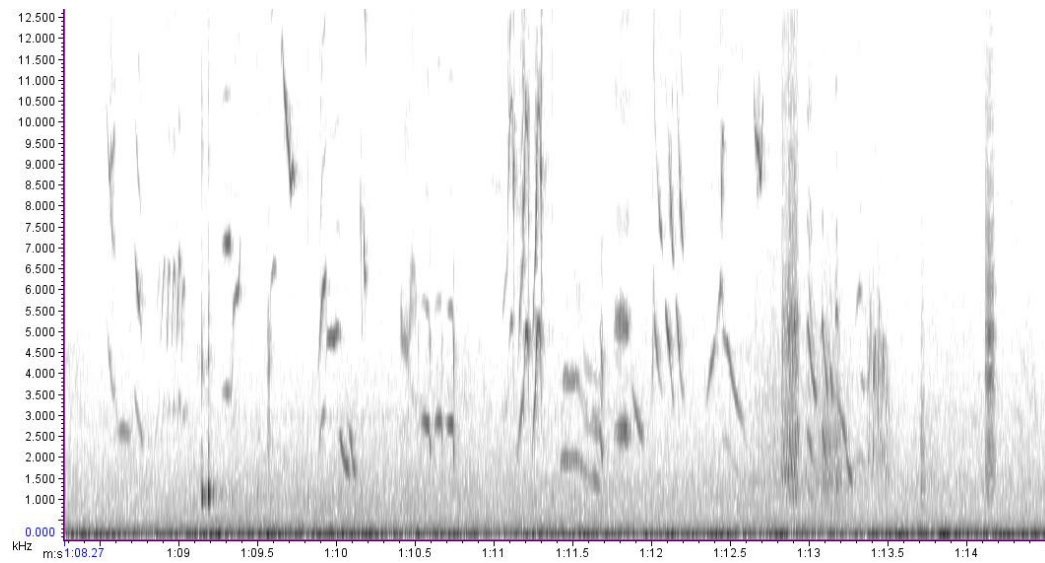
Song 214. November 30th 2010 (10.00h). 1003. Song at 2nd Bunkhouse by Wool Shed, Tawharanui. GO-WM.



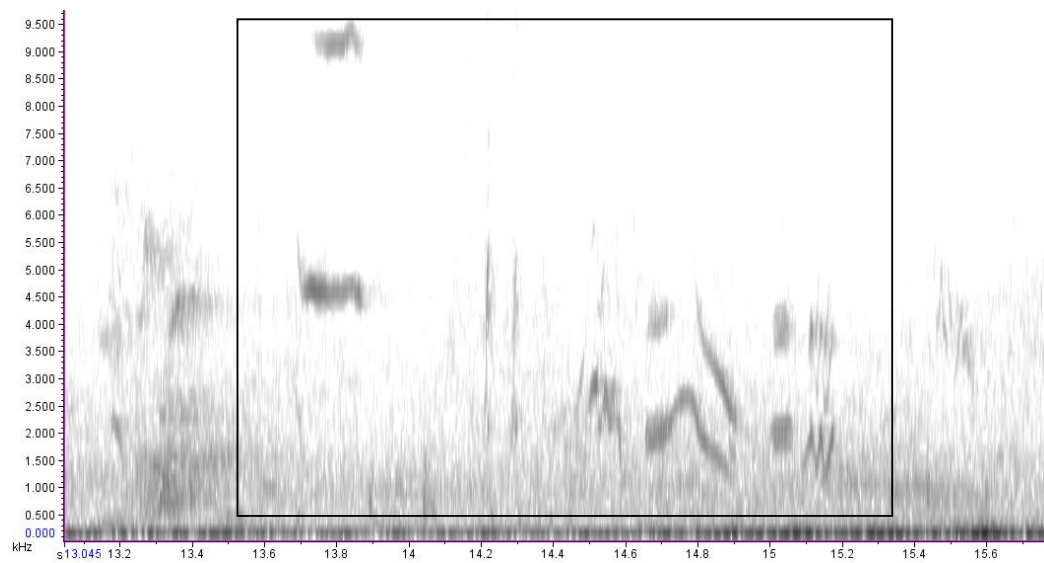
Song 215. November 30th 2010 (10.00h). 1003(2). Song at 2nd Bunkhouse by Wool Shed, Tawharanui. GO-WM.



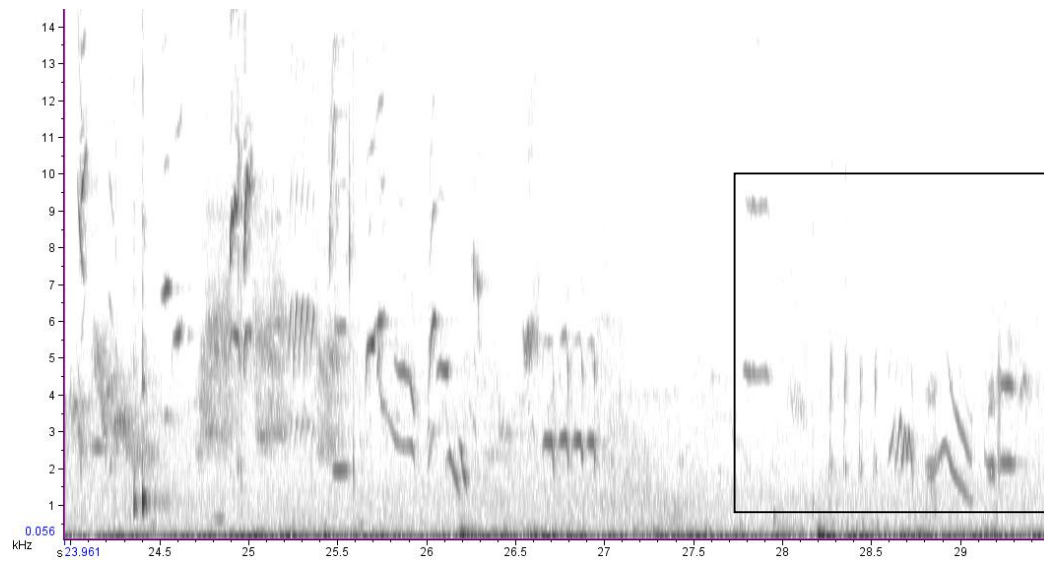
Song 216. November 30th 2010 (10.00h). 1003(3). Trilly song at 2nd Bunkhouse by Wool Shed, Tawharanui. GO-WM.



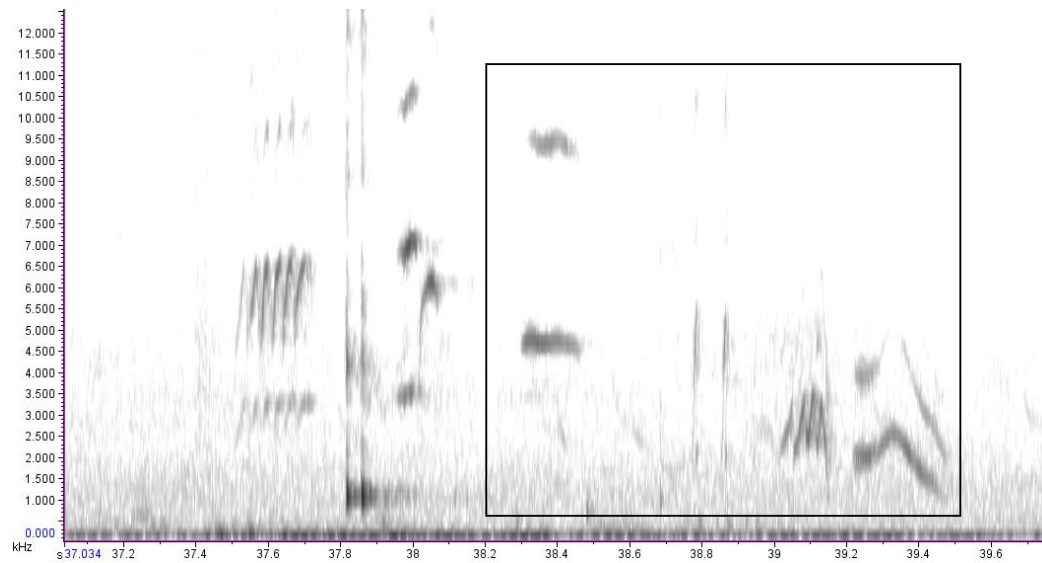
Song 217. November 30th 2010 (10.00h). 1004(1). Song at 2nd Bunkhouse by Wool Shed, Tawharanui. This includes low frequency syllables. GO-WM.



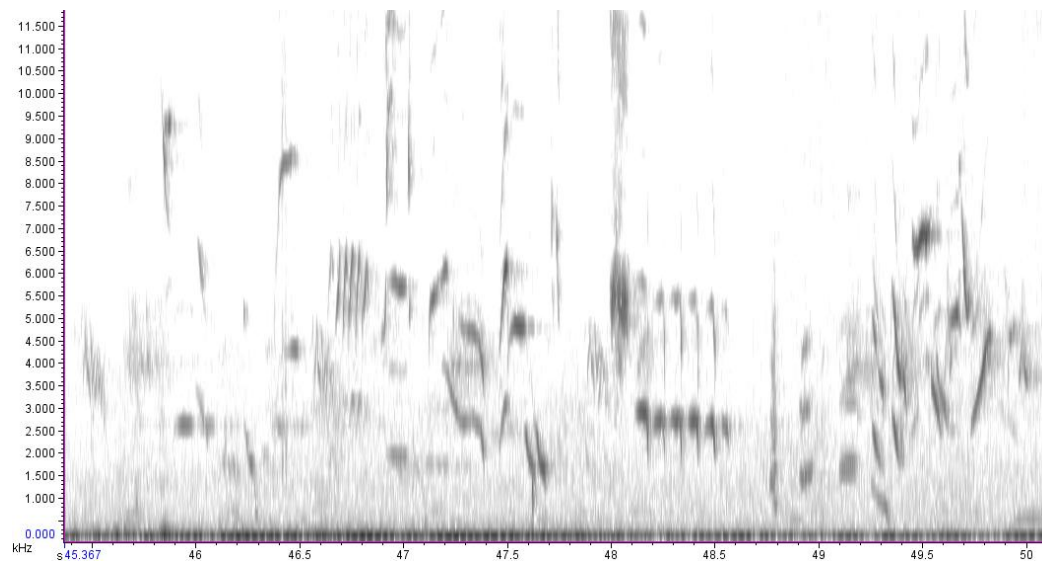
Song 218. November 30th 2010 (10.00h). 1004(2). Song at 2nd Bunkhouse by Wool Shed, Tawharanui. Identical ending in this and the song immediately above (in black box). GO-WM.



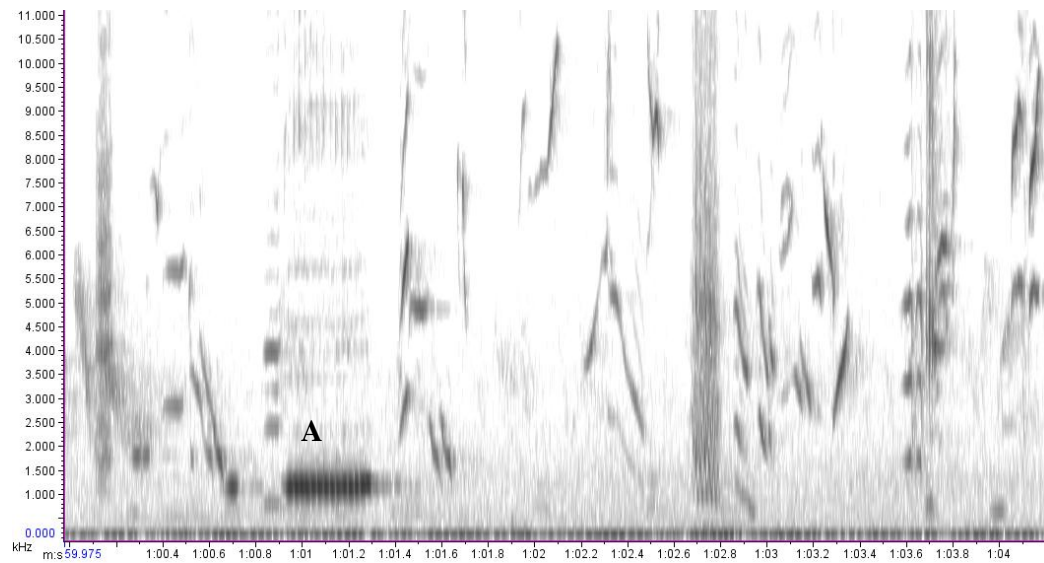
Song 219. November 30th 2010 (10.00h). 1004(3). Song at 2nd Bunkhouse by Wool Shed, Tawharanui. Again, identical end sequence as above (in black box). GO-WM.



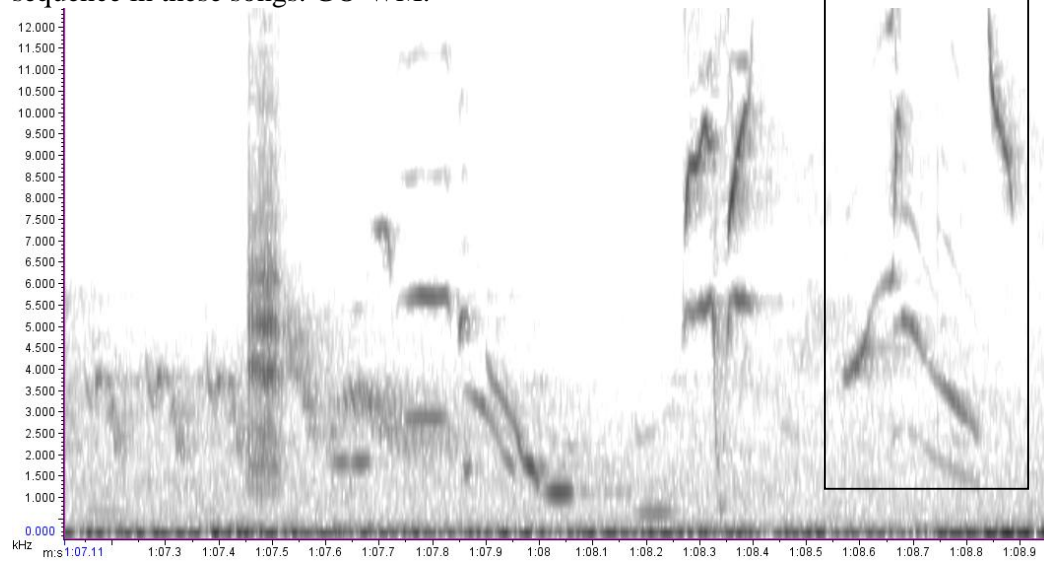
Song 220. November 30th 2010 (10.00h). 1004(4). Trilly song at 2nd Bunkhouse by Wool Shed, Tawharanui. GO-WM.



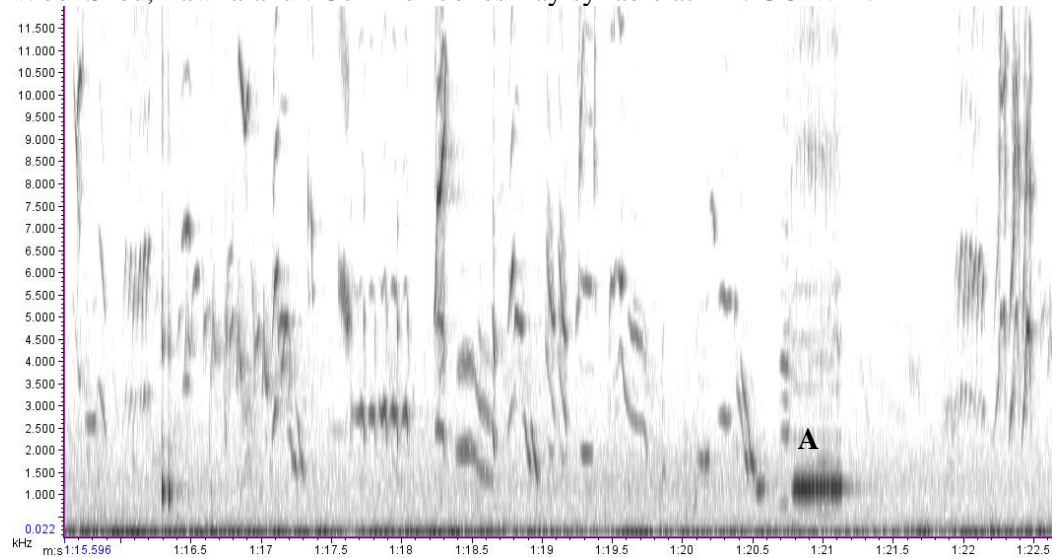
Song 221. November 30th 2010 (10.30h). 1004(5). Trilly song at 2nd Bunkhouse by Wool Shed, Tawharanui. Includes common Jones Bay syllable 'A'. GO-WM.



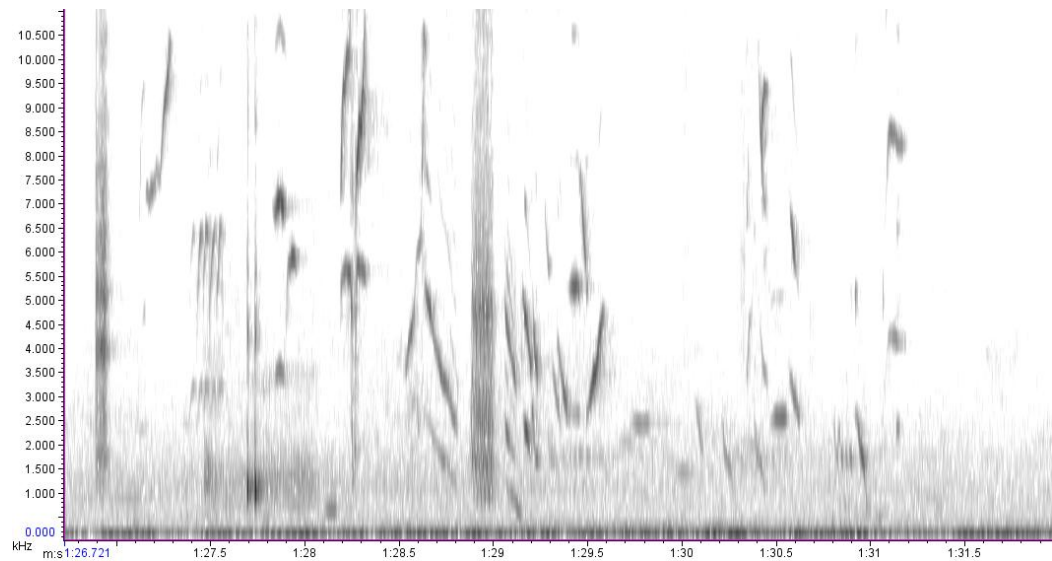
Song 222. November 30th 2010 (10.30h). 1004(6). Trilly song at 2nd Bunkhouse by Wool Shed, Tawharanui. In black box are syllables commonly seen in the terminal sequence in these songs. GO-WM.



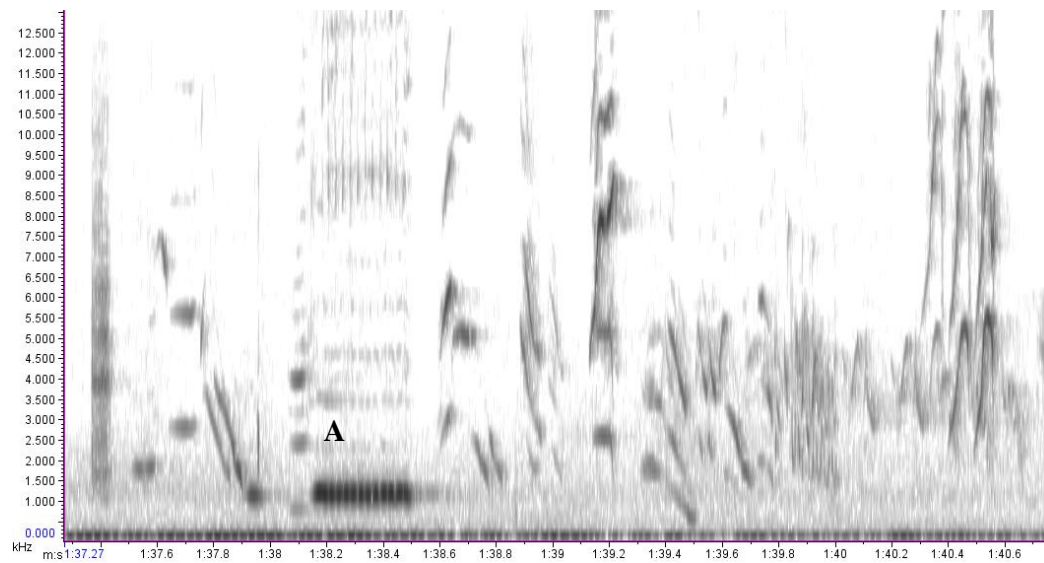
Song 223. November 30th 2010 (10.30h). 1004(7). Trilly song at 2nd Bunkhouse by Wool Shed, Tawharanui. Common Jones Bay syllable at 'A'. GO-WM.



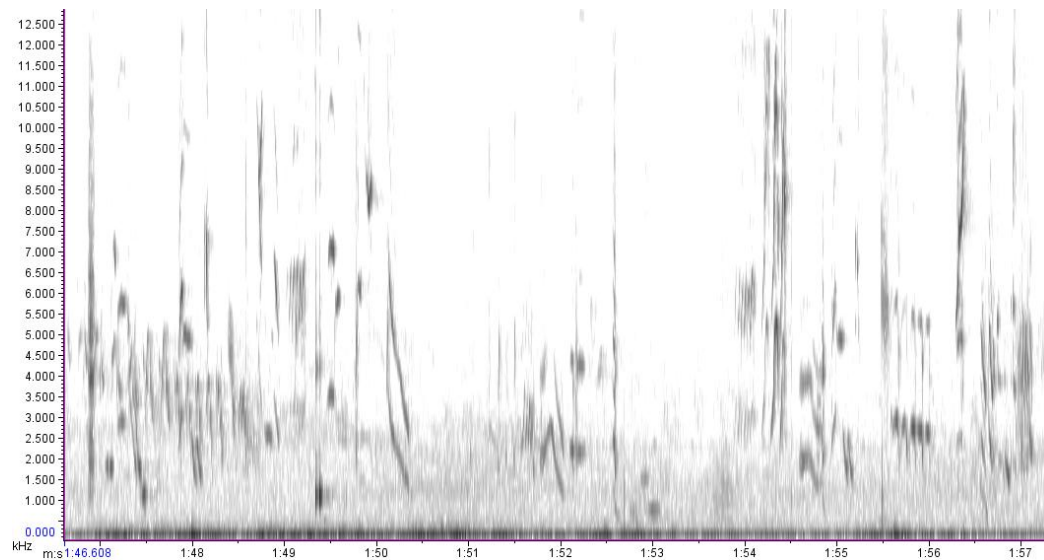
Song 224. November 30th 2010 (10.30h). 1004(8). Trilly song at 2nd Bunkhouse by Wool Shed, Tawharanui. GO-WM.



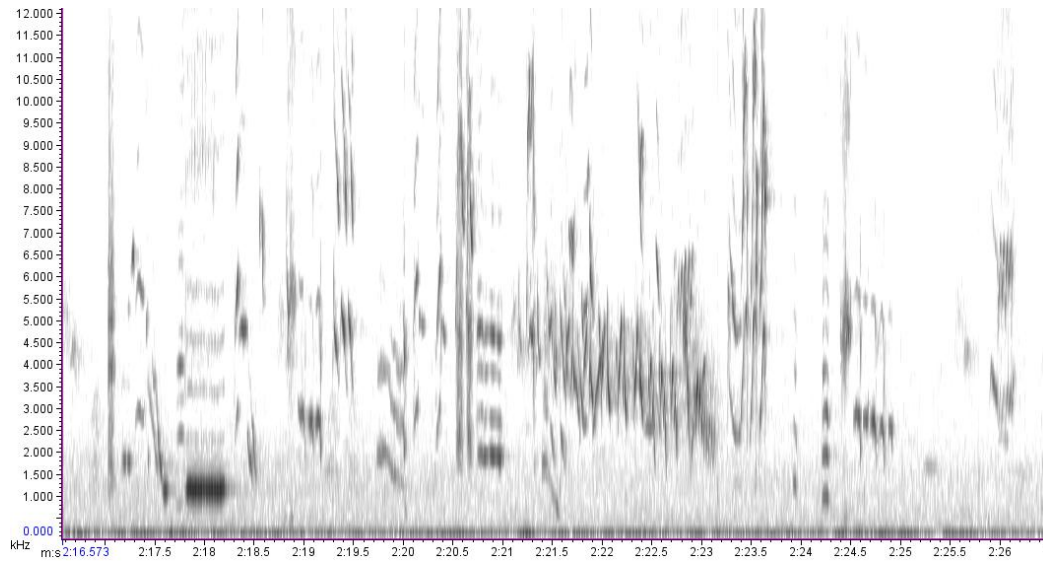
Song 225. November 30th 2010 (10.30h). 1004(9). Song at 2nd Bunkhouse by Wool Shed, Tawharanui. 'A' is common Jones Bay syllable. GO-WM.



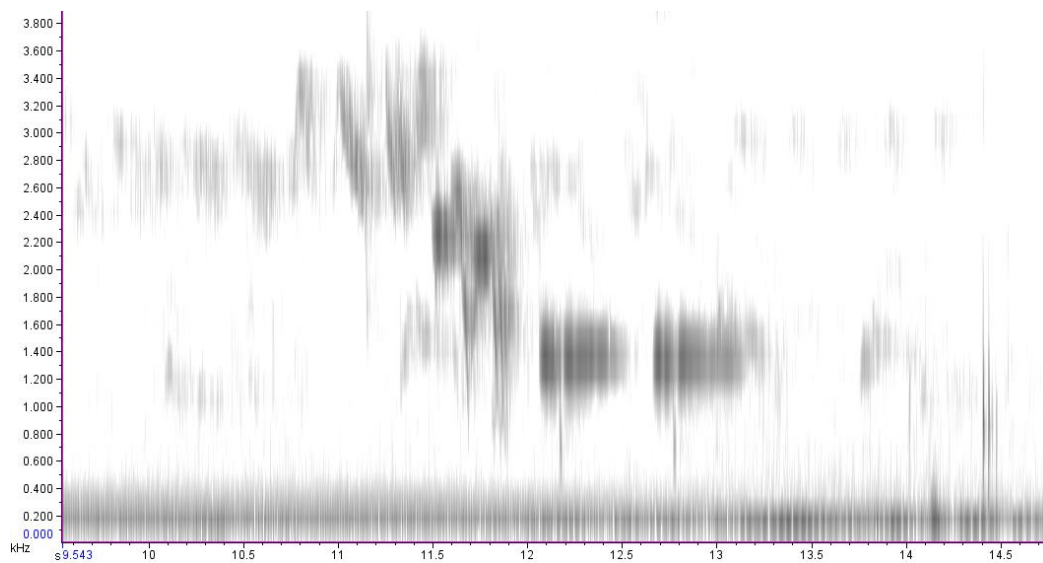
Song 226. November 30th 2010 (10.30h). 1004(10). Song at 2nd Bunkhouse by Wool Shed, Tawharanui. GO-WM.



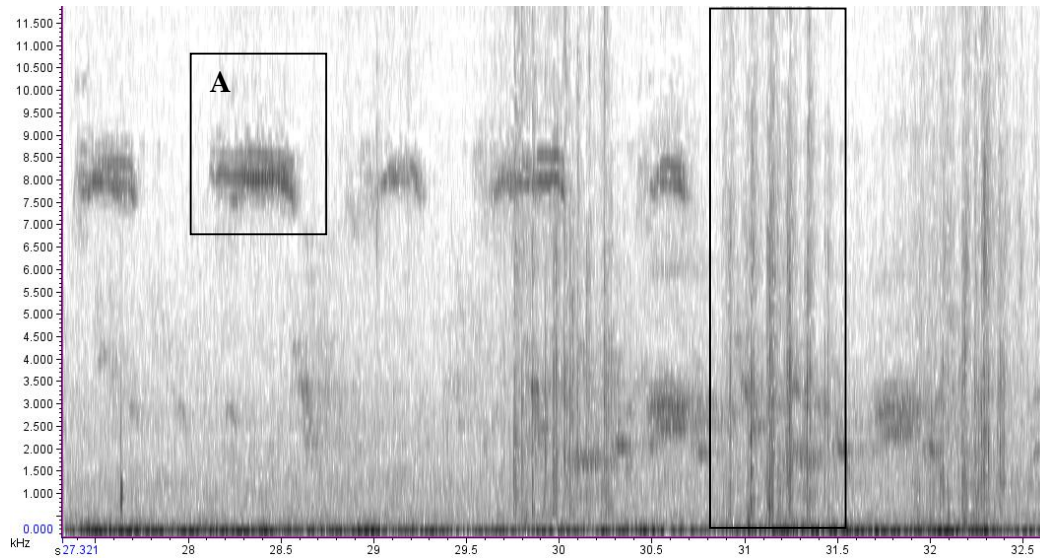
Song 227. November 30th 2010 (10.30h). 1004(11). Song at 2nd Bunkhouse by Wool Shed, Tawharanui. GO-WM (ID Number: Y14698. 117g male). This whole eleven-song sequence was all sung by his nest (a long-range territorial broadcast).



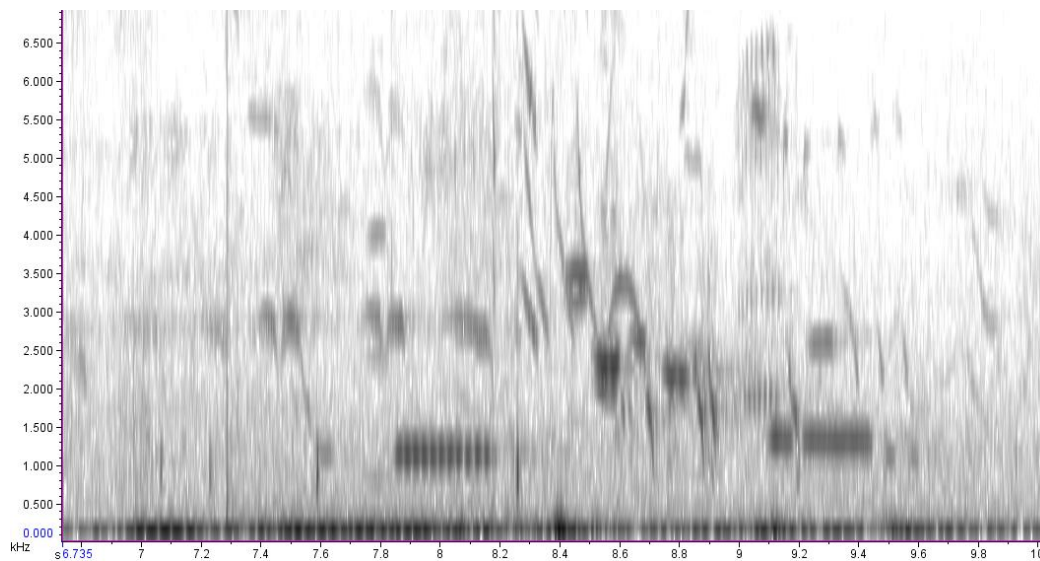
Song 228. November 30th 2010 (13.00h). 1006(1). Common song around the Flame Tree at Jones Bay, Tawharanui. Begins with an ascending crescendo. The end syllable is sometimes one, but occasionally, like below, two repeated syllables. Often sung from male to male or male to a group of other individuals/territorial.



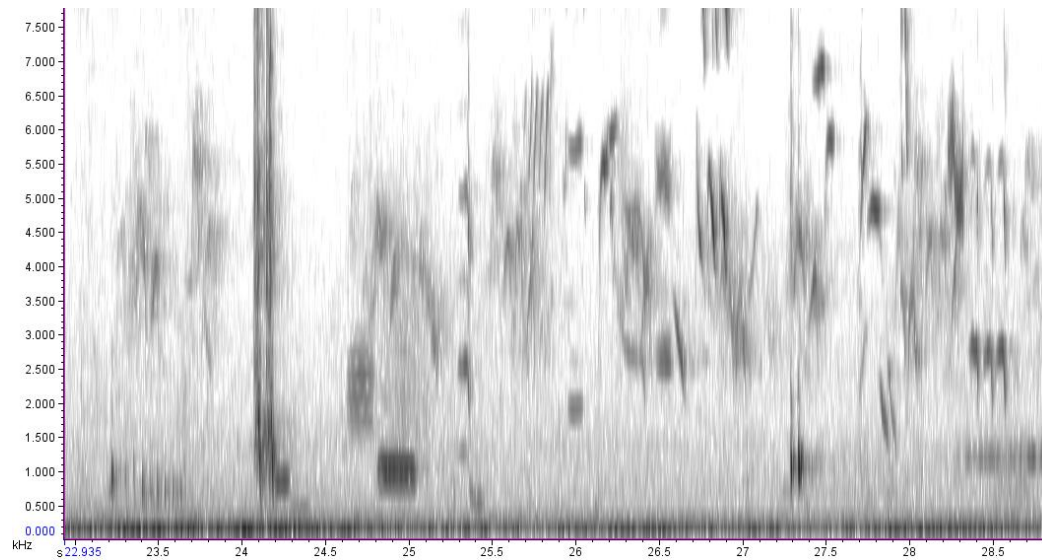
Song 229. November 30th 2010 (13.00h). 1008 - tui chicks. An exemplar of tui chicks and also a territorial, protective 'clicking' sound from the female (made whilst simultaneously flapping her wings). This recording was taken at a nest at Jones Bay, situated between the public toilets and the head Ranger's house. This is just a small sample of the tui chicks' chirping (this chirping was continuous for minutes). 'A' denotes one 'chirp' from the tui chicks and the part in the black box is the defensive clicking, not heard during the non-breeding season.



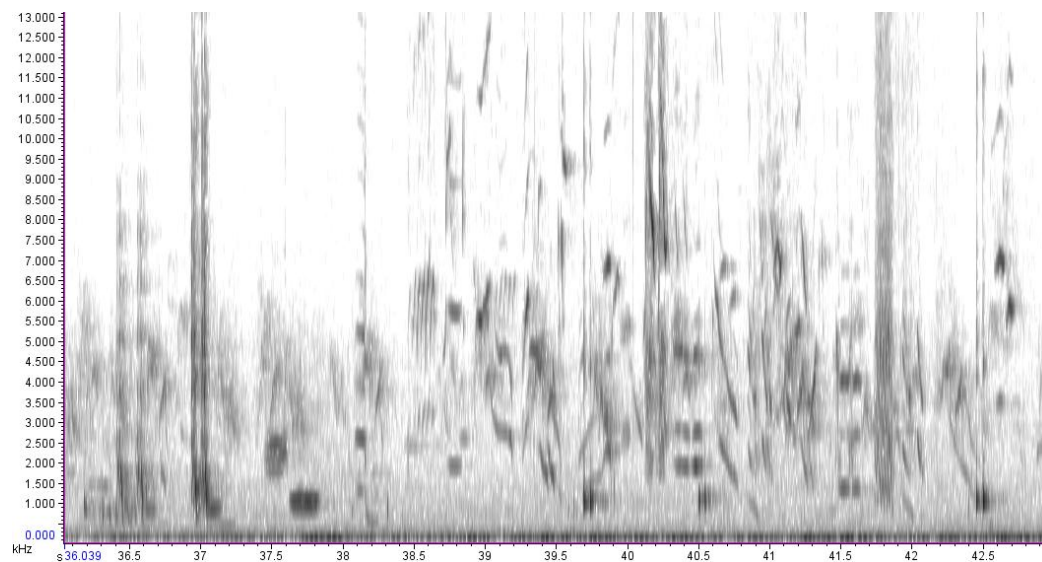
Song 230. November 30th 2010 (14.00h). 1013. In flight at Jones Bay, Tawharanui. Two birds, one chasing another, so a territorial song.



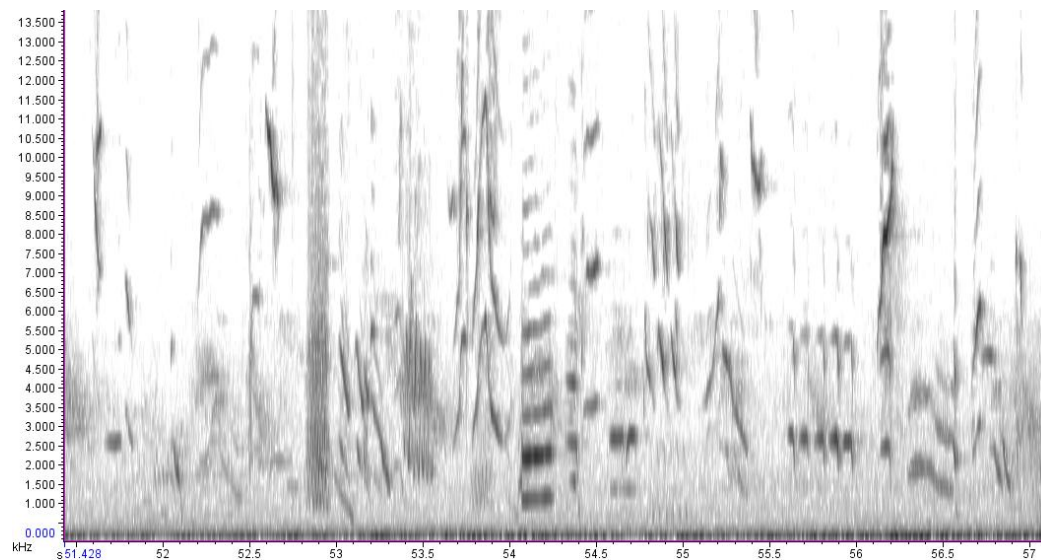
Song 231. November 30th 2010 (14.00h). 1014. By second bunkhouse, Jones Bay, Tawharanui. GO-WM (encore).



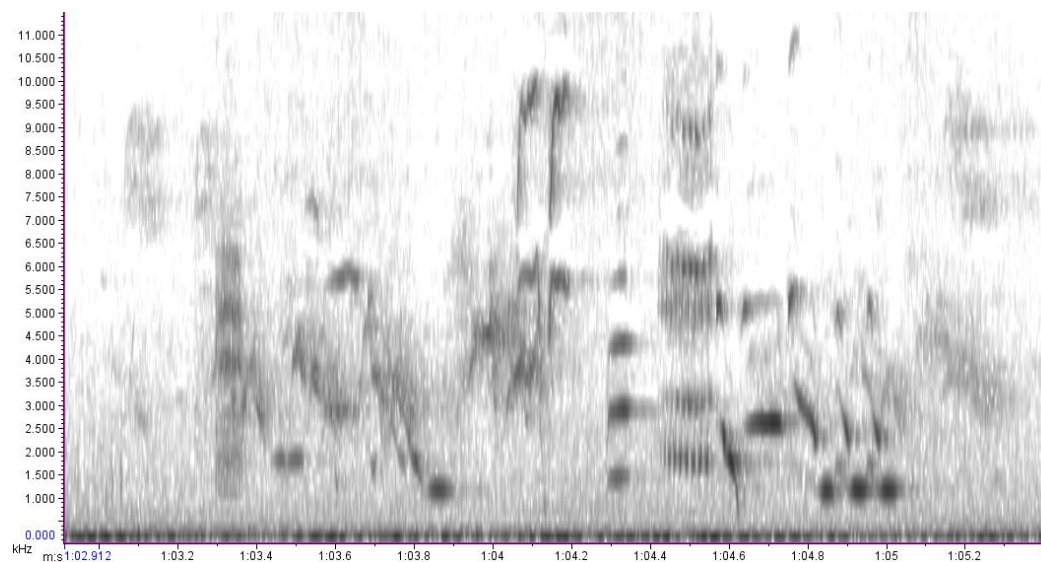
Song 232. November 30th 2010 (14.00h). 1014(2). By second bunkhouse, Jones Bay, Tawharanui. GO-WM (encore).



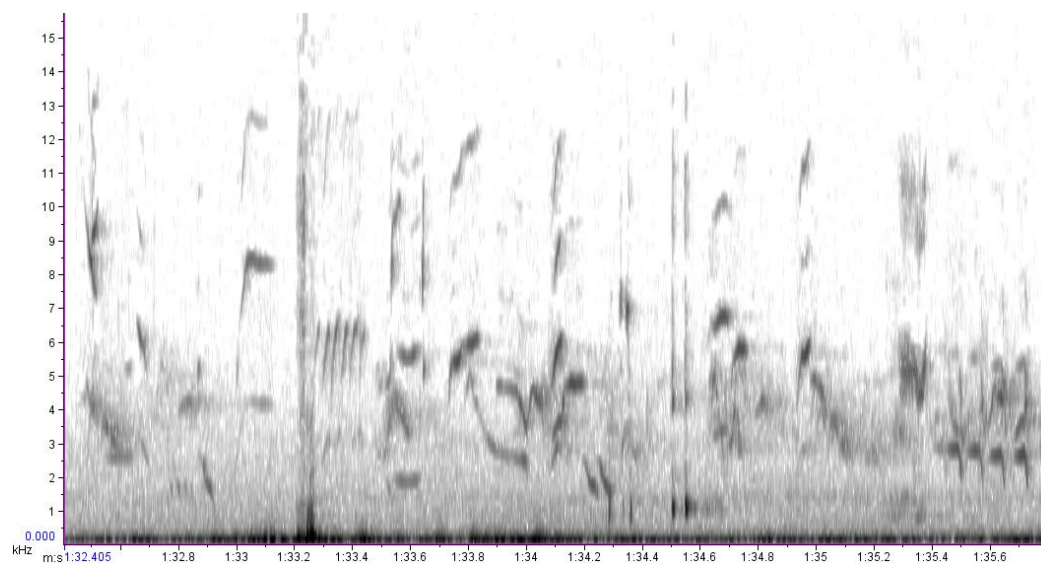
Song 233. November 30th 2010 (14.00h). 1014(3). By second bunkhouse, Jones Bay, Tawharanui. GO-WM (encore).



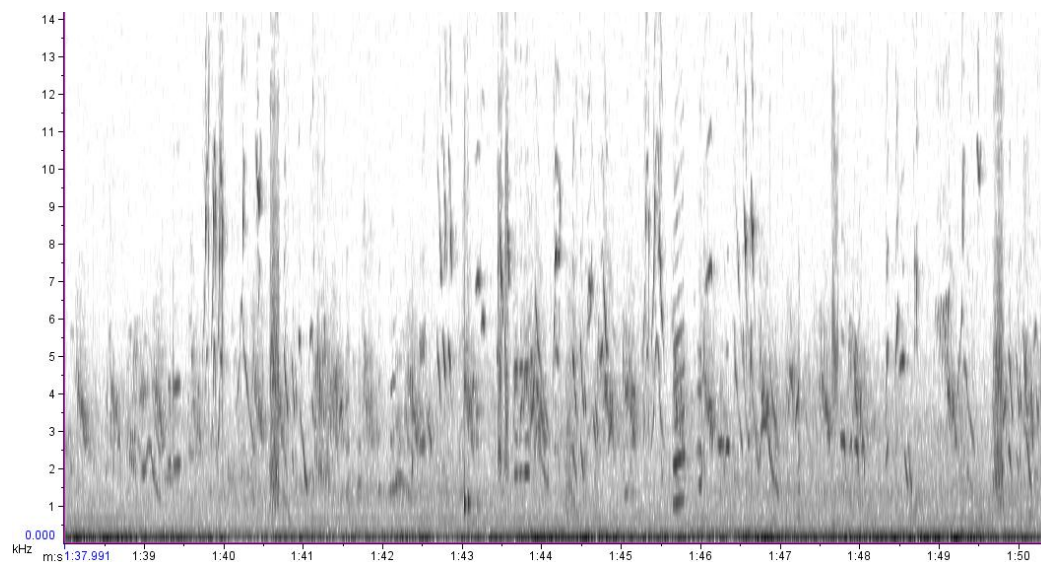
Song 234. November 30th 2010 (14.00h). 1014(4) By second bunkhouse, Jones Bay, Tawharanui. GO-WM (encore).



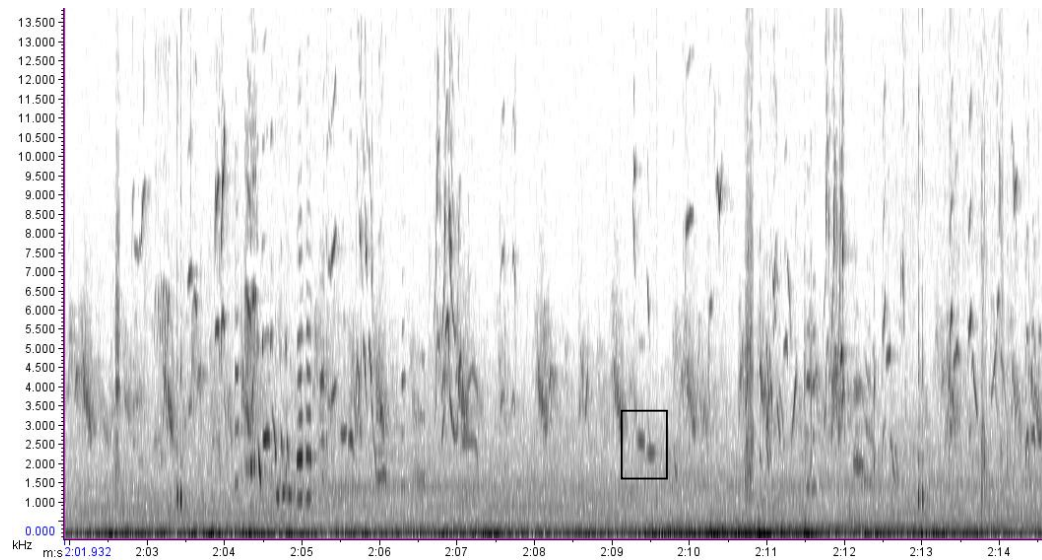
Song 235. November 30th 2010 (14.00h). 1014(5) By second bunkhouse, Jones Bay, Tawharanui. GO-WM (encore).



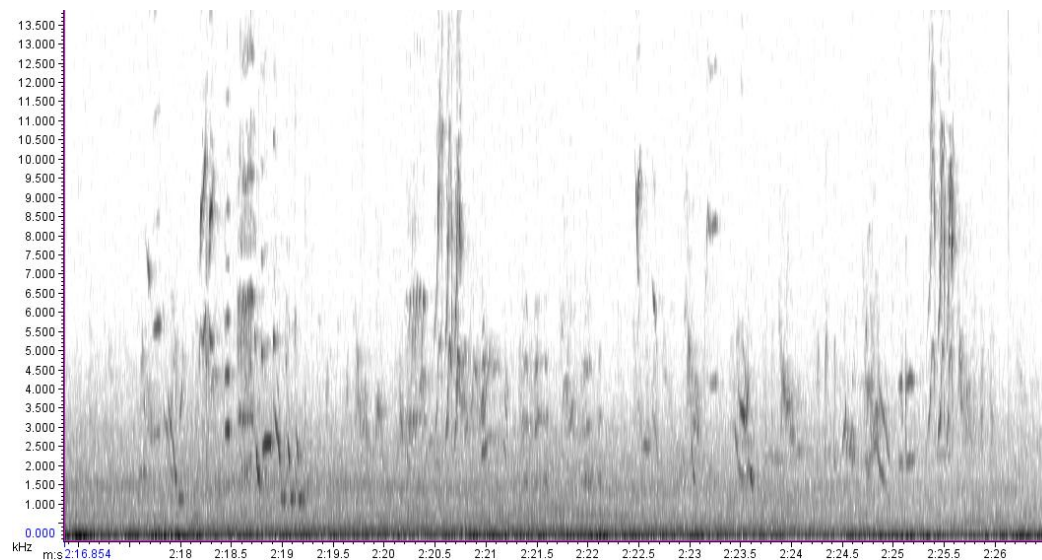
Song 236. November 30th 2010 (14.00h). 1014(6) By second bunkhouse, Jones Bay, Tawharanui. GO-WM (encore).



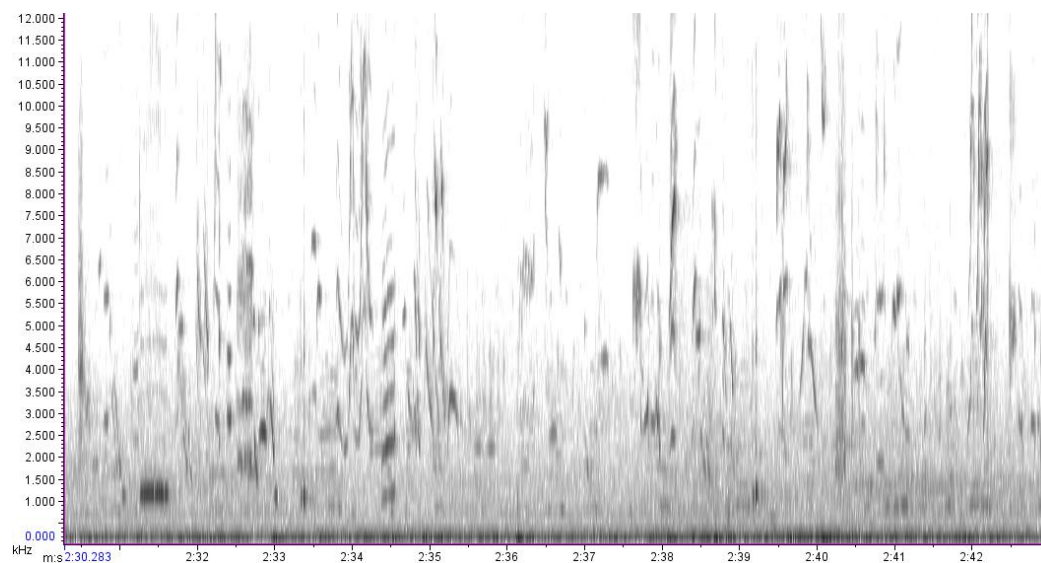
Song 237. November 30th 2010 (14.00h). 1014(7). By second bunkhouse, Jones Bay, Tawharanui. GO-WM (encore). Unusual 2 notes in black box.



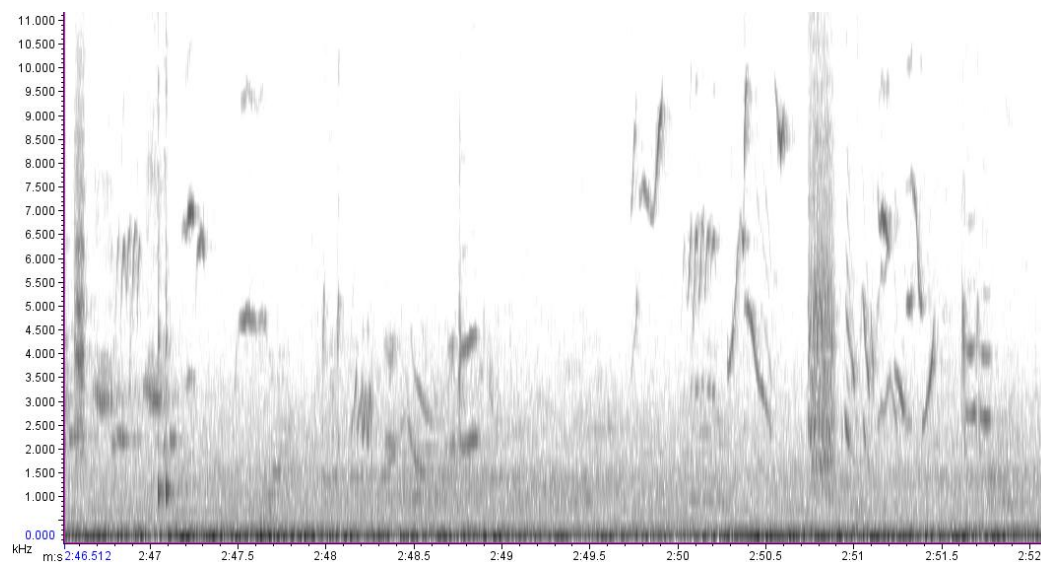
Song 238. November 30th 2010 (14.00h). 1014(8). By second bunkhouse, Jones Bay, Tawharanui. GO-WM (encore).



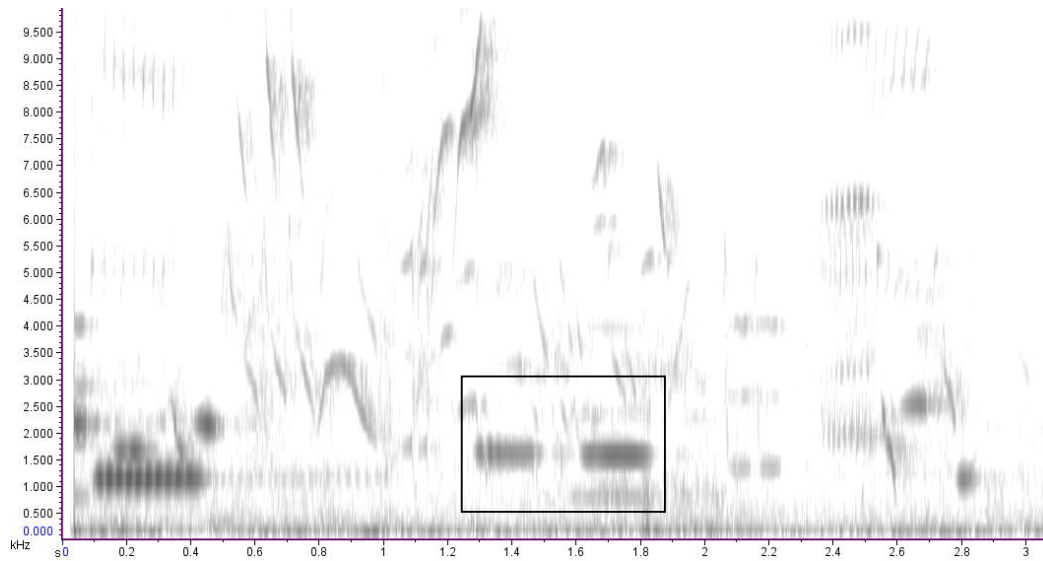
Song 239. November 30th 2010 (14.00h). 1014(9). By second bunkhouse, Jones Bay, Tawharanui. GO-WM (encore).



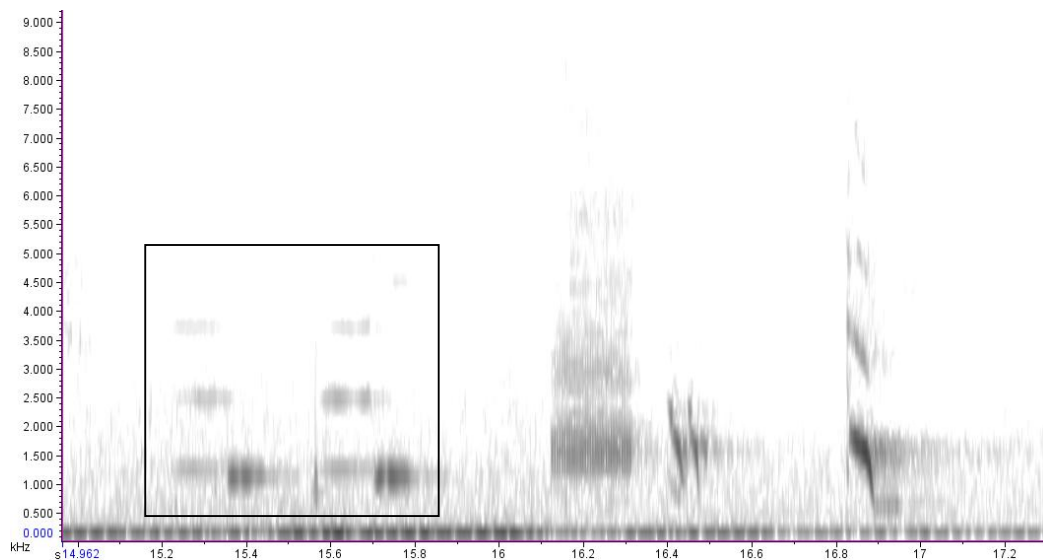
Song 240. November 30th 2010 (14.00h). 1014(10). By second bunkhouse, Jones Bay, Tawharanui. GO-WM (encore).



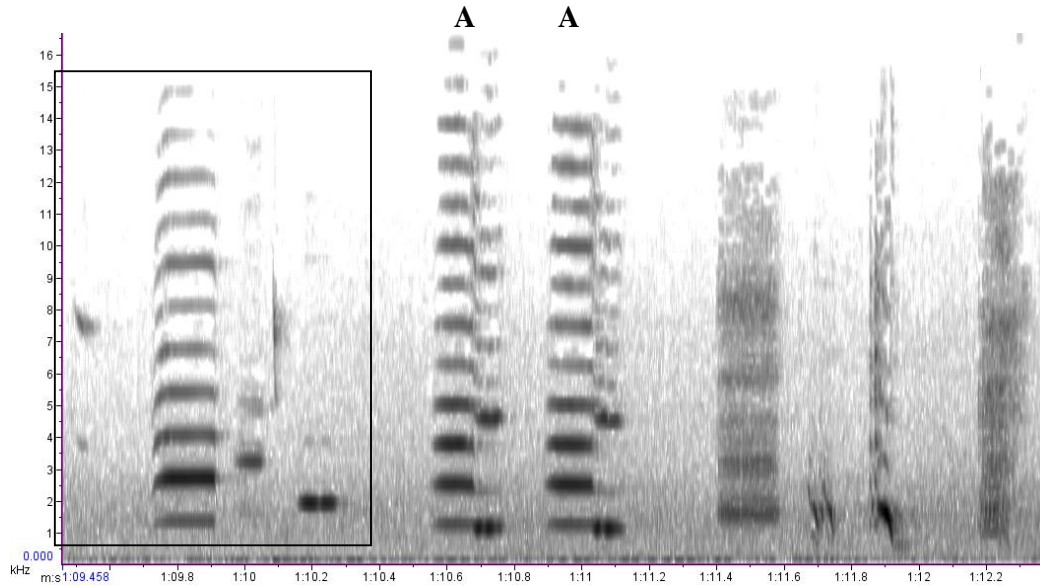
Song 241. November 30th 2010 (14.00h). 1015. By second bunkhouse, Jones Bay, Tawharanui. WM-YR (ID: Y14302, a 144g male). The end sample of a song. Contains very rare sounding syllables (in black box) but also contains the common Jones Bay syllable right at the beginning.



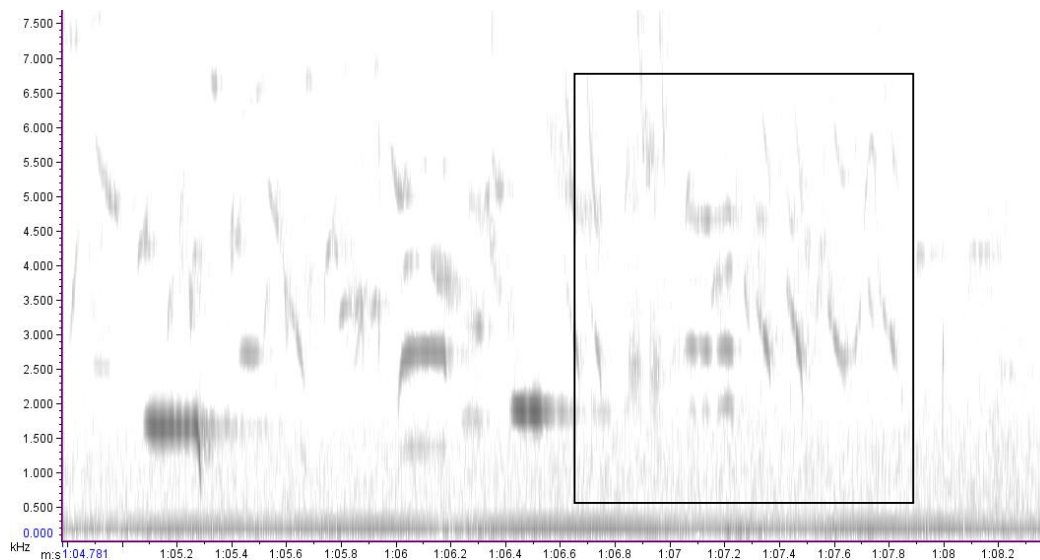
Song 242. November 30th 2010 (15.00h). 1017(1). Anchor Bay song, with common Anchor Bay syllables, in black box. Sung by an individual who occupies the large pohutukawa tree immediately adjacent to the 'Discovery Room'.



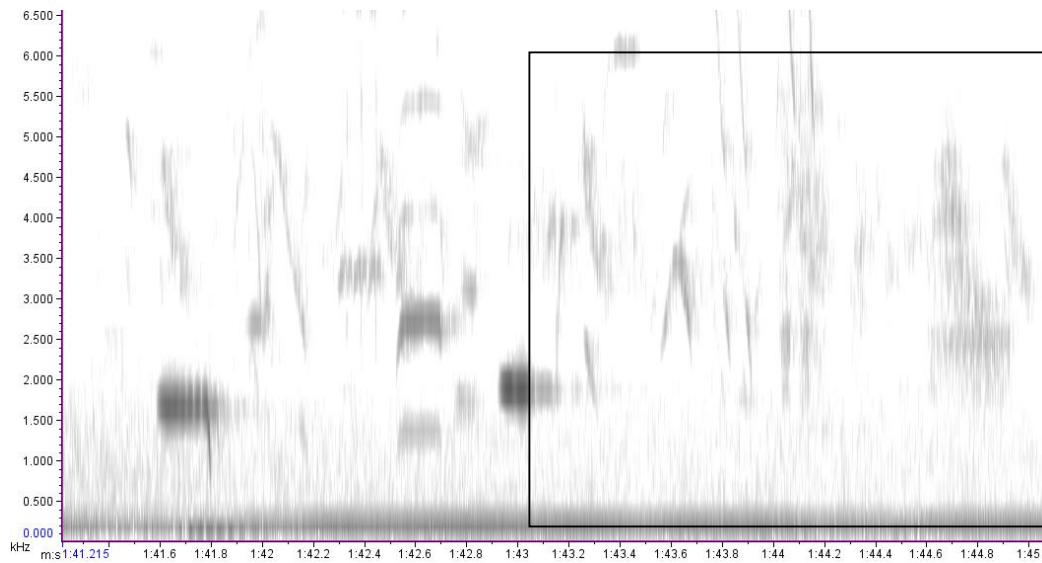
Song 243. November 30th 2010 (15.45h). 1025. Song containing common Anchor Bay syllables. A common Anchor Bay song, sung near Discovery Room. This song sung by the same individual as above. He sings it as a territorial song and as an 'announcement' when just arrived on a branch before feeding. This song identical to one above, except for first four syllables (in black box). Common Anchor Bay syllables marked 'A'.



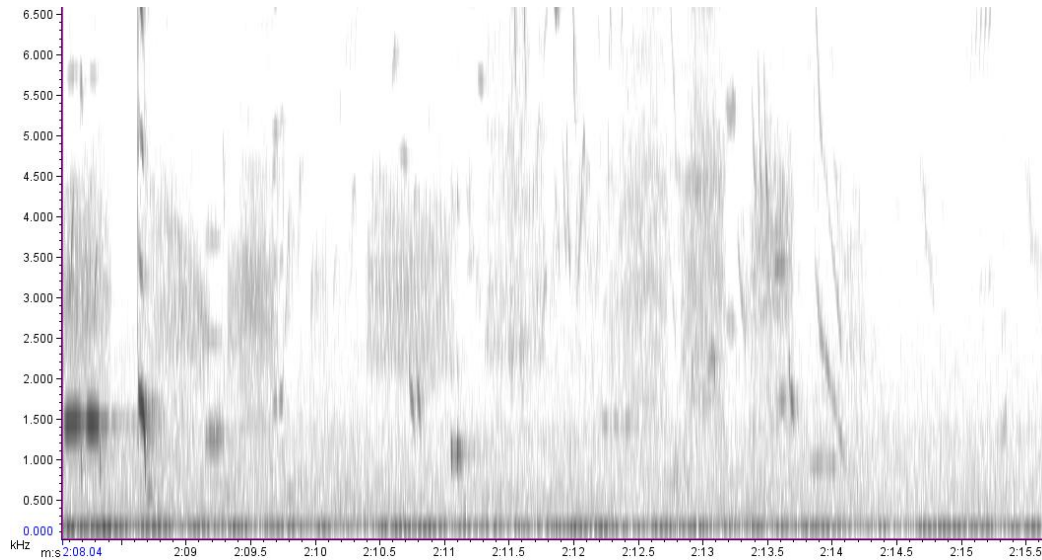
Song 244. November 30th 2010 (15.00h). 1017(2). Song at Anchor Bay.



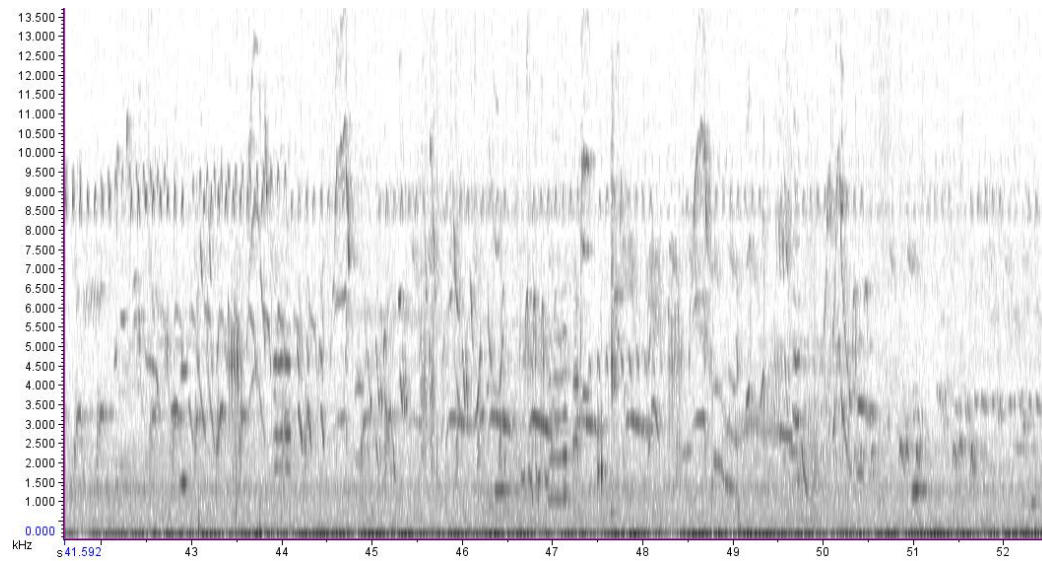
Song 245. November 30th 2010 (15.00h). 1017(3). Song at Anchor Bay. Very similar to the song above. The part that is different is the part from 1.43.2-144.8 (in black box on both images). The beginning phrase is identical in both songs. Both songs are from same individual.



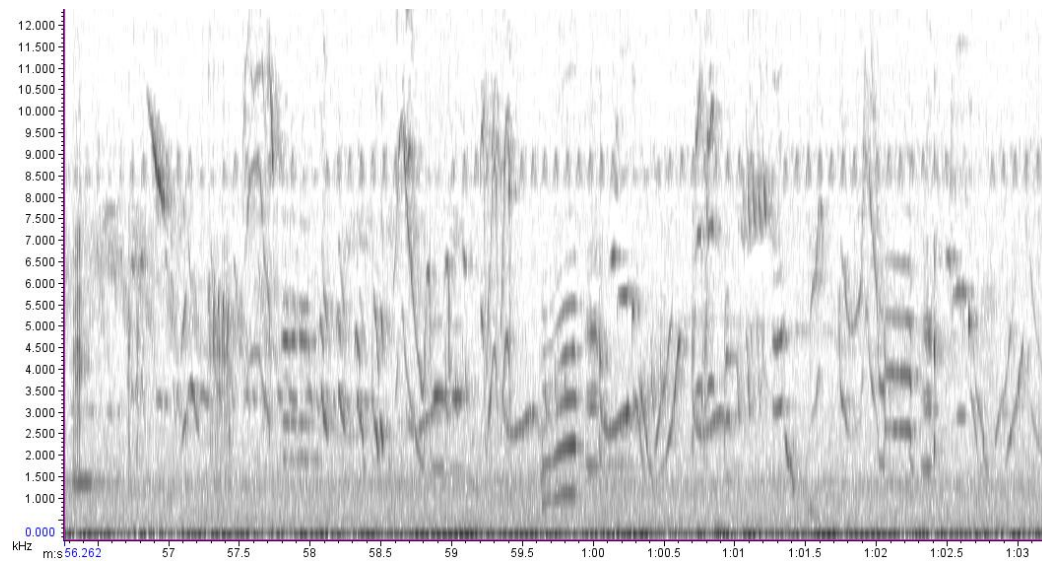
Song 246. November 30th 2010 (15.00h). 1017(4). Song at Anchor Bay.



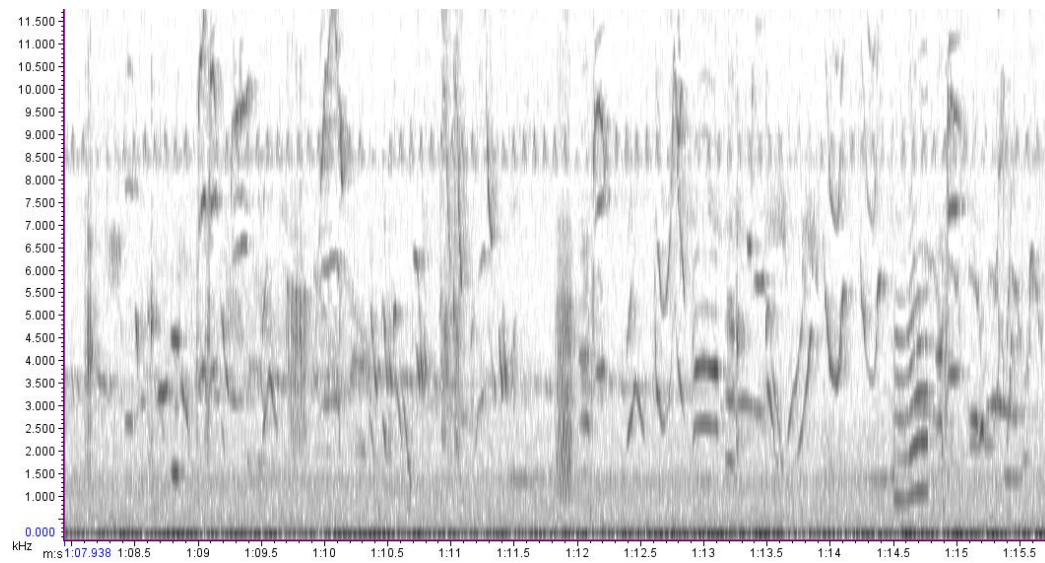
Song 247. November 30th 2010 (15.30h). 1021. Song at Ecology Bush. Much noise on the spectrogram as there were many other species around including cicada.



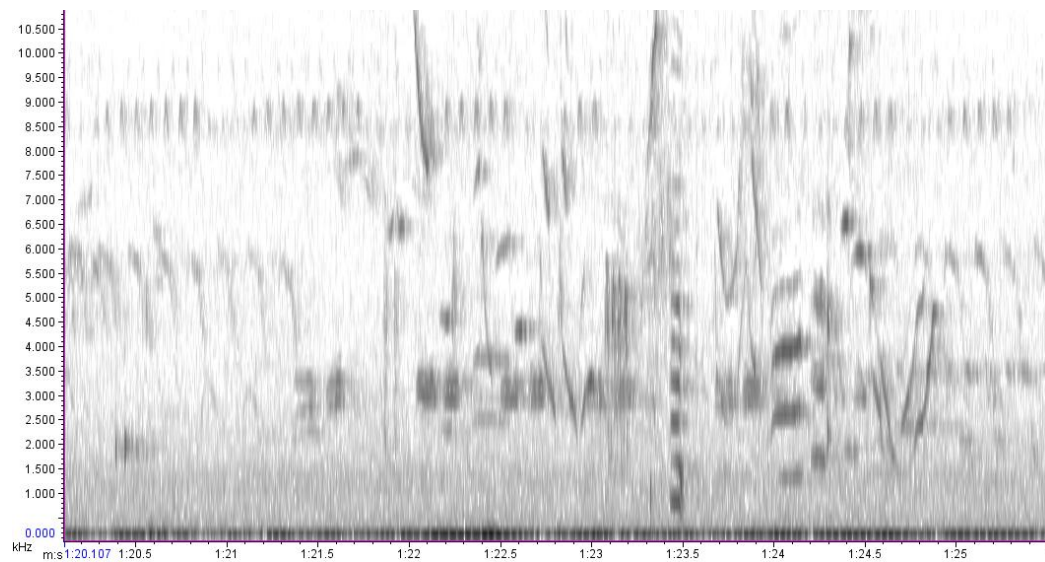
Song 248. November 30th 2010 (15.30h). 1021(2). Song at Ecology Bush.



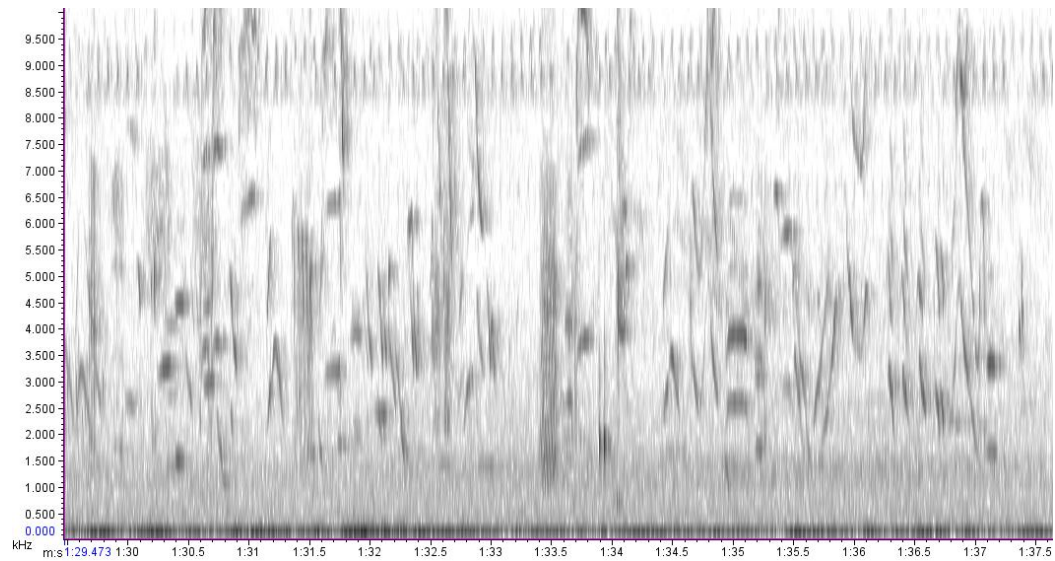
Song 249. November 30th 2010 (15.30h). 1021(3). Song at Ecology Bush. Broadcast.



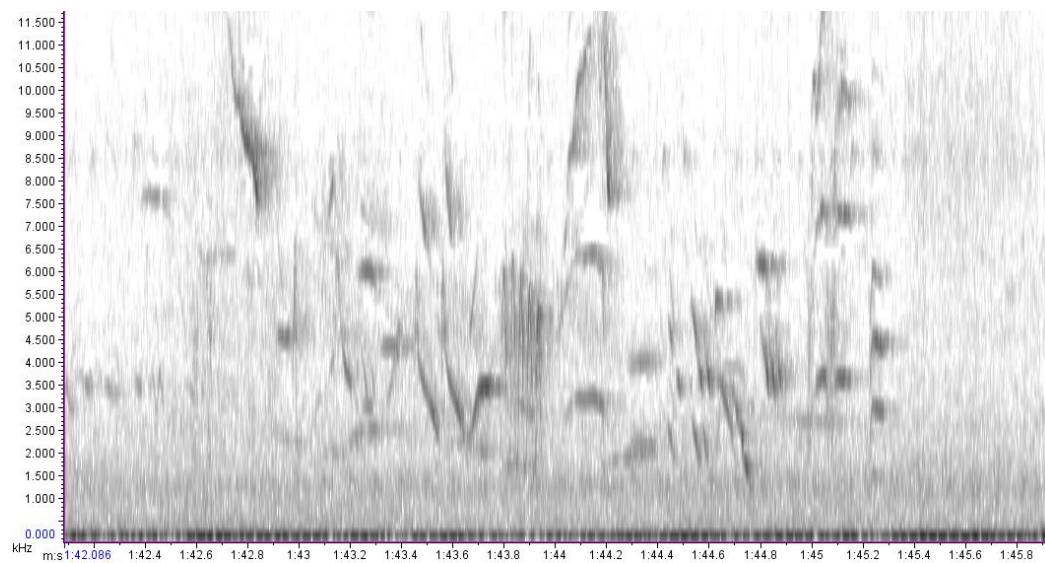
Song 250. November 30th 2010 (15.30h). 1021(4). Song at Ecology Bush. Broadcast.



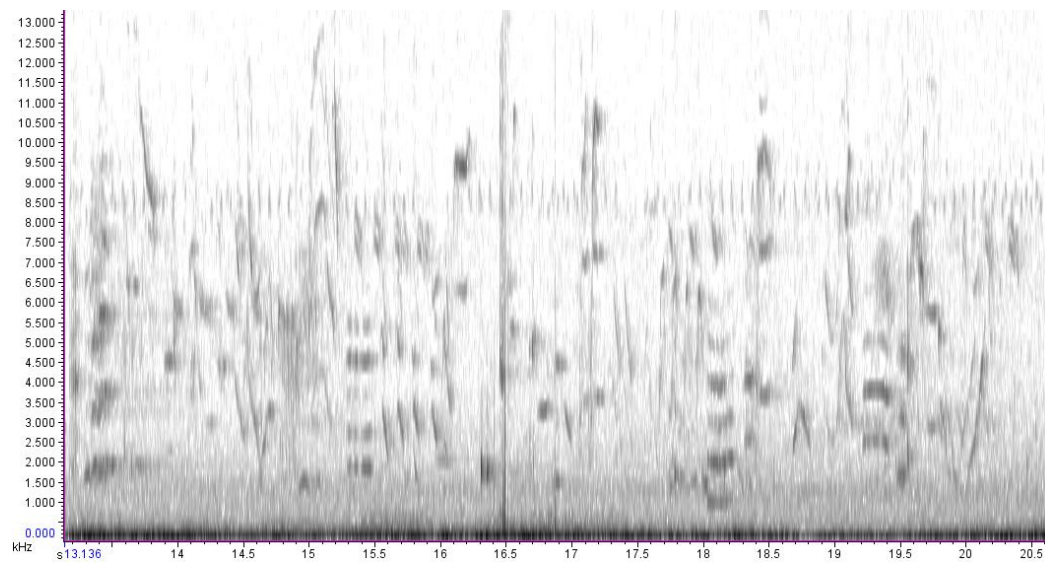
Song 251. November 30th 2010 (15.30h). 1021(5). Sonymg at Ecology Bush.
Broadcast.



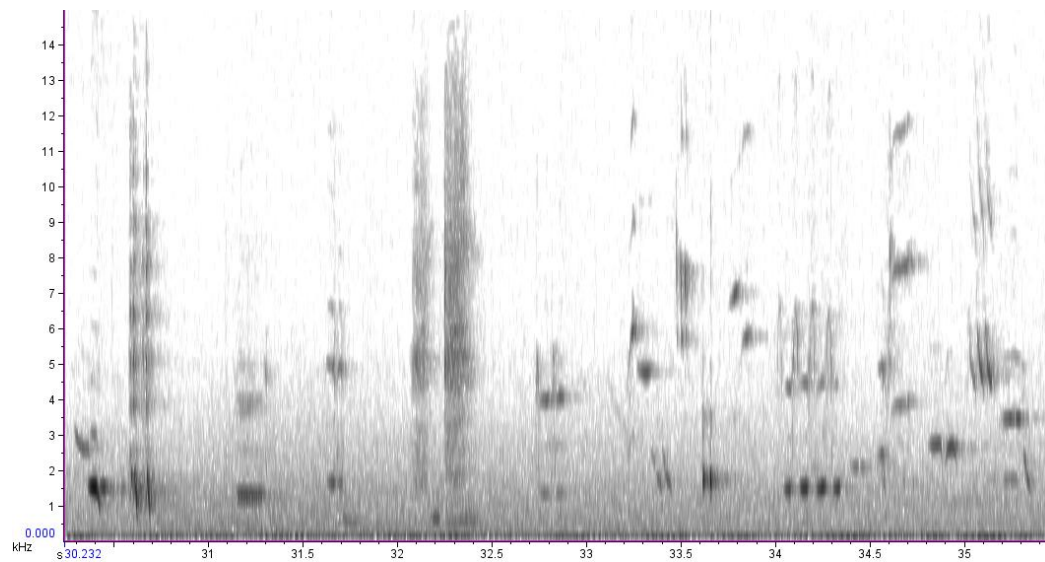
Song 252. November 30th 2010 (15.30h). 1021(6). Song at Ecology Bush (near to
Pumphouse). Broadcast.



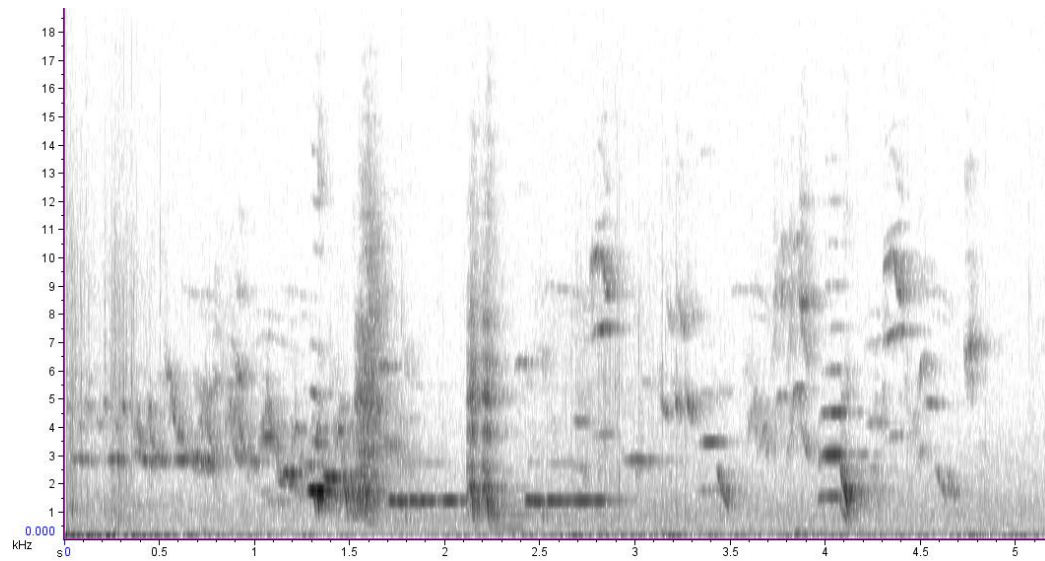
Song 253. November 30th 2010 (15.45h). 1023. Song at Ecology Bush (near to Pumphouse). Broadcast.



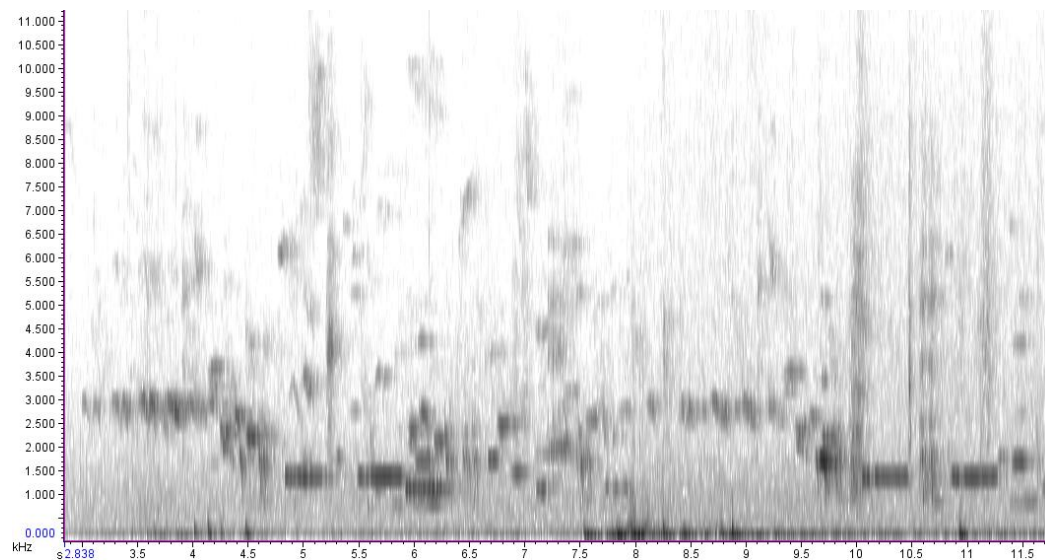
Song 254. November 30th 2010 (15.45h). 1024. Anchor Bay/Ecology Bush interface. Broadcast.



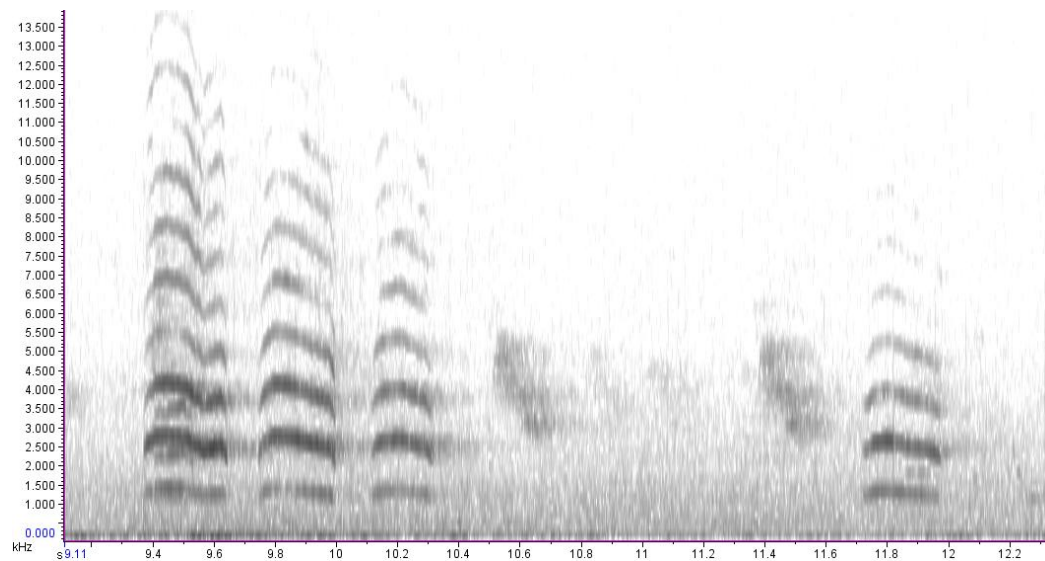
Song 255. December 9th 2010 (10.00h). 1004 (LbW-YM). Song at Jones Bay (behind public toilets). LbW-YM (ID: Y14671. A 130g male).



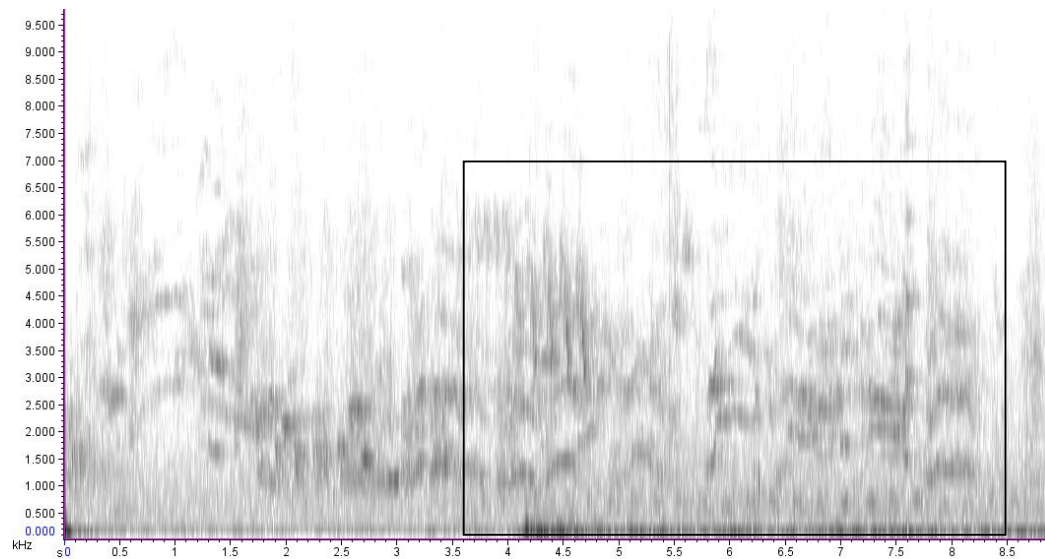
Song 256. December 9th 2010 (10.00h). 1006 (LbW-YM). Song at Jones Bay (behind public toilets). LbW-YM (ID: Y14671. A 130g male). A territorial song. The Jones Bay ascending crescendo song heard frequently at Jones Bay, but this one differs as a) it is two songs in one and b) differs in terms of an extra syllable, in black box. More than one bird singing here, but the main 'tune' is sung by LbW-YM.



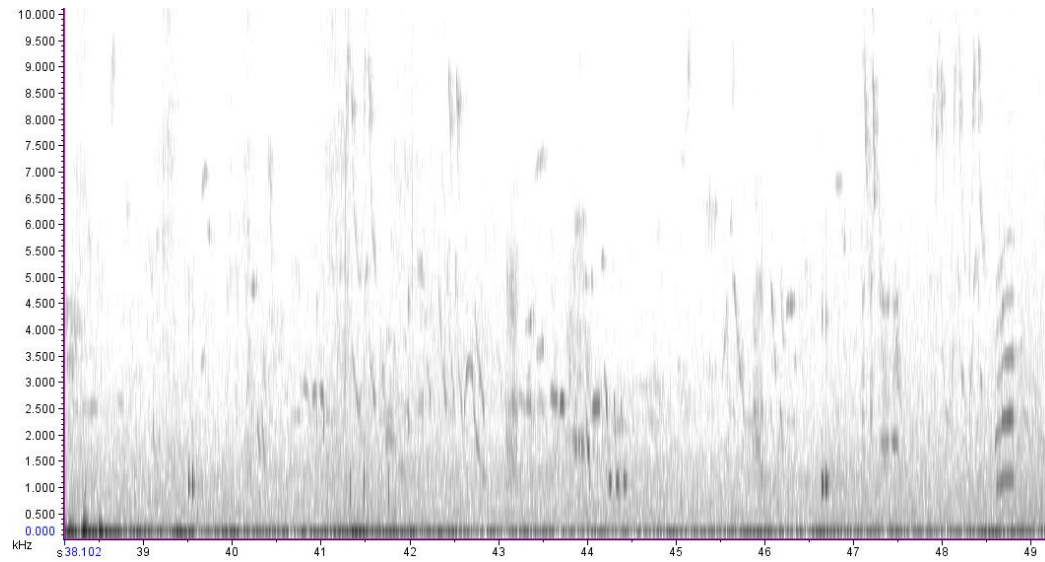
Song 257. December 9th 2010 (10.00h). 1007. A short and half-hearted alarm call at Jones Bay, behind public toilets.



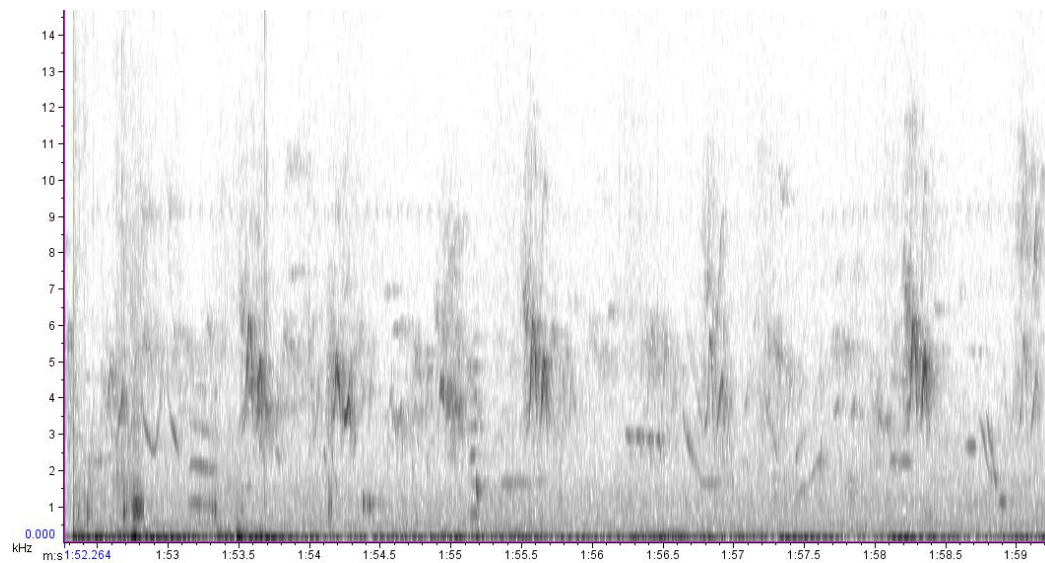
Song 258. December 9th 2010 (10.00h). 1009. Song begins male to female, then female makes noises to males (in black box here). Similar to noises heard at Chatham Islands, when female was being aggressively (seemingly) courted and copulated. Female wingbeats can also be heard in this song.



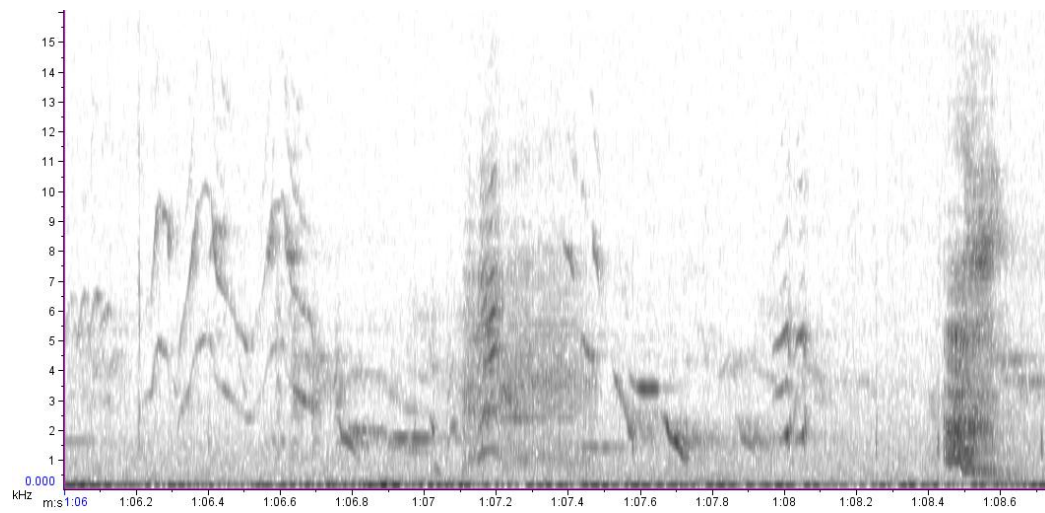
Song 259. December 9th 2010 (10.30h). 1014. Jones Bay (distant recording).



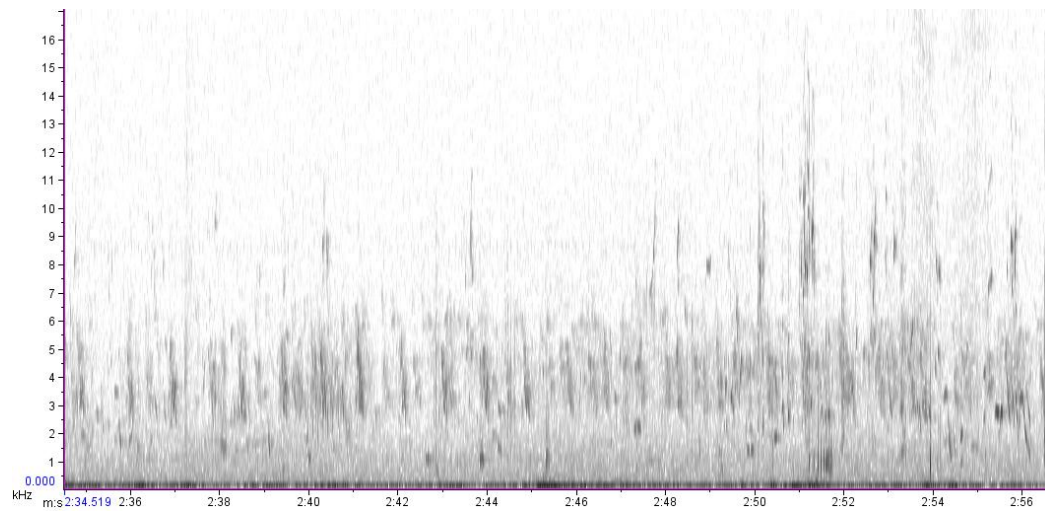
Song 260. December 9th 2010 (10.30h). 1017. Jones Bay (WM-W?).



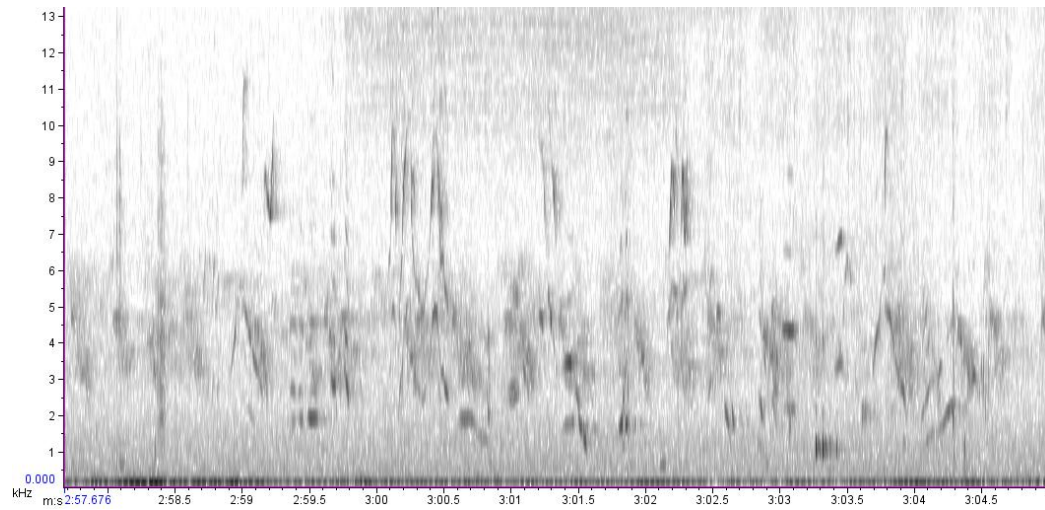
Song 261. December 9th 2010 (10.30h). 1019. Jones Bay, by 2nd Bunkhouse.



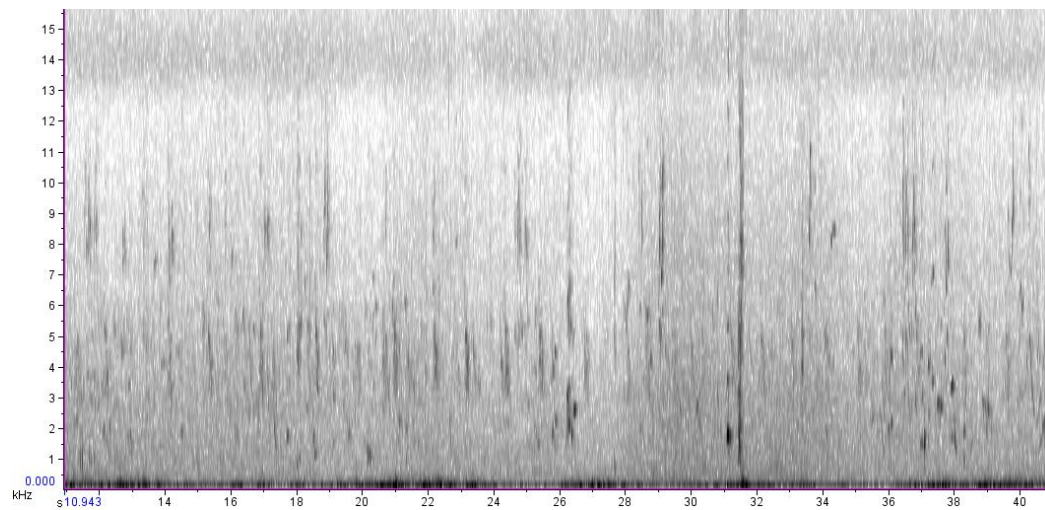
Song 262. December 9th 2010 (10.30h). 1019. Long trill at Jones Bay, by 2nd Bunkhouse.



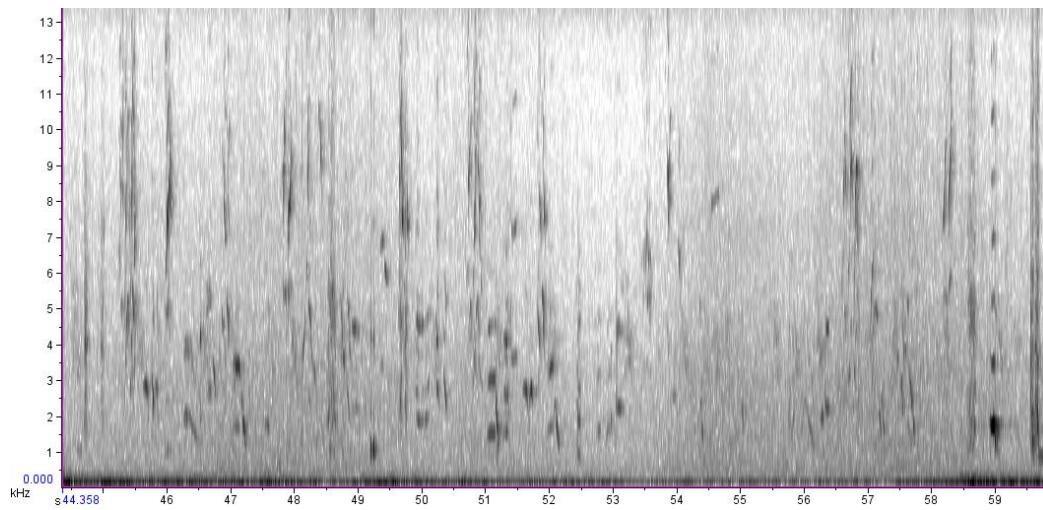
Song 263. December 9th 2010 (10.30h). 1019. Continuation of above long trill at Jones Bay, by 2nd Bunkhouse.



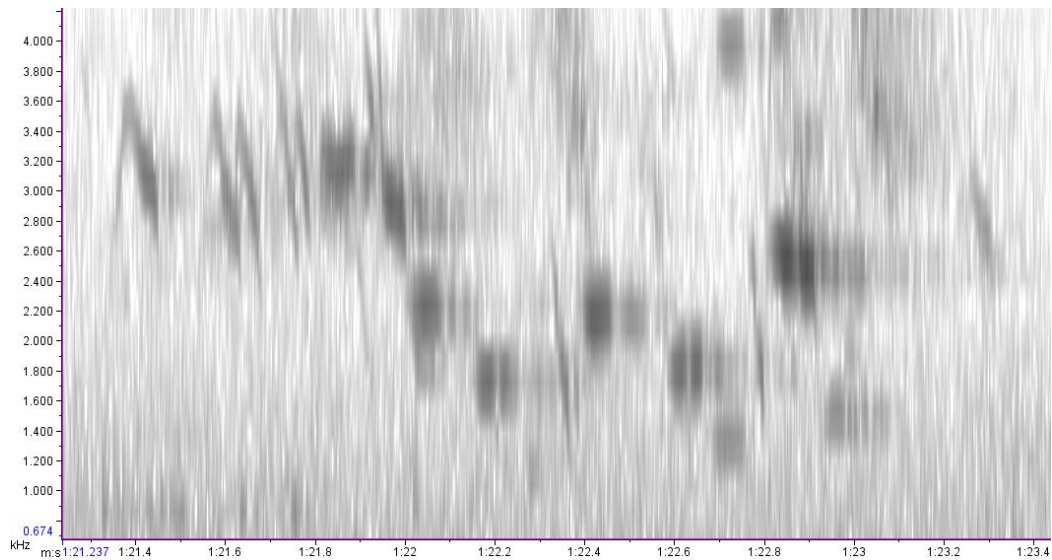
Song 264. December 9th 2010 (10.30h). 1023. Very long trill at Jones Bay, by 2nd Bunkhouse.



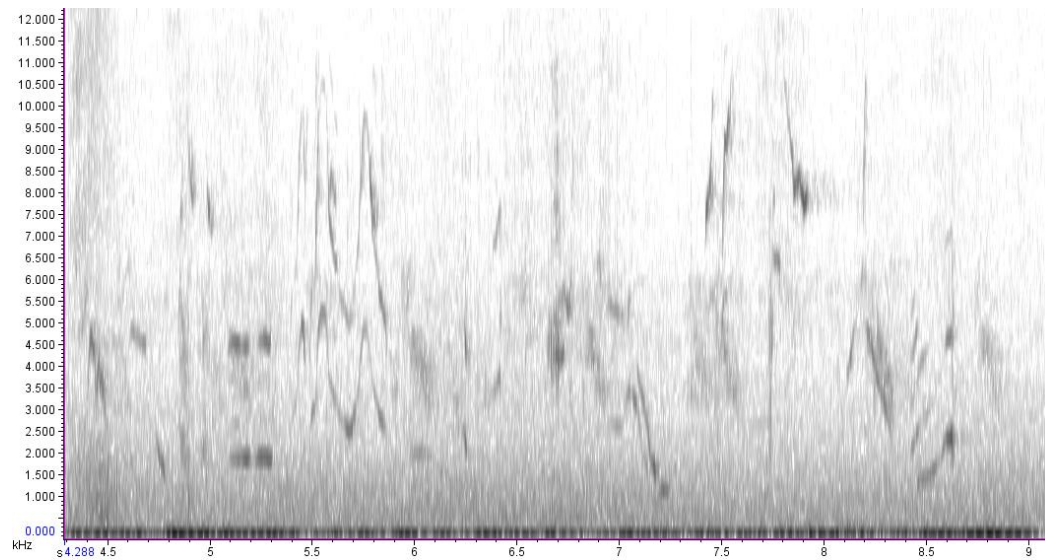
Song 265. December 9th 2010 (10.30h). 1023(2) Song at Jones Bay, by 2nd Bunkhouse (GO-WM).



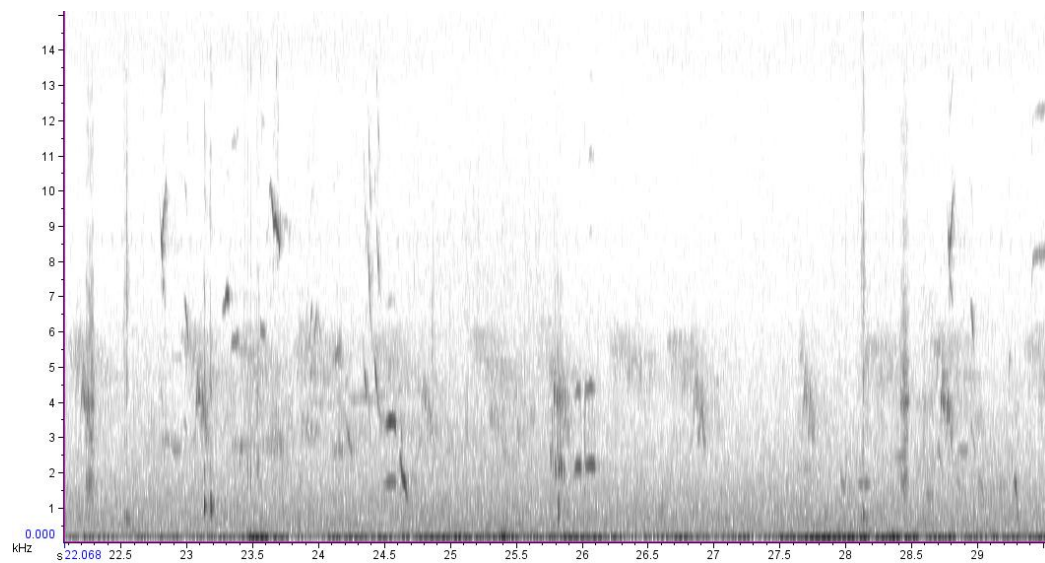
Song 266. December 9th 2010 (10.30h). 1023(2). GO-WM. In flight to another intruding male. Territorial.



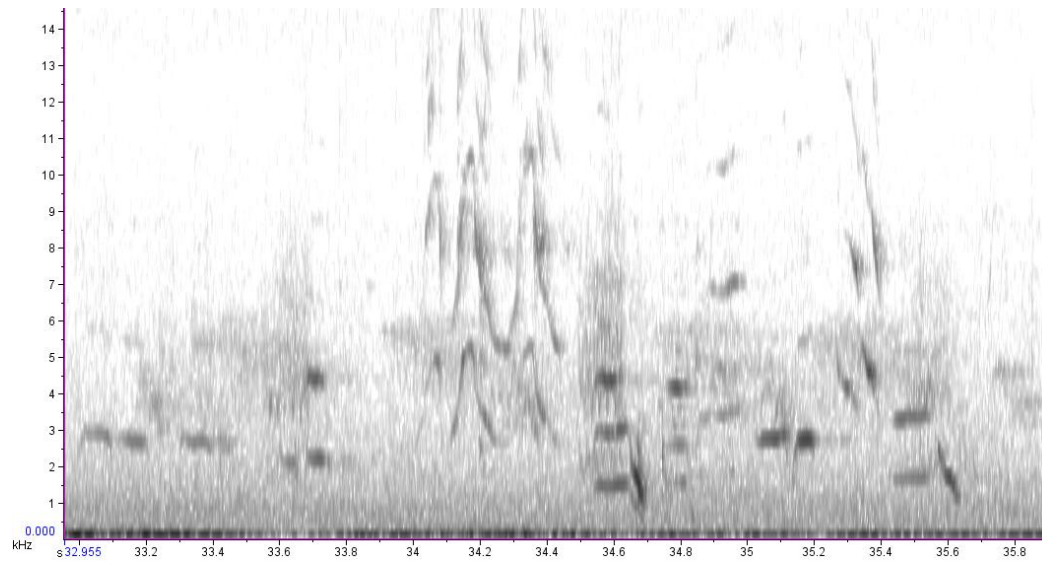
Song 267. December 9th 2010 (10.30h). 1024. Trill at Jones Bay.



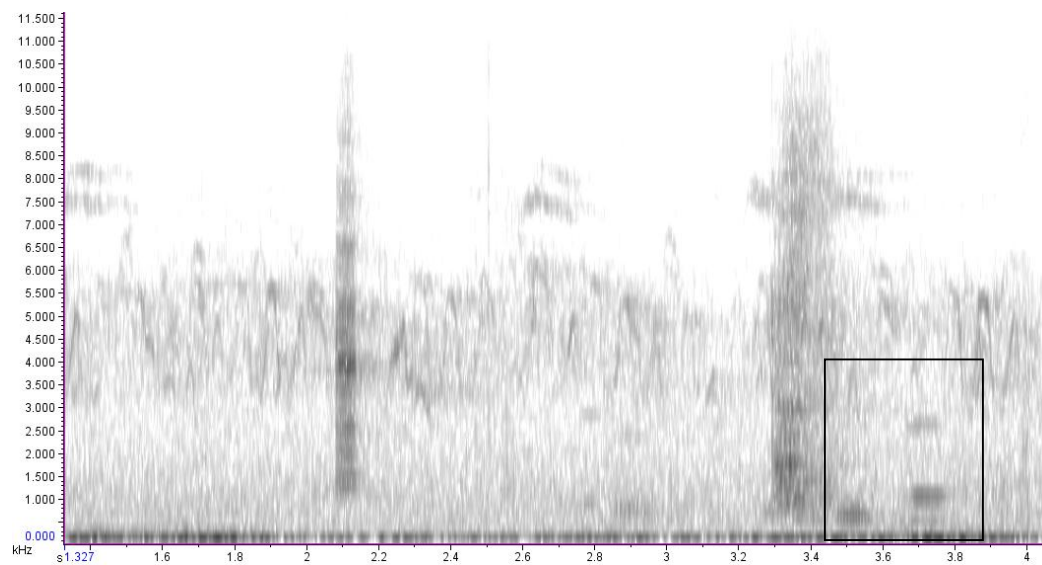
Song 268. December 9th 2010 (10.30h). 1024. Trill at Jones Bay. GO-WM.



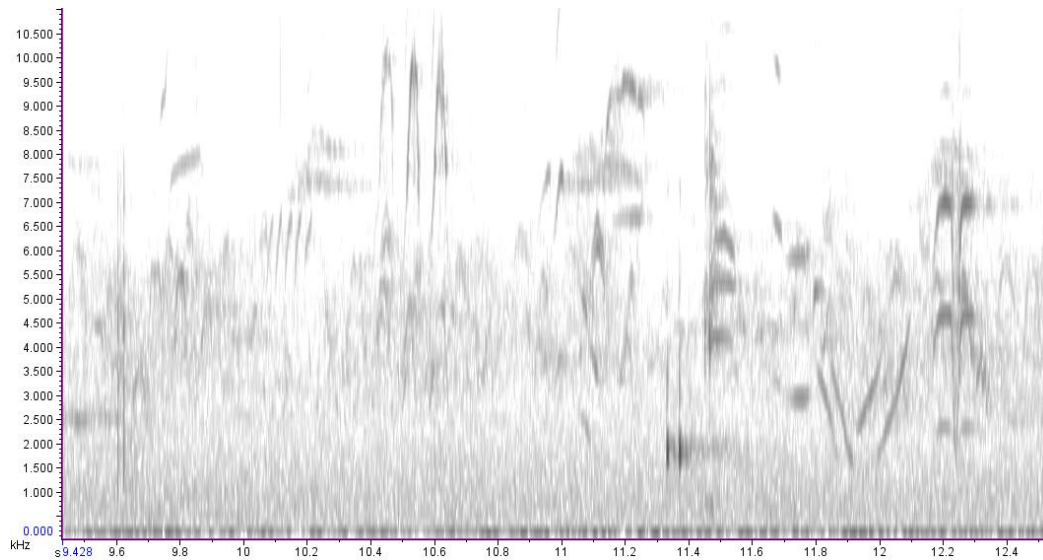
Song 269. December 9th 2010 (10.30h). 1024. Trill at Jones Bay. GO-WM.



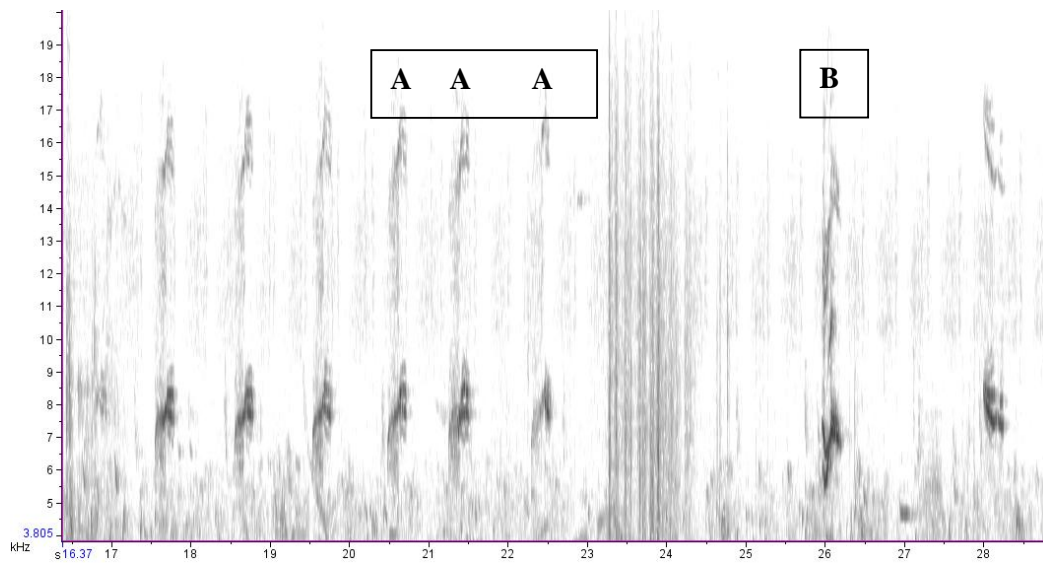
Song 270. December 9th (14.30h). 1025. Two kkuhs and a wonderful and seldom-heard low-frequency 2 syllables (in black box) at Anchor Bay. YB-WM. In giant macracarpa tree.



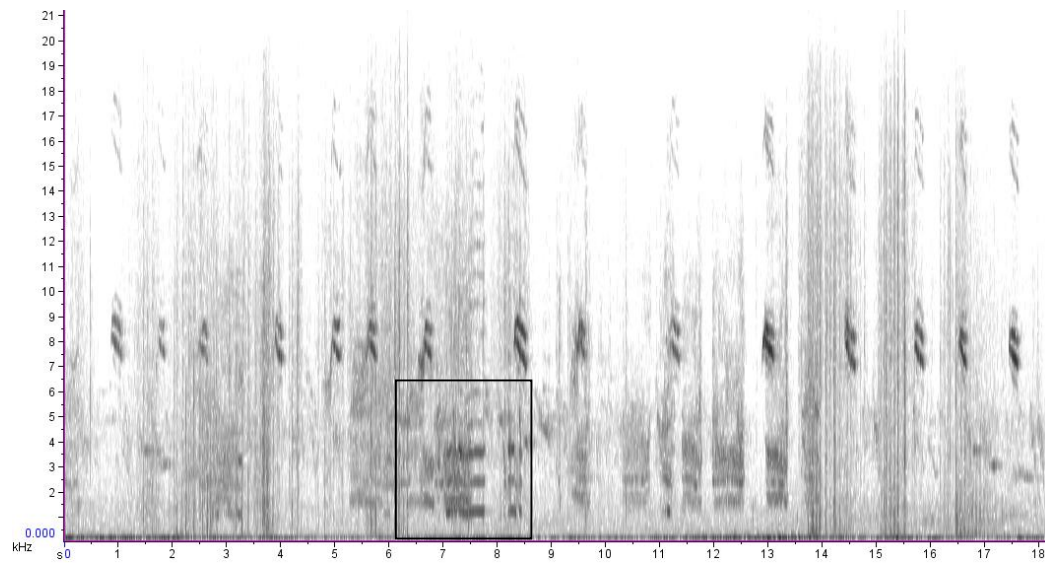
Song 271. December 9th 2010 (14.30h). 1025. Trill at Anchor Bay. YB-WM. Male to male interactive. In giant macracarpa tree.



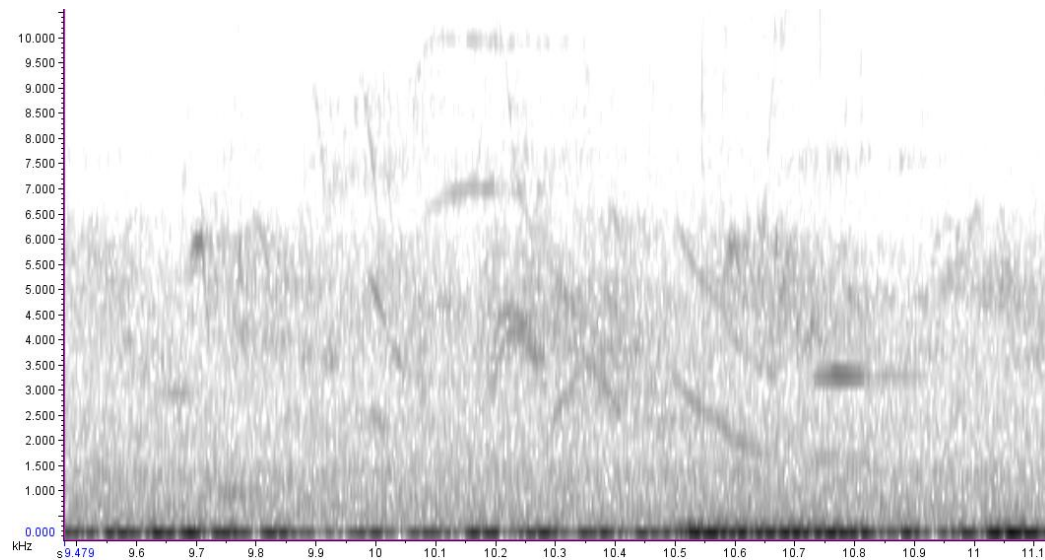
Song 272. December 9th 2010 (14.30h). 1026. Tui fledglings. Just a sample of their simple 'song' consisting of repeated syllables 'A'. Syllable changes at 'B' following wing beating. Contrast this with the tui chick 'chirping'. This syllable is slightly more complex.



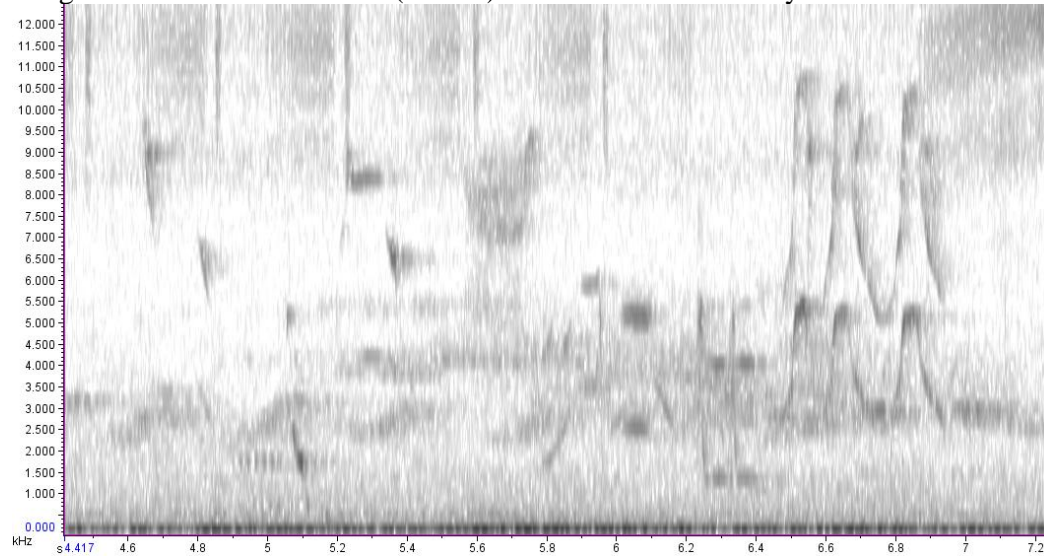
Song 273. December 9th 2010 (14.30h). 1027. Same tui fledglings as above, but here the mother arrives, with food and she makes noises directed towards them (marked here in black box). The mother had one metal band on left leg.



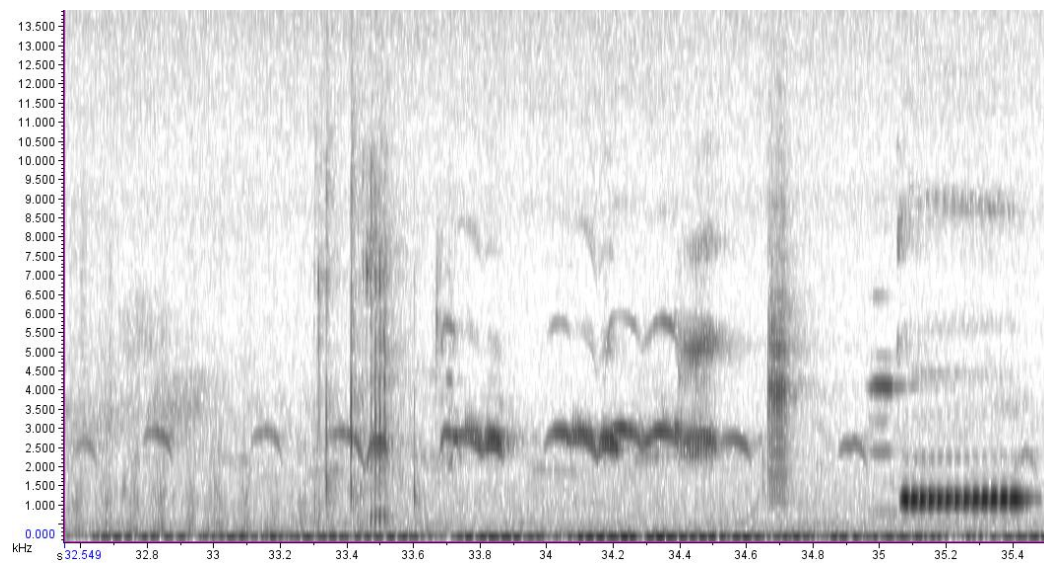
Song 274. December 9th 2010 (14.30h). 1031. WM-WO (ID: D196304. A 123g female).



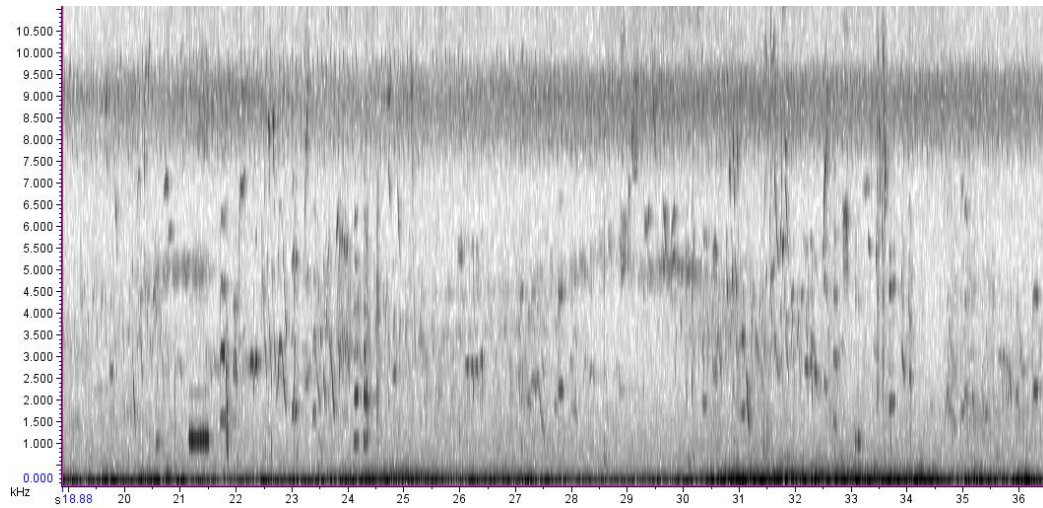
Song 275. December 15th 2010 (11.00h). 1003. Trill at Jones Bay.



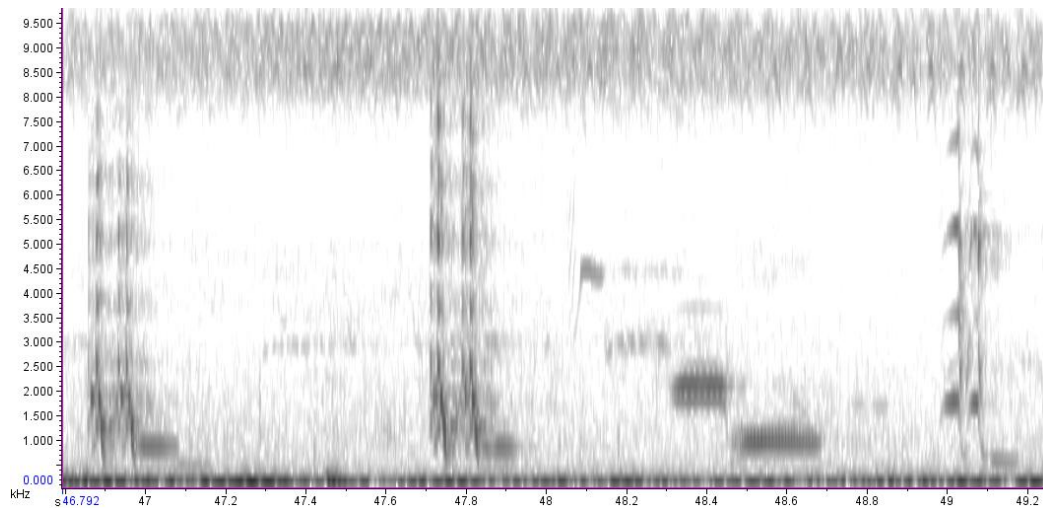
Song 276. December 15th 2010 (11.00h). 1003. Common song around Jones Bay with the ascending crescendo, slight variation. Terminal syllable is the common Jones Bay syllable.



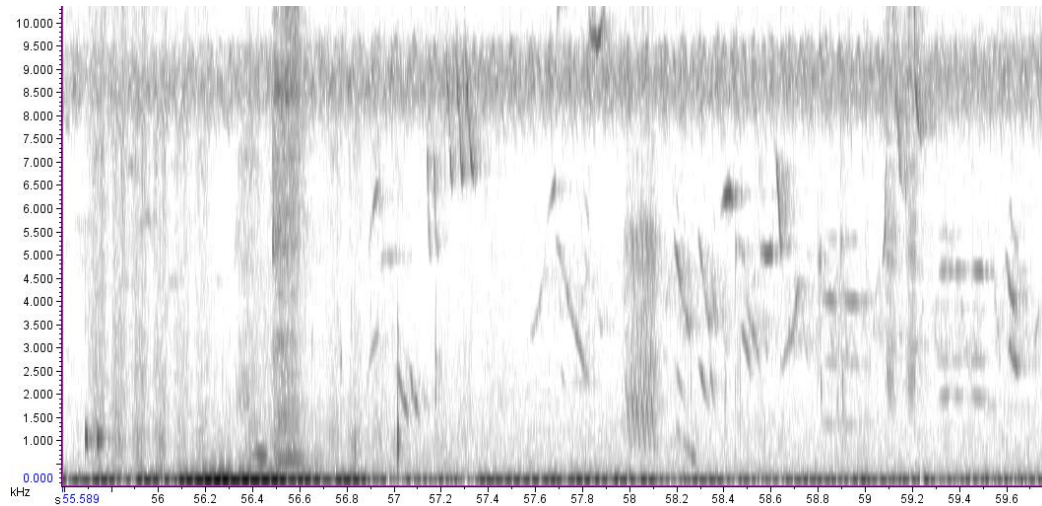
Song 277. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree.
BM-OO (ID: Y14339, 141g Male). Long-range broadcast. Probably father of a nest.



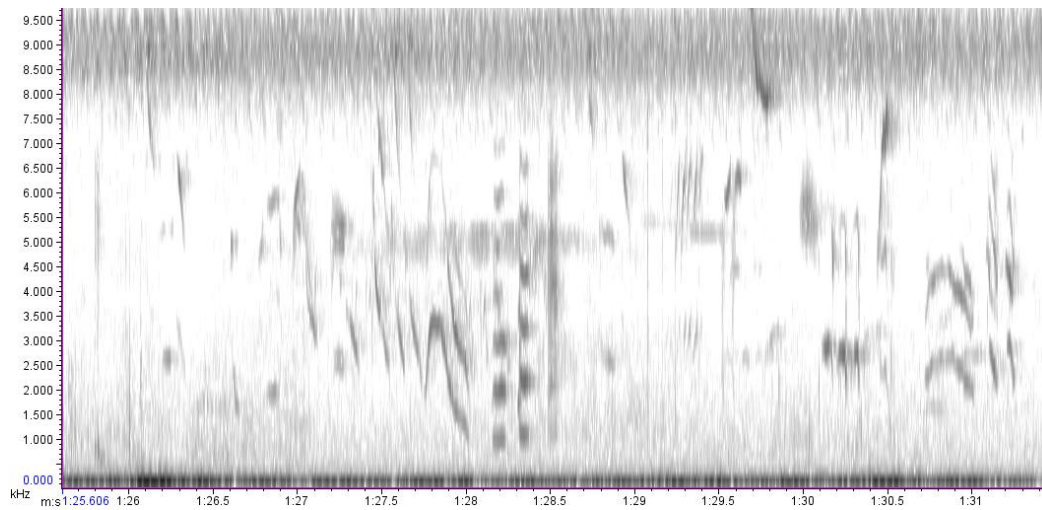
Song 278. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree.
BM-OO (ID: Y14339, 141g Male). Long-range broadcast. Probably father of a nest.



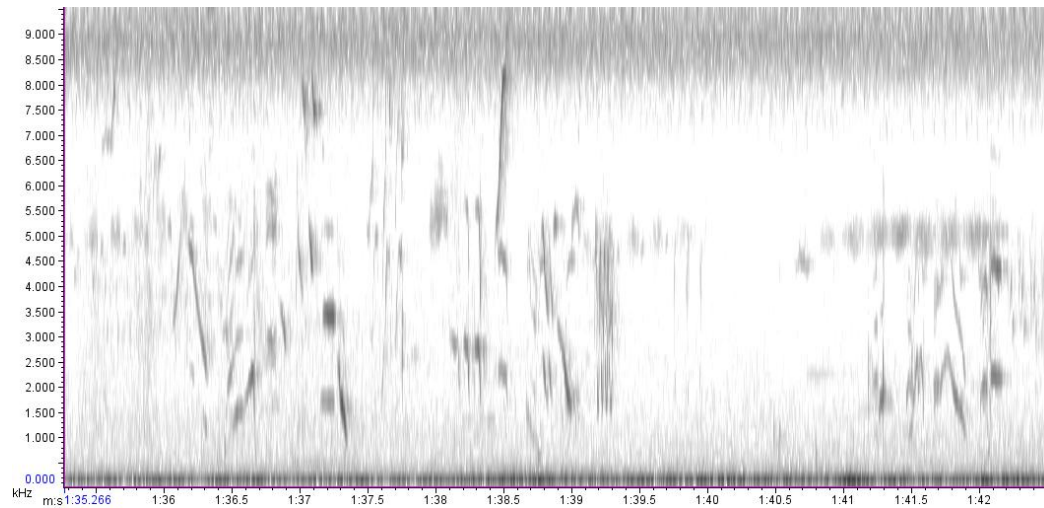
Song 279. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Long-range broadcast. Probably father of a nest.



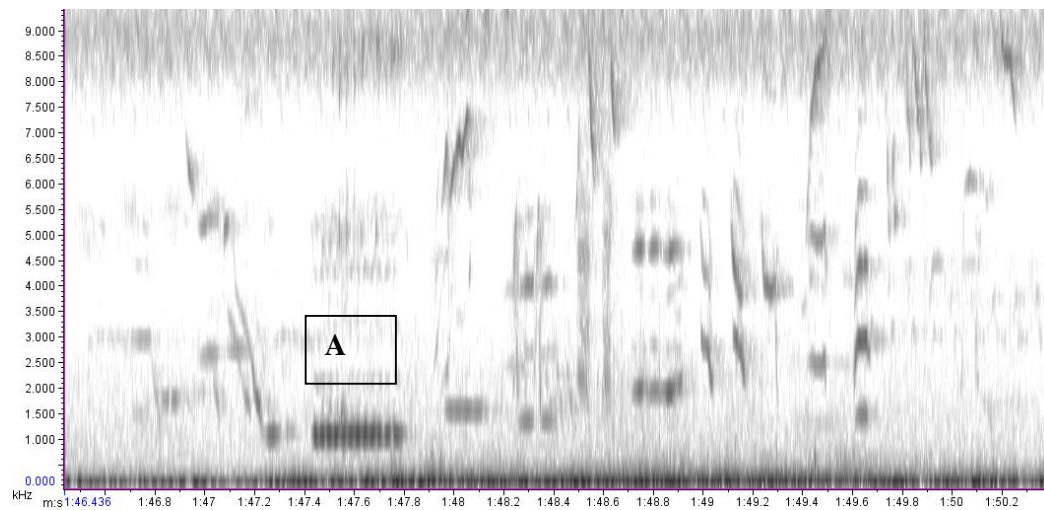
Song 280. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Long-range broadcast. Probably father of a nest.



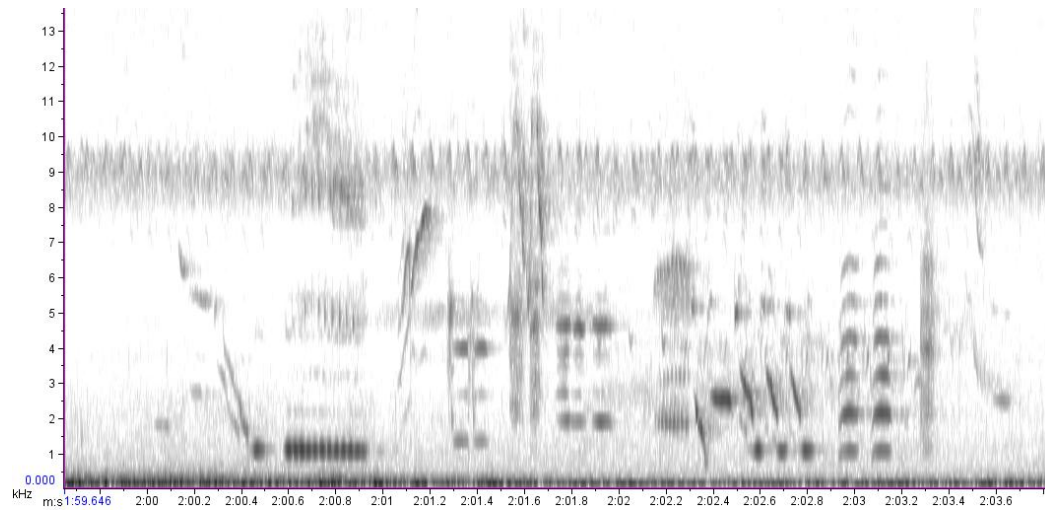
Song 281. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Long-range broadcast. Probably father of a nest.



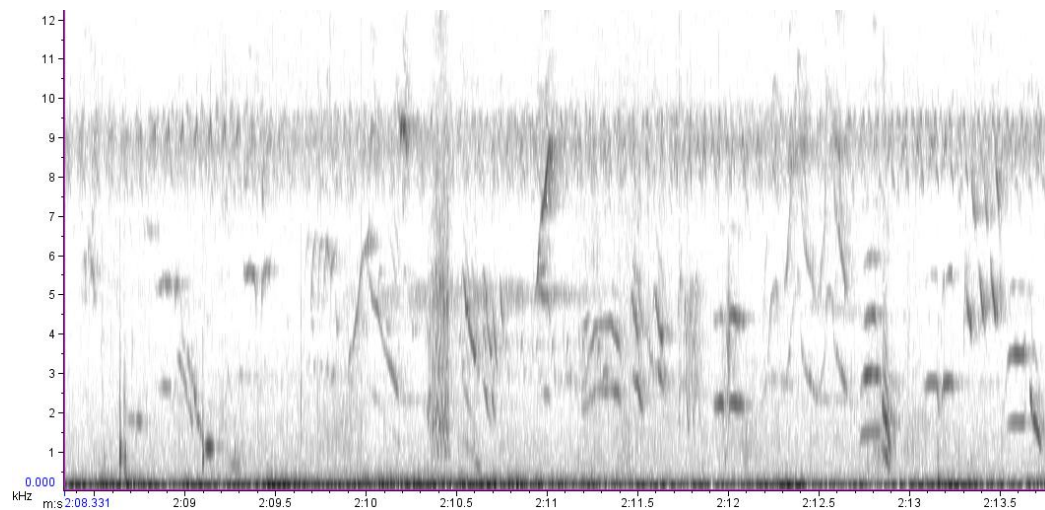
Song 282. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Long-range broadcast. Probably father of a nest. Common Jones Bay syllable at 'A'.



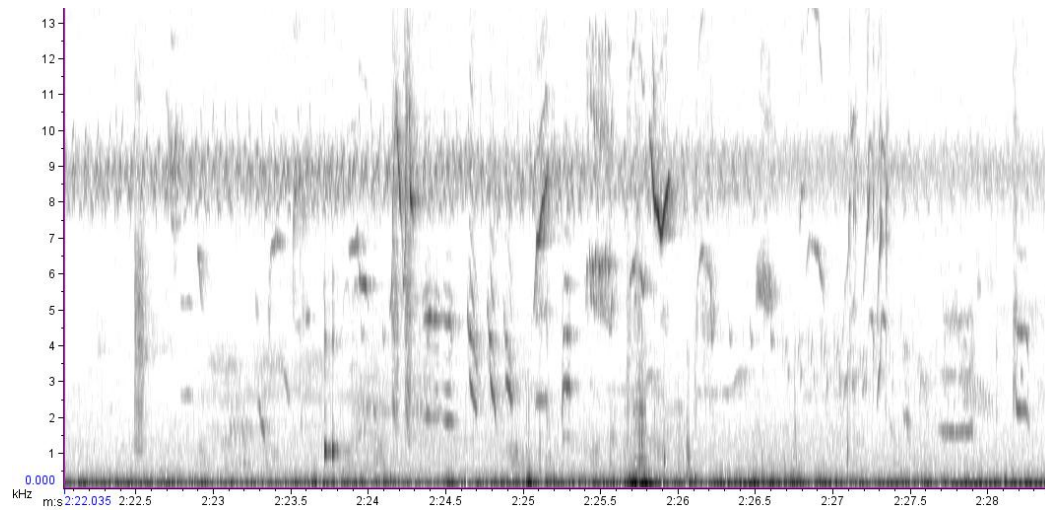
Song 283. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Long-range broadcast. Probably father of a nest.



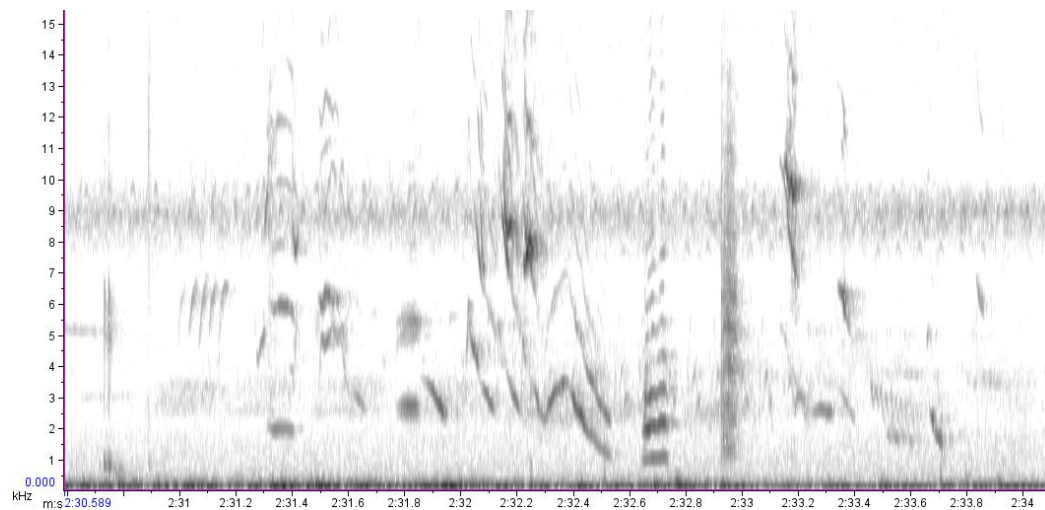
Song 284. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Trilly long-range broadcast. Probably father of a nest.



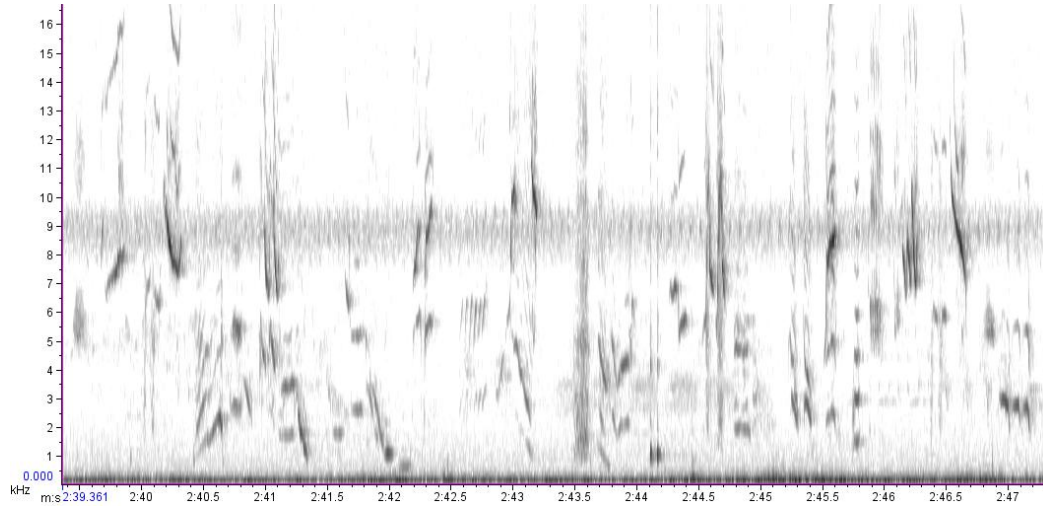
Song 285. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Long-range broadcast. Probably father of a nest. Cicada sound at c. 7.6KHz to c. 9.9KHz.



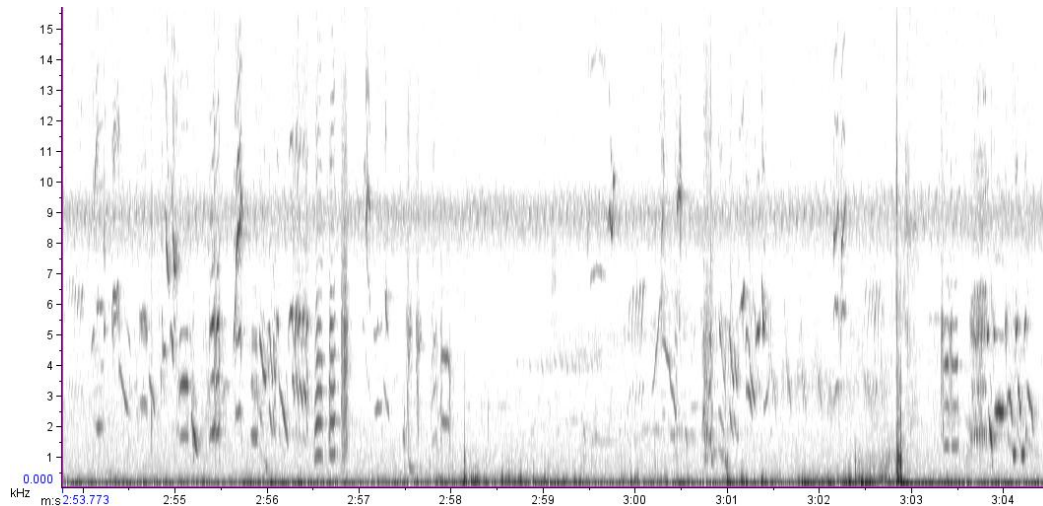
Song 286. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Long-range broadcast. Probably father of a nest.



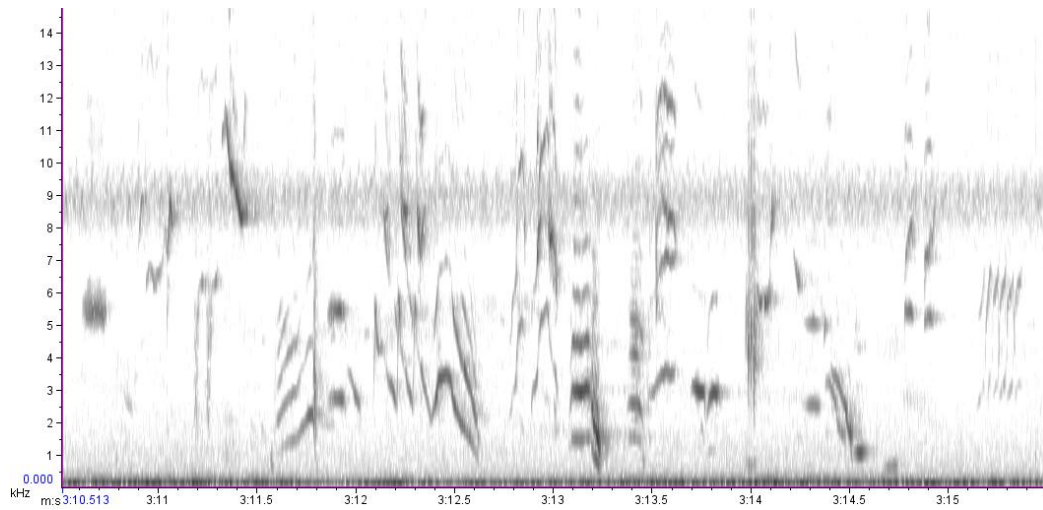
Song 287. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Trilly long-range broadcast. Probably father of a nest.



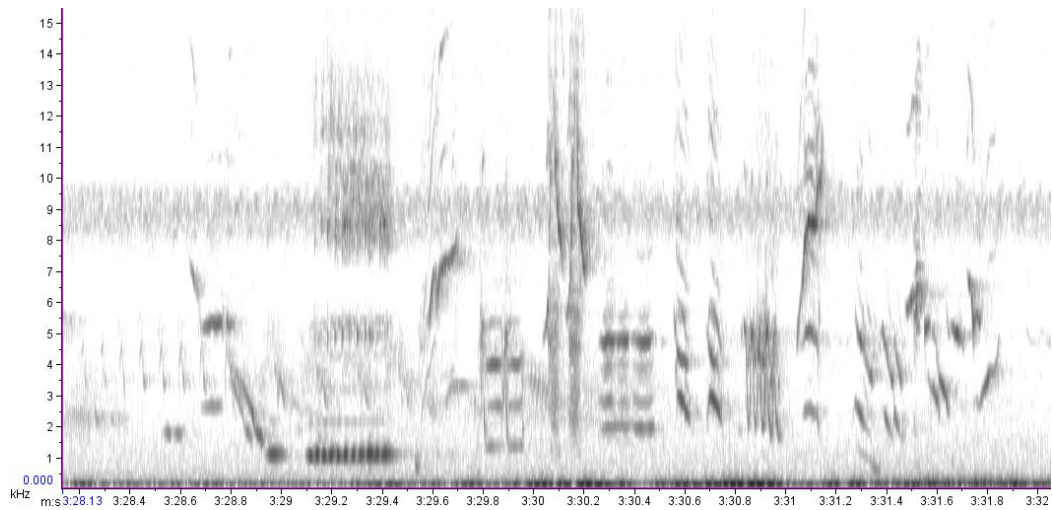
Song 288. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Trilly long-range broadcast. Probably father of a nearby nest.



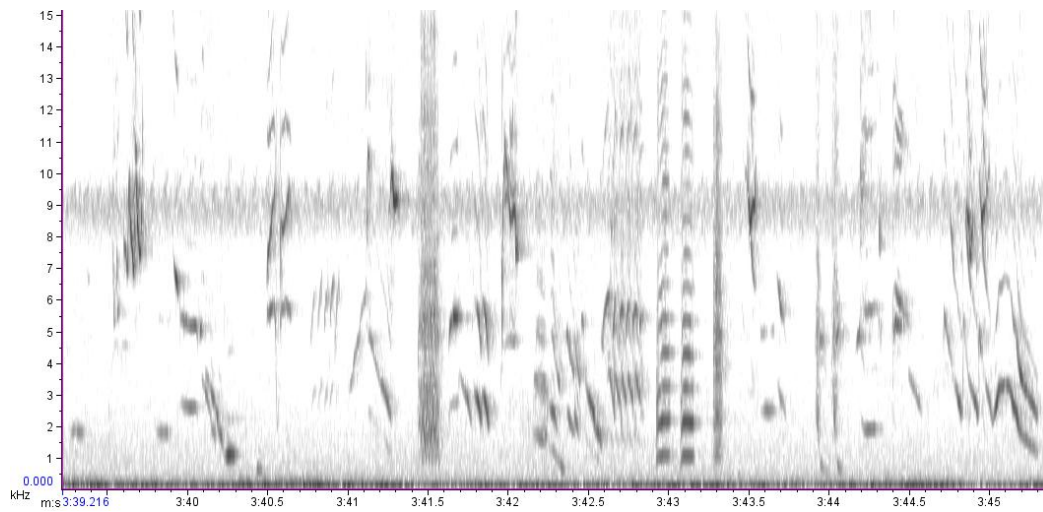
Song 289. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Trilly long-range broadcast. Probably father of a nest.



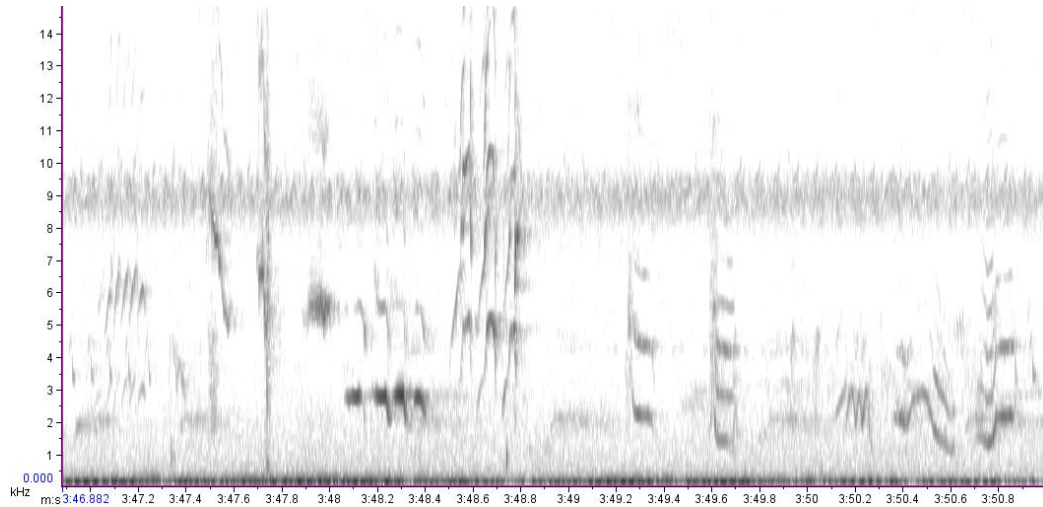
Song 290. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Long-range broadcast. Probably father of a nest.



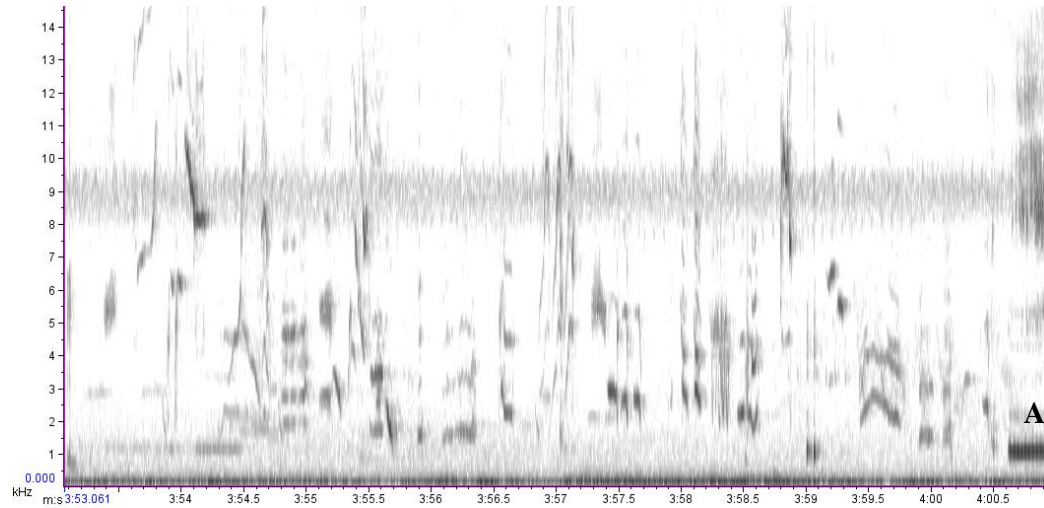
Song 291. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Trilly long-range broadcast. Probably father of a nest.



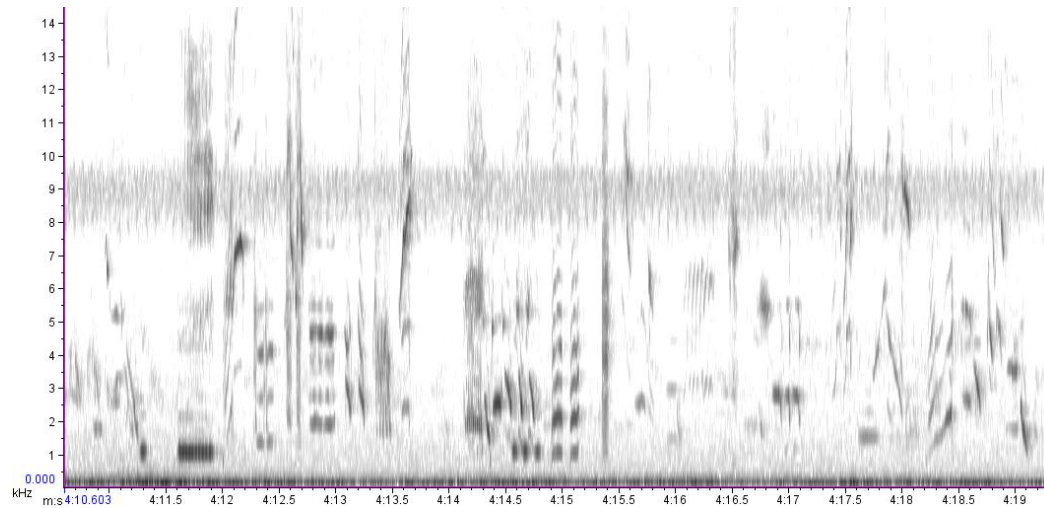
Song 292. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Long-range broadcast. Probably father of a nest.



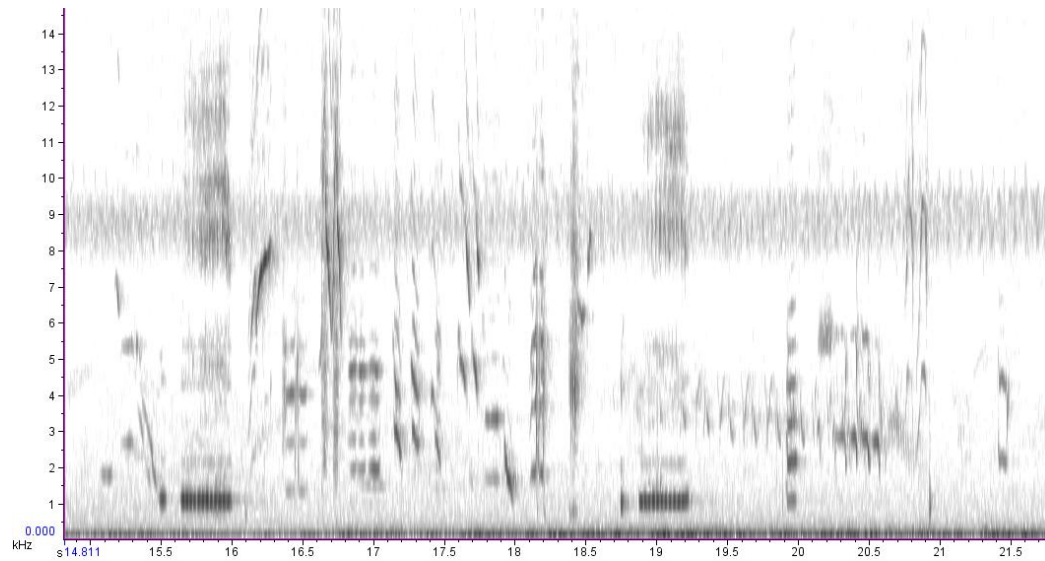
Song 293. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Long-range broadcast. Probably father of a nest. Song terminates with the common Jones Bay syllable at 'A'.



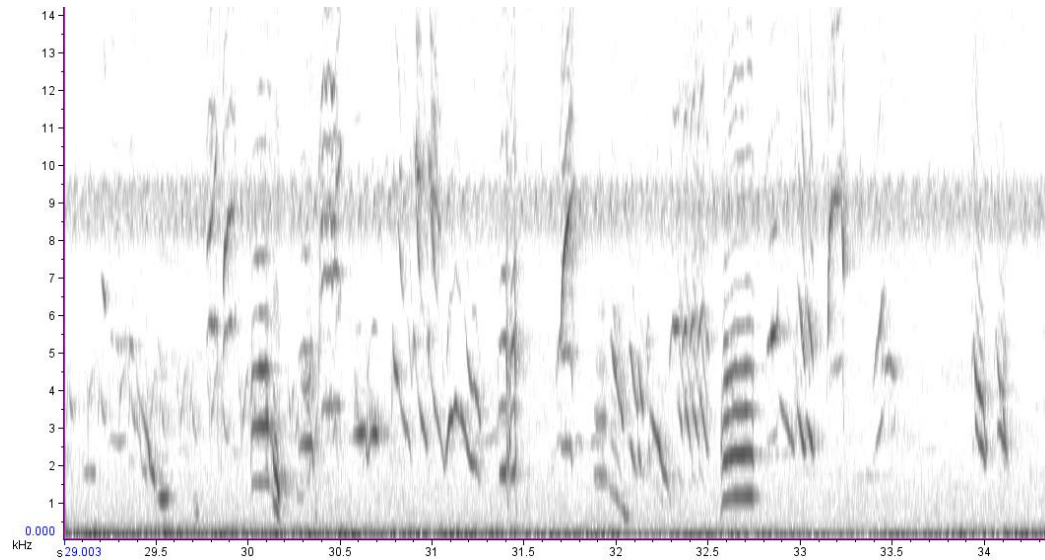
Song 294. December 15th 2010 (11.30h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Long-range broadcast. Probably father of a nearby nest.



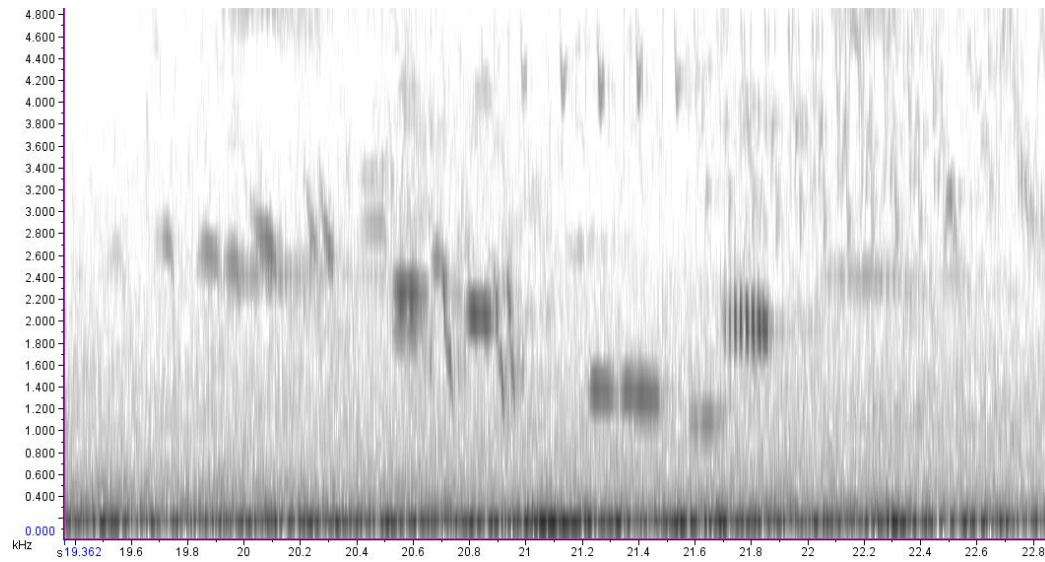
Song 295. December 15th 2010 (11.45h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Long-range broadcast. Probably father of a nearby nest.



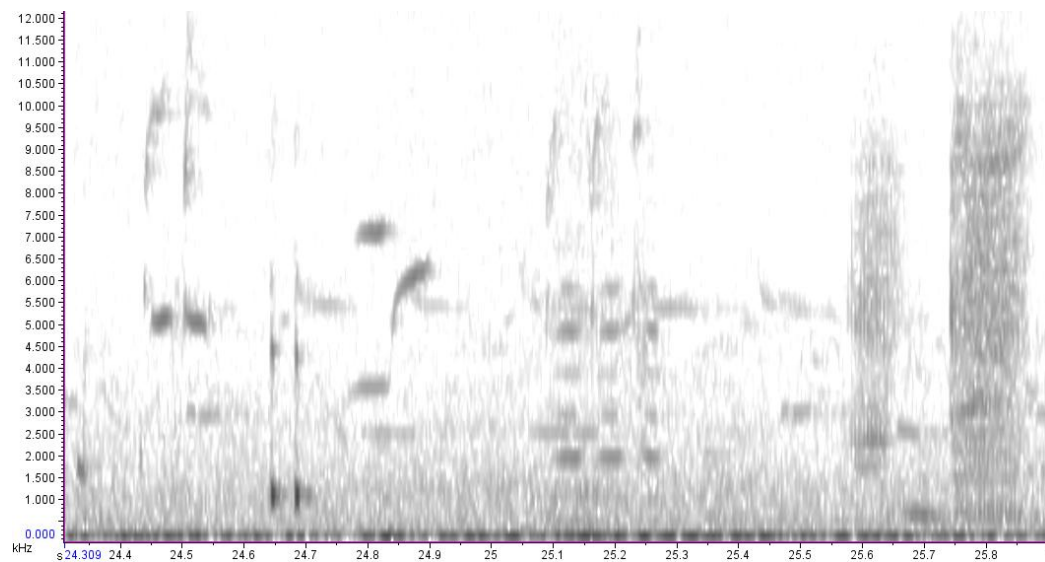
Song 296. December 15th 2010 (11.45h). 1004. Top of Jones Bay, in a pohutukawa tree. BM-OO (ID: Y14339, 141g Male). Long-range broadcast. Probably father of a nearby nest.



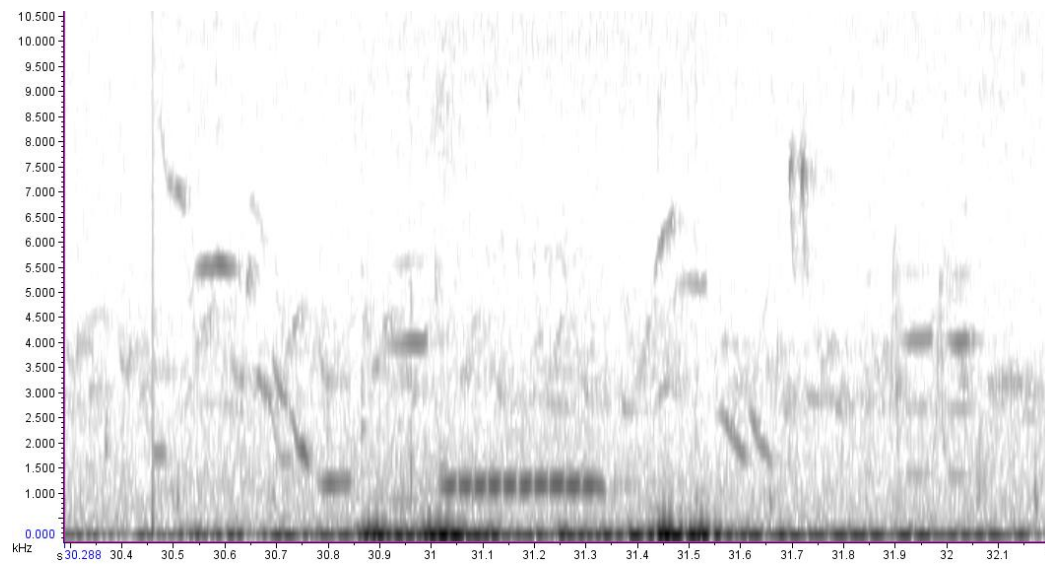
Song 297. December 15th 2010 (12.00h). 1006. Behind Jones Bay. Common Jones Bay ascending song. With slight variation.



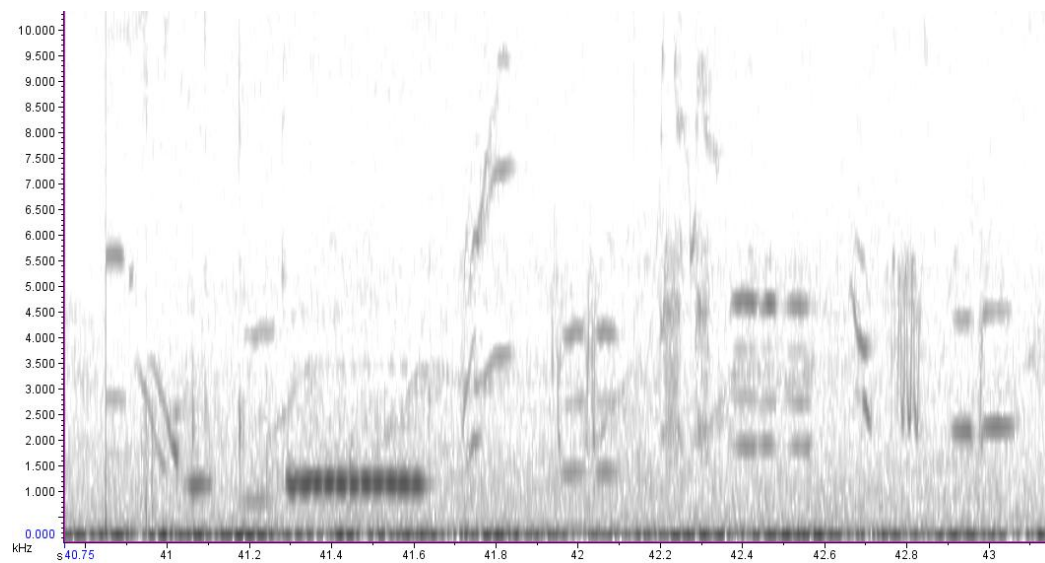
Song 298. December 15th 2010 (12.00h). 1007. Behind Jones Bay.



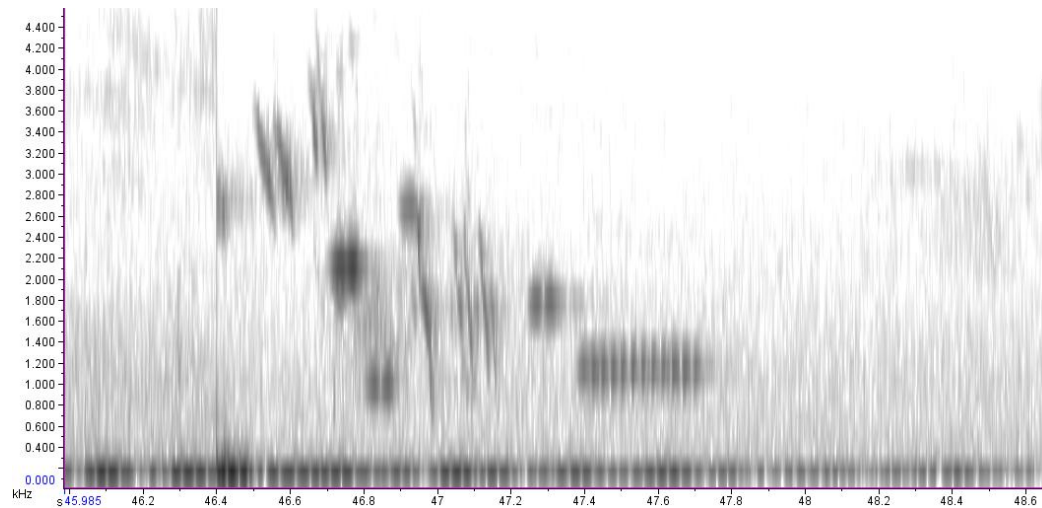
Song 299. December 15th 2010 (12.00h). 1007. Behind Jones Bay.



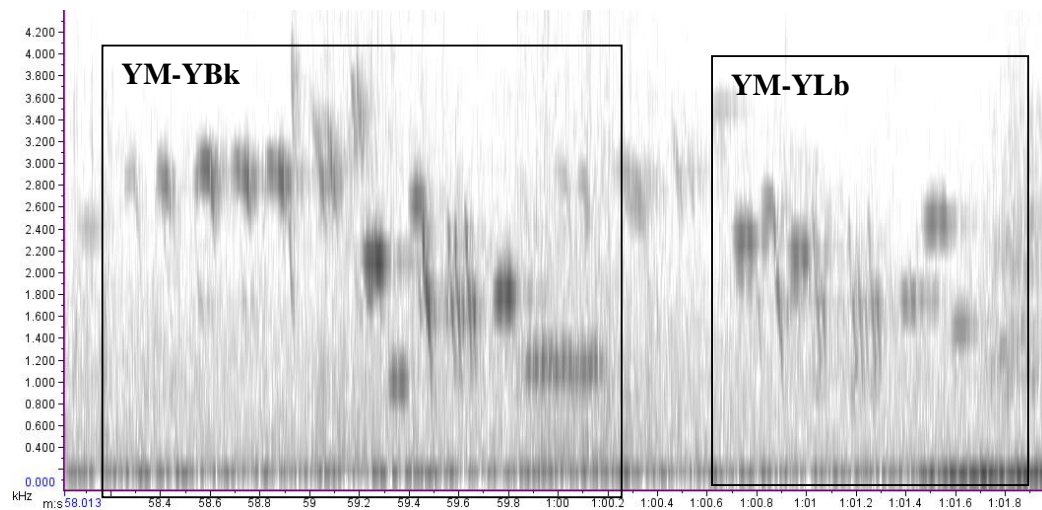
Song 300. December 15th 2010 (12.00h). 1007. Behind Jones Bay.



Song 301. December 15th 2010 (12.00h). 1008. YBk-YM. Top of Jones Bay.



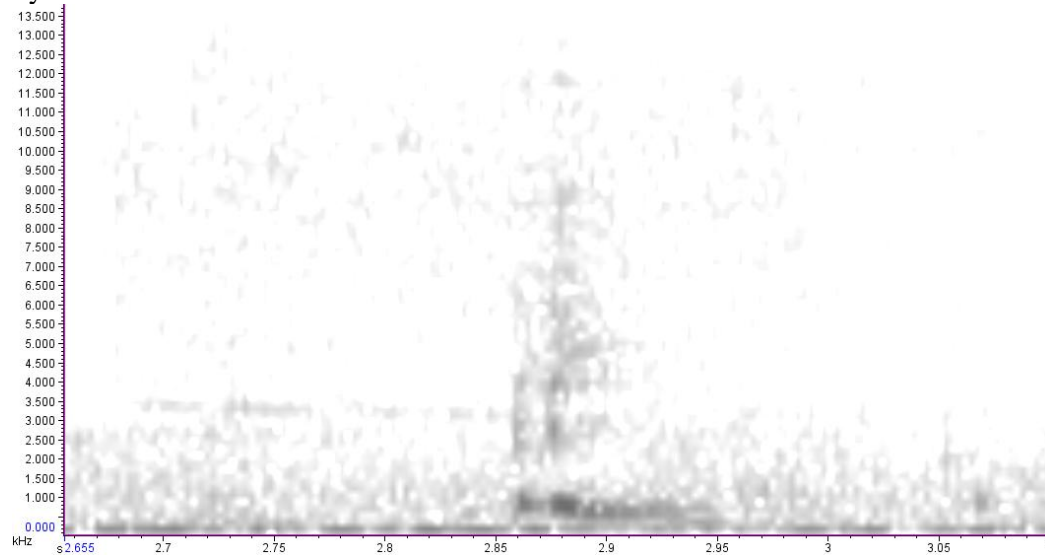
Songs 302-303. December 15th 2010 (12.00h). 1008. YM-YLb (ID: Y14658. 125g male). Two birds chasing each other. Territorial. Top of Jones Bay. Possibly YM-YBk sang the first part of the song below, as it is identical to the one above. YM-YLb sang the second part.



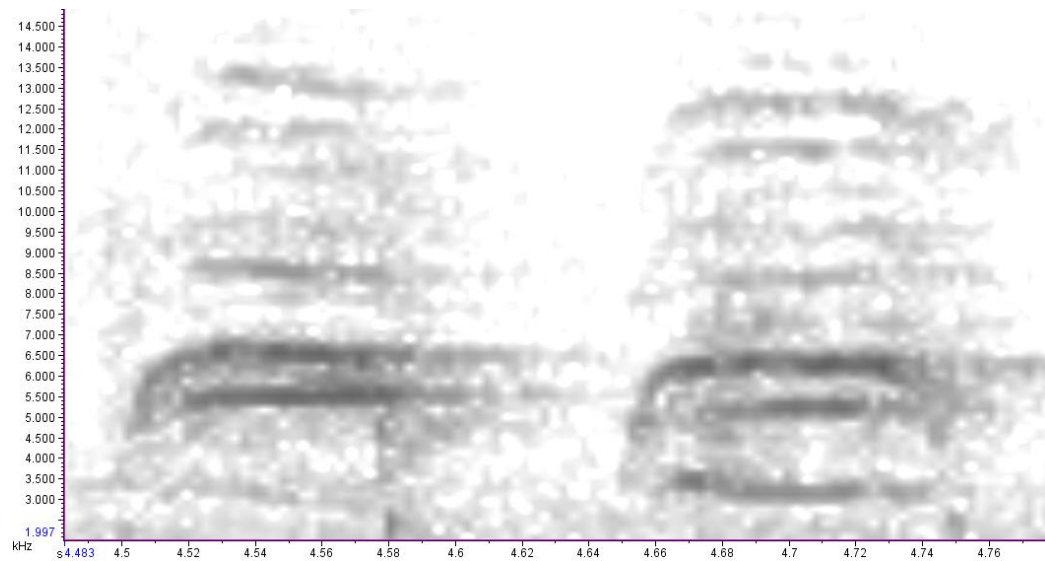
Appendix Two

Appendix 2: The 50 randomly selected songs from Tawharanui (37 breeding and 13 non-breeding season) from which distinctly different syllables observed were counted (For 3.3.2, 3.3.3 and 5.3.2) . Includes syllables from entire data set.

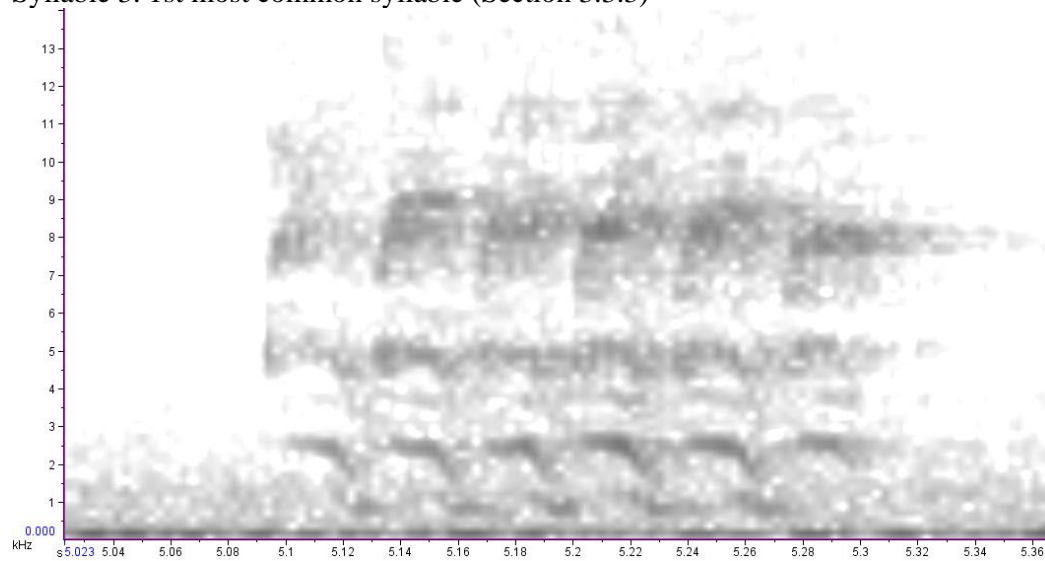
Syllable 1.



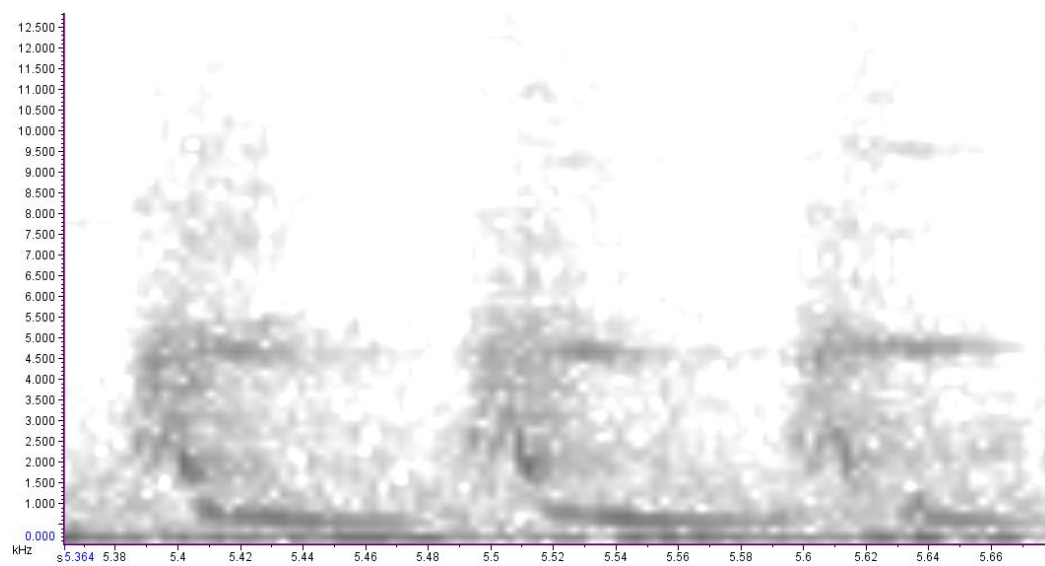
Syllable 2. 2 syllable 2s spanning a broad frequency range.



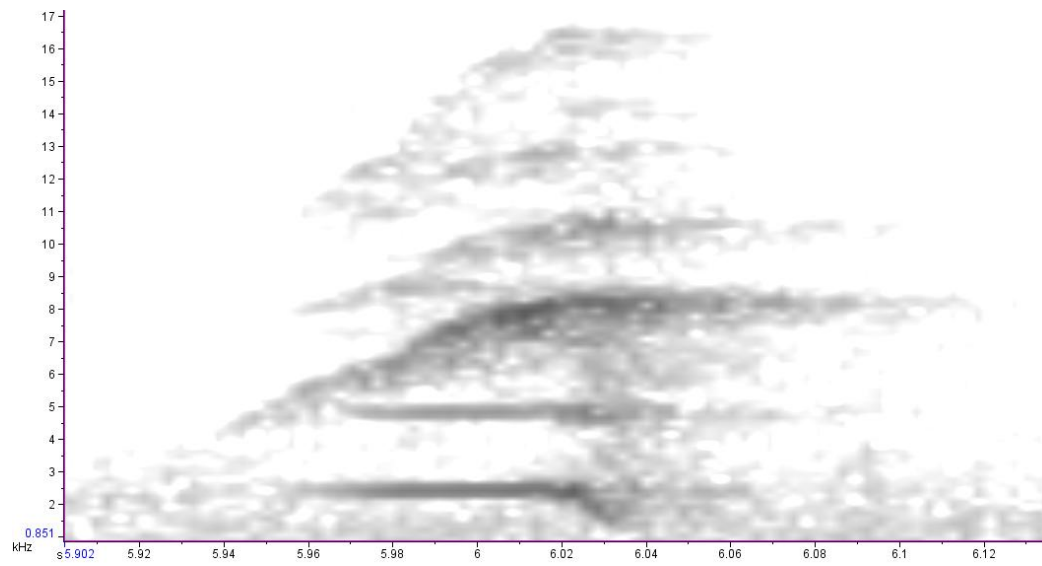
Syllable 3. 1st most common syllable (Section 3.3.3)



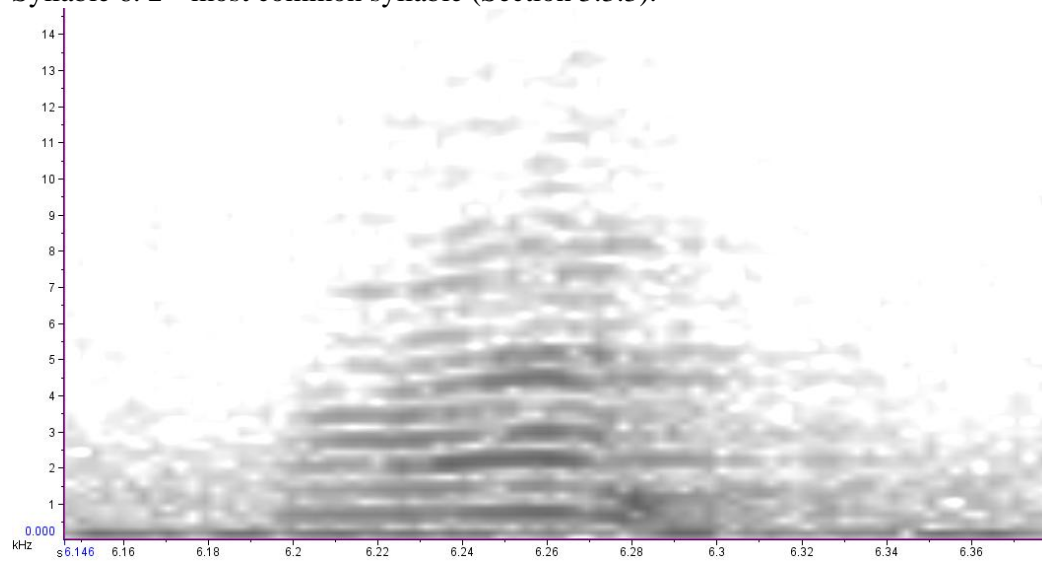
Syllable 4. Consisting of 3 notes.



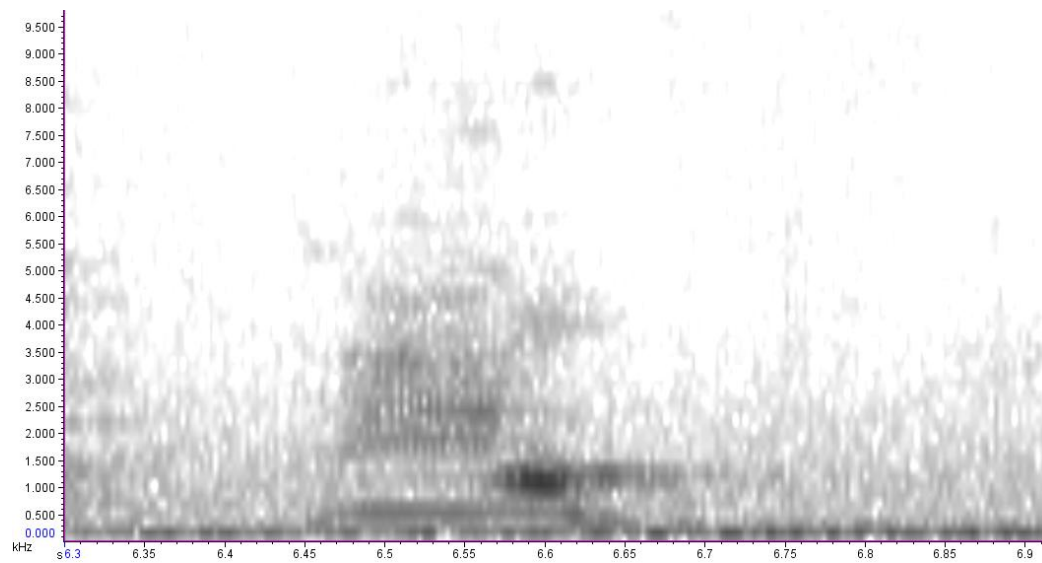
Syllable 5.



Syllable 6. 2nd most common syllable (Section 3.3.3).

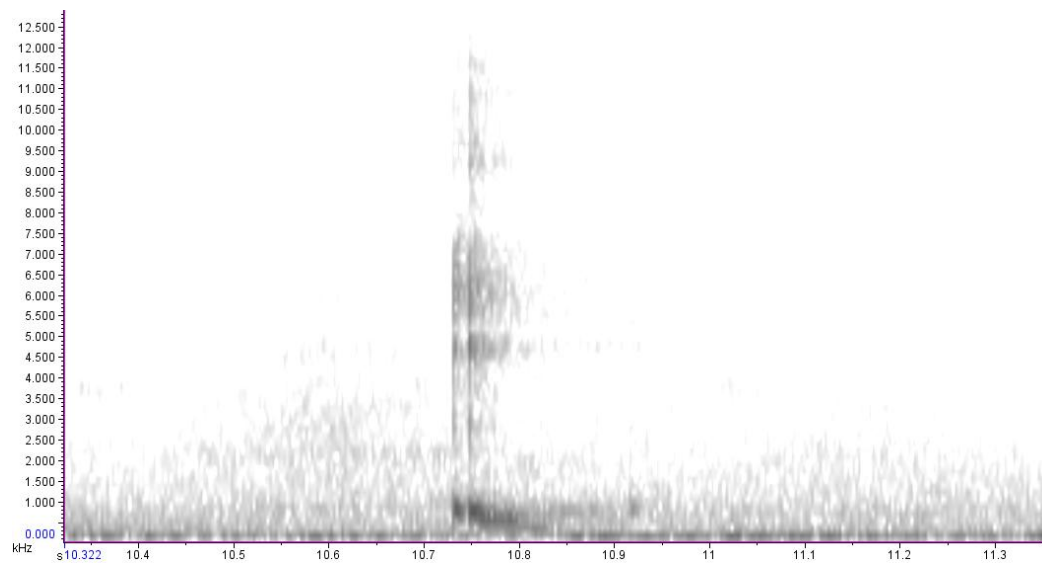


Syllable 7.

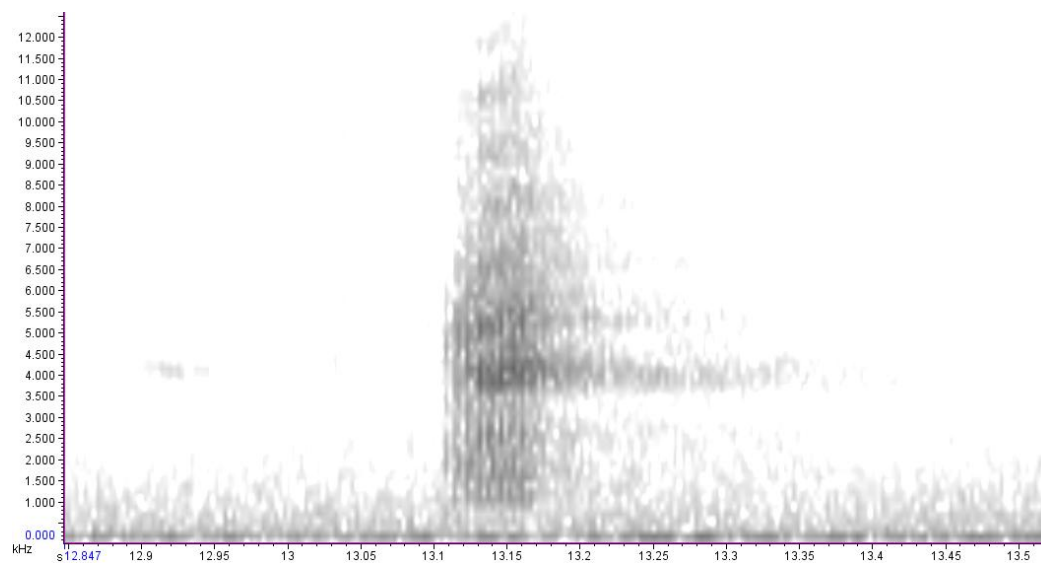


Song 2 - 002-2010-07-26 02_09_42. Non-breeding season. Short-Range

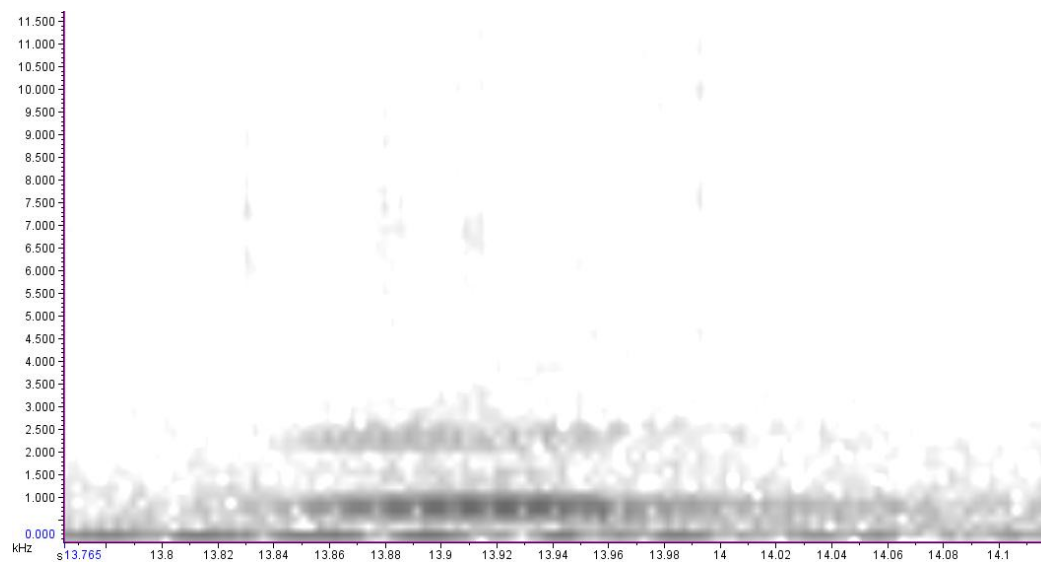
Repeated



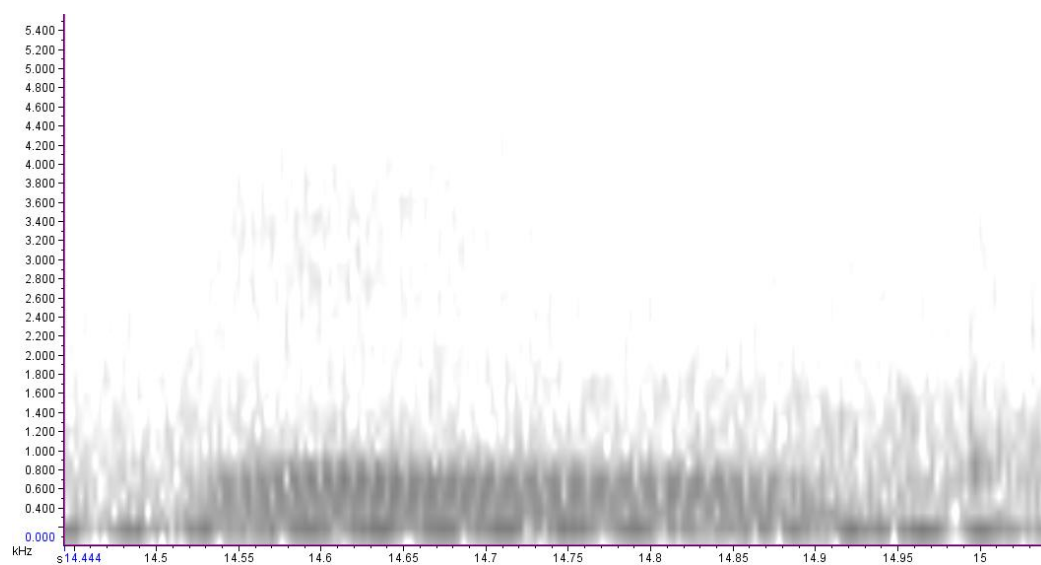
Syllable 8



Syllable 9.



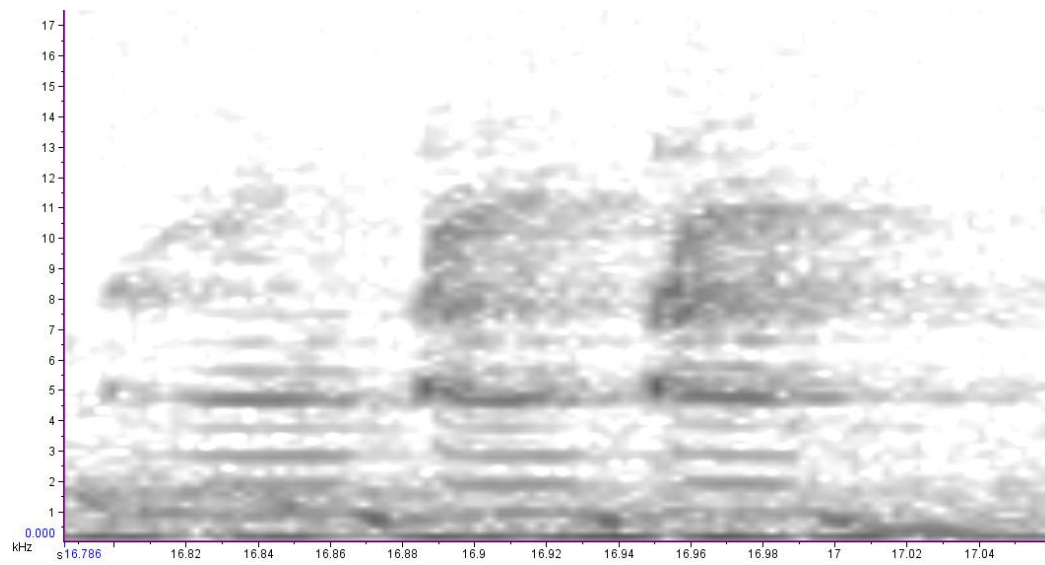
Syllable 10.



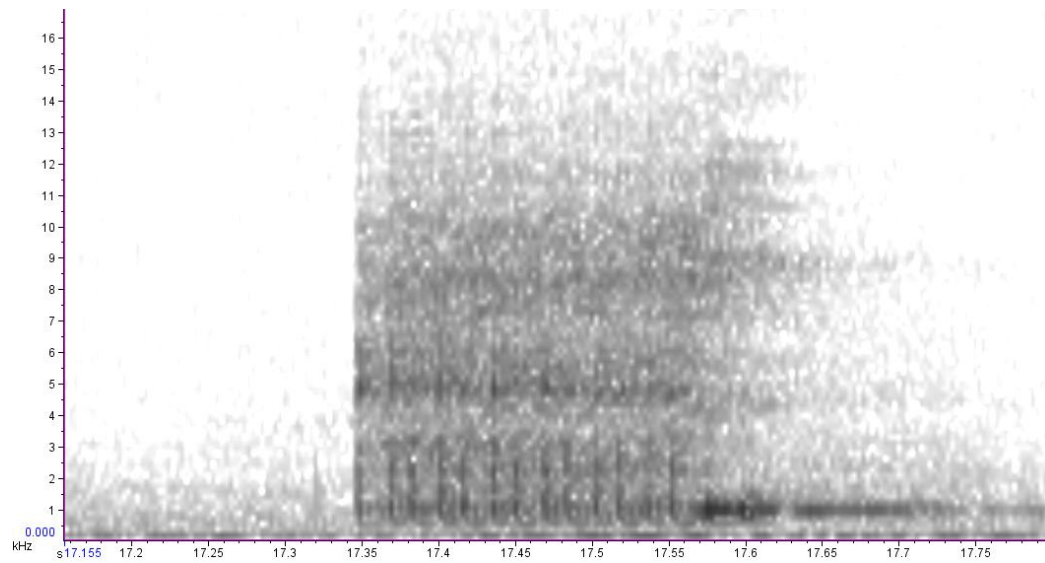
Syllable 11. Overlap makes it one syllable.



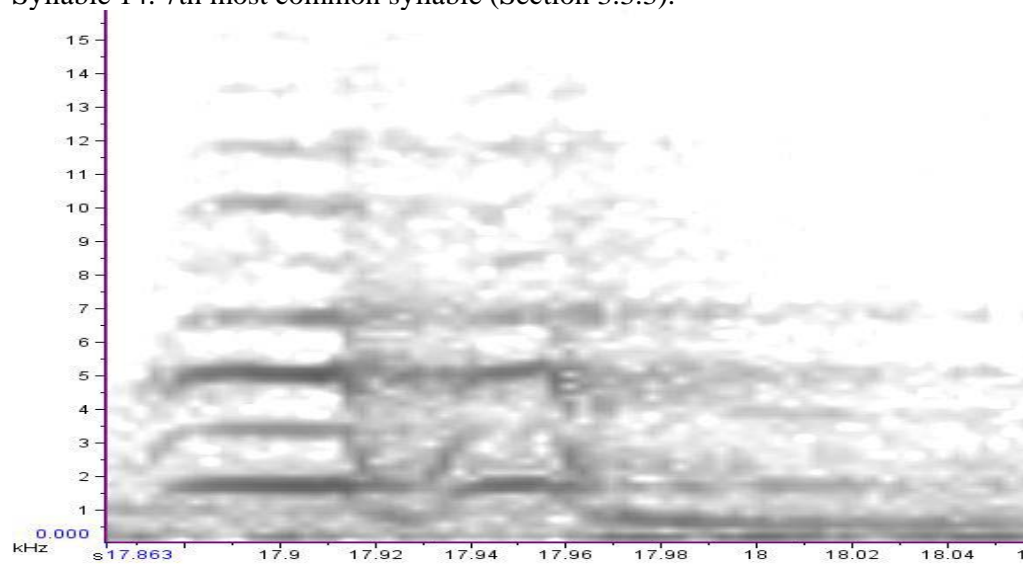
Syllable 12. 9th most common syllable (3.3.3)



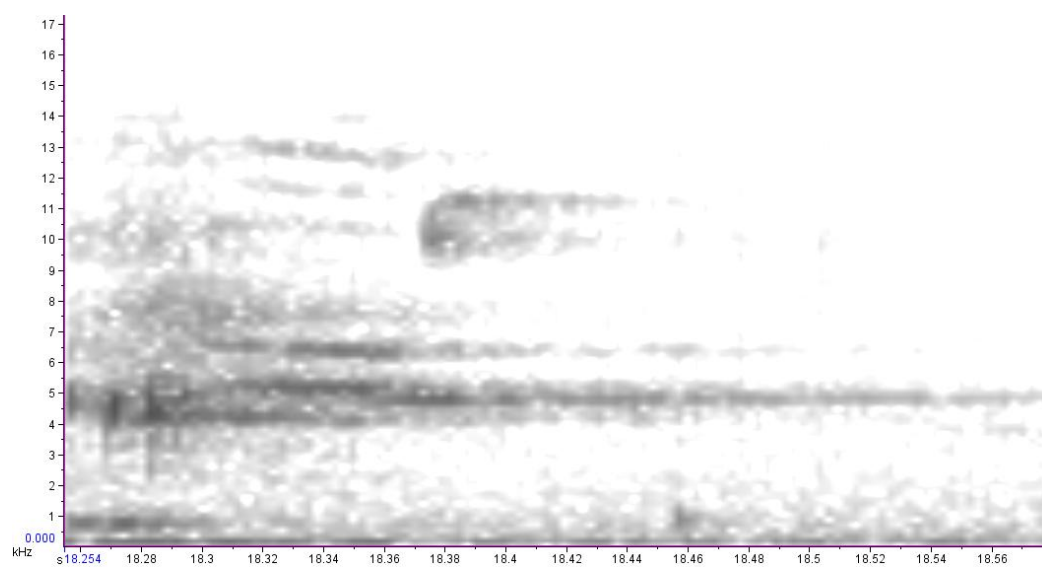
Syllable 13. A pop sound, often heard in the Ecology Bush, Tawharanui.



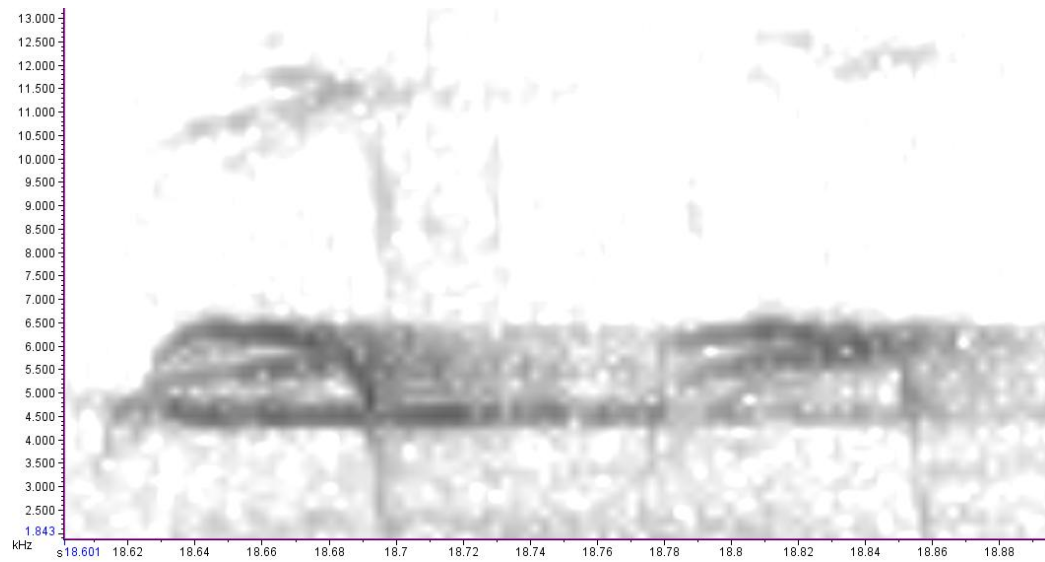
Syllable 14. 7th most common syllable (Section 3.3.3).



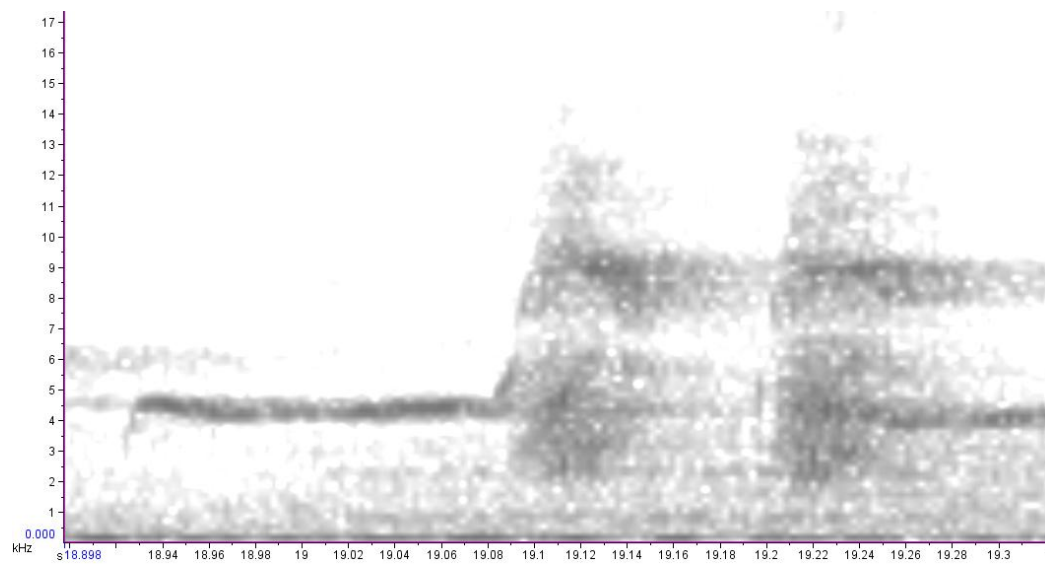
Syllable 15.



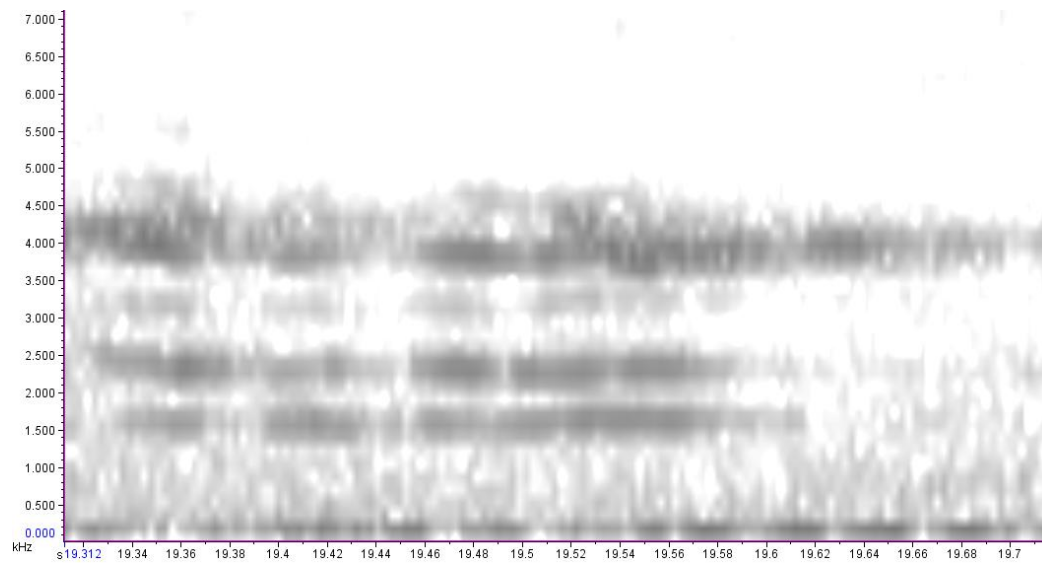
Syllable 16.



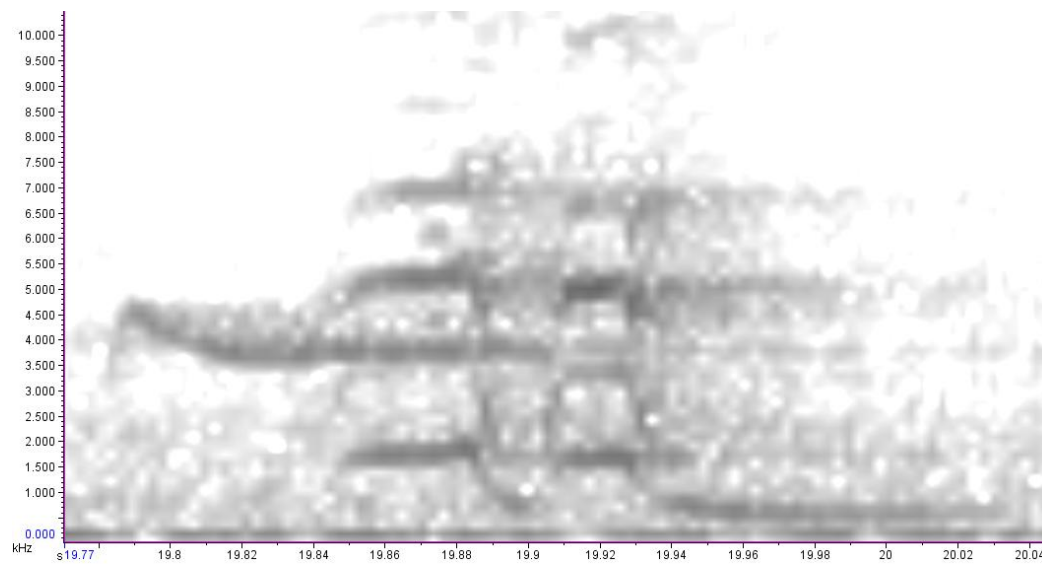
Syllable 17



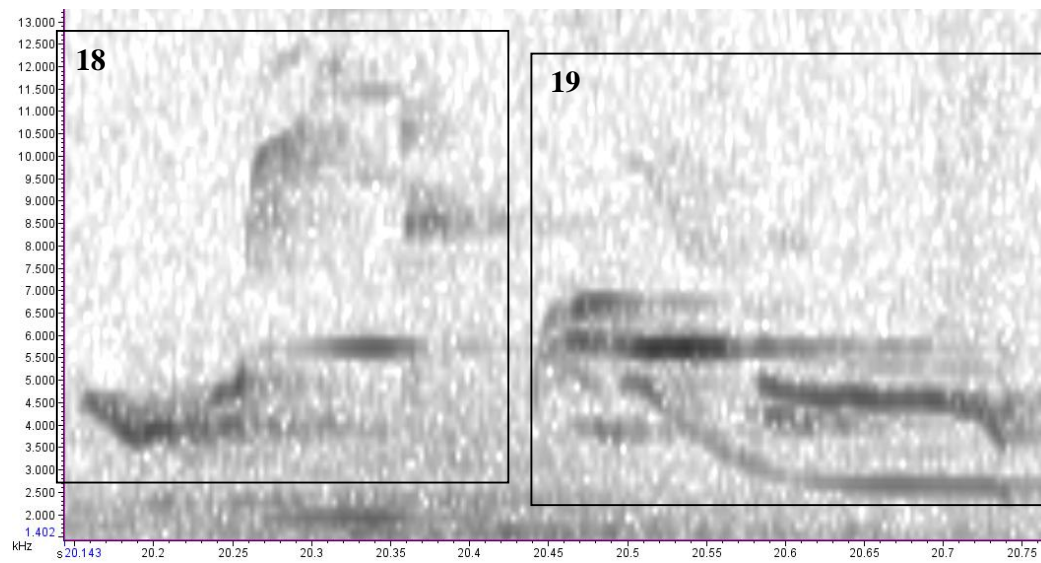
Repeated



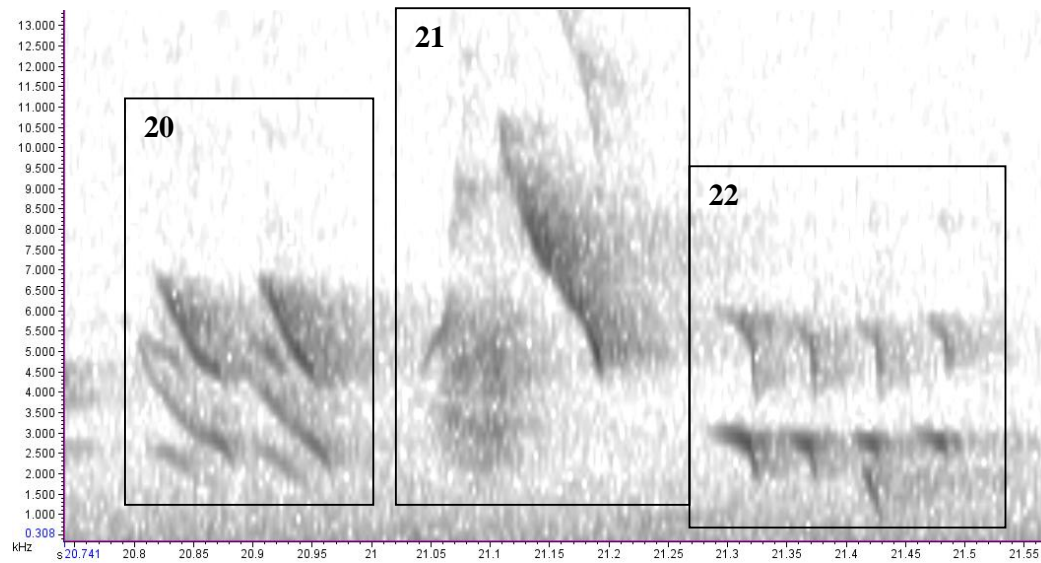
Repeated



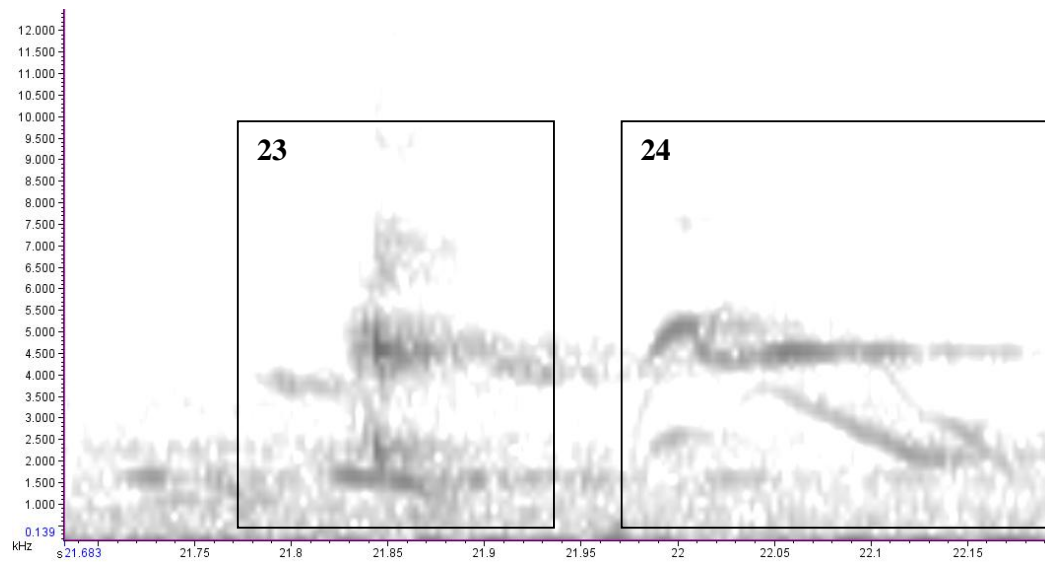
Syllable 18 and 19.



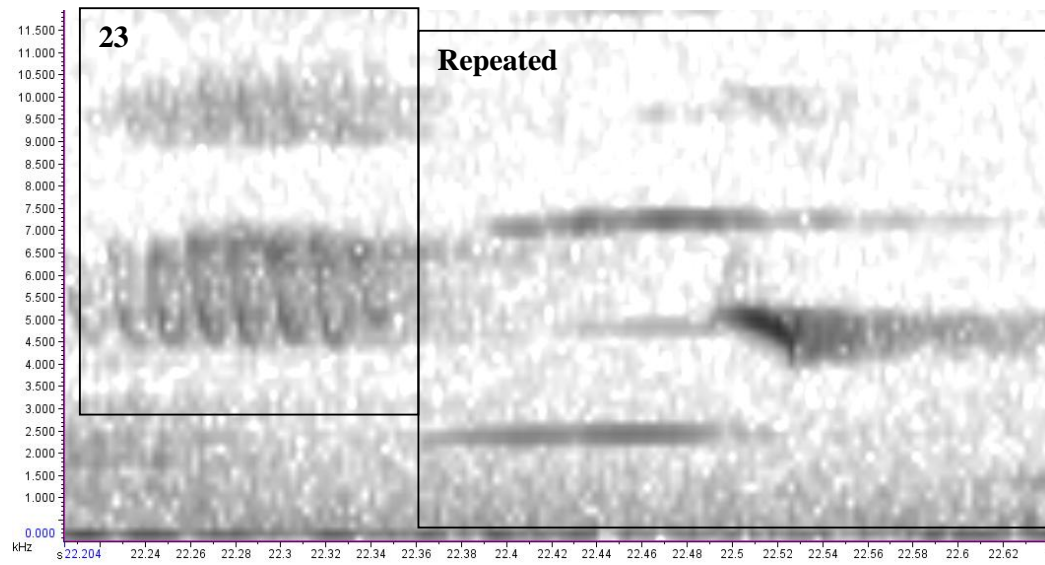
Syllables 20-22



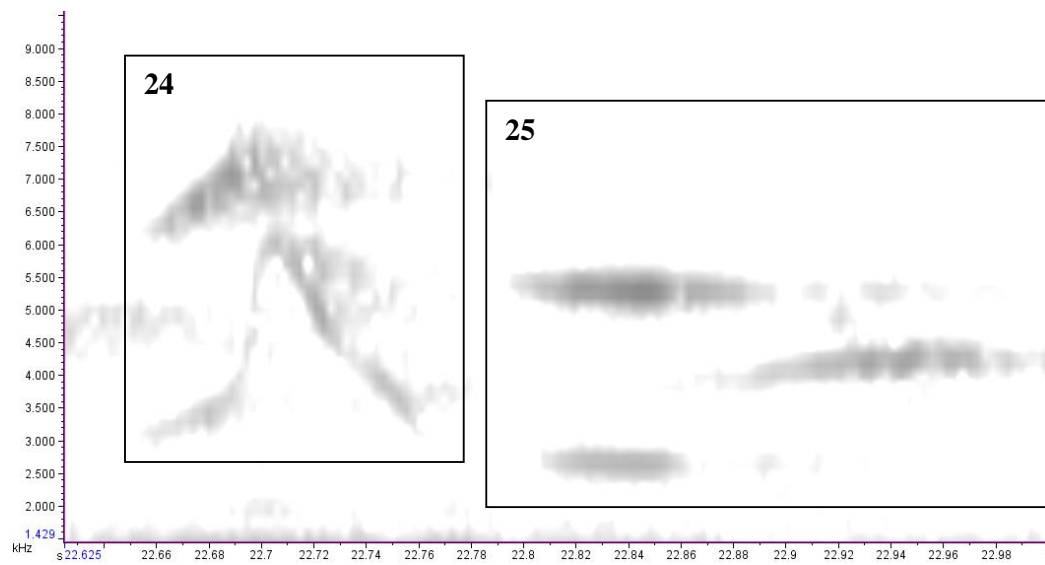
Syllables 21 and 22.



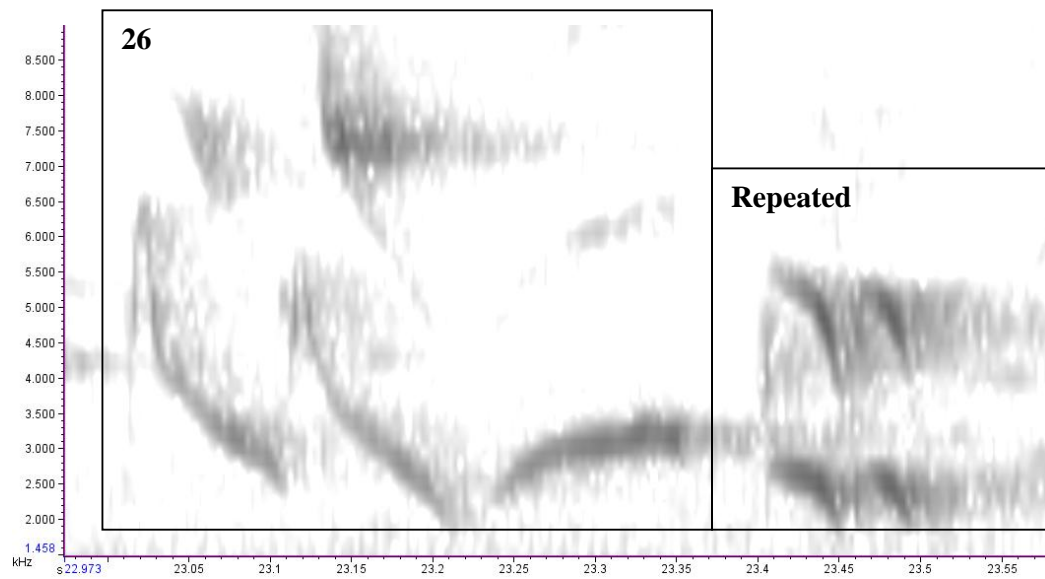
Syllables 23



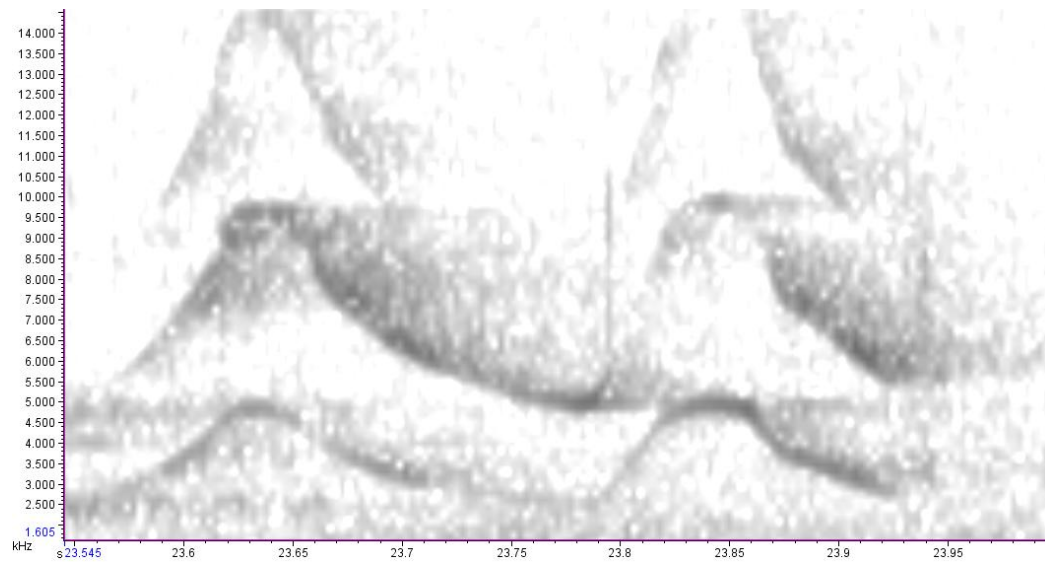
Syllables 24 and 25



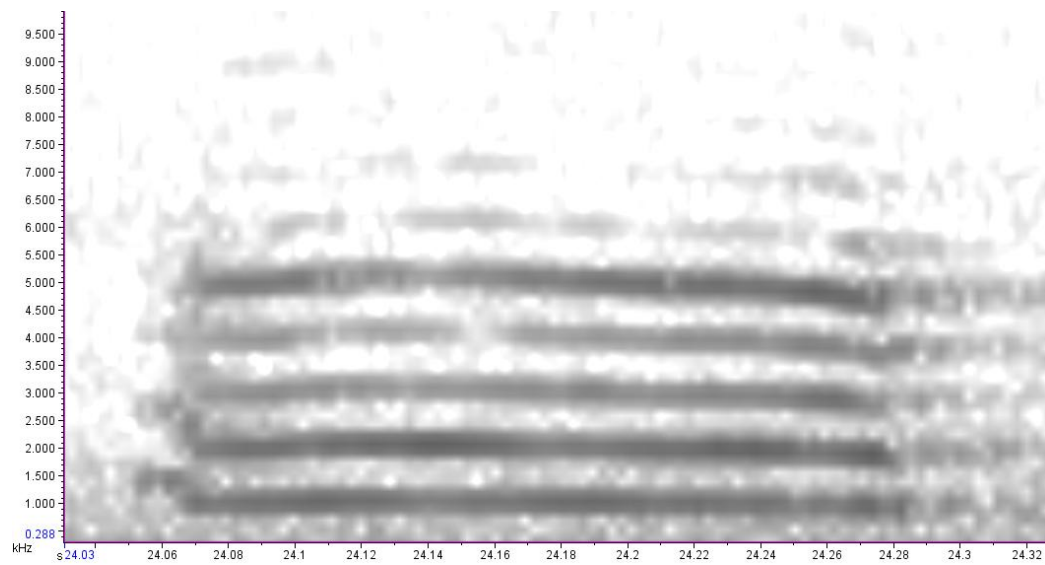
Syllables 26 and 27. Syllable 26 is considered one syllable due to overlap.



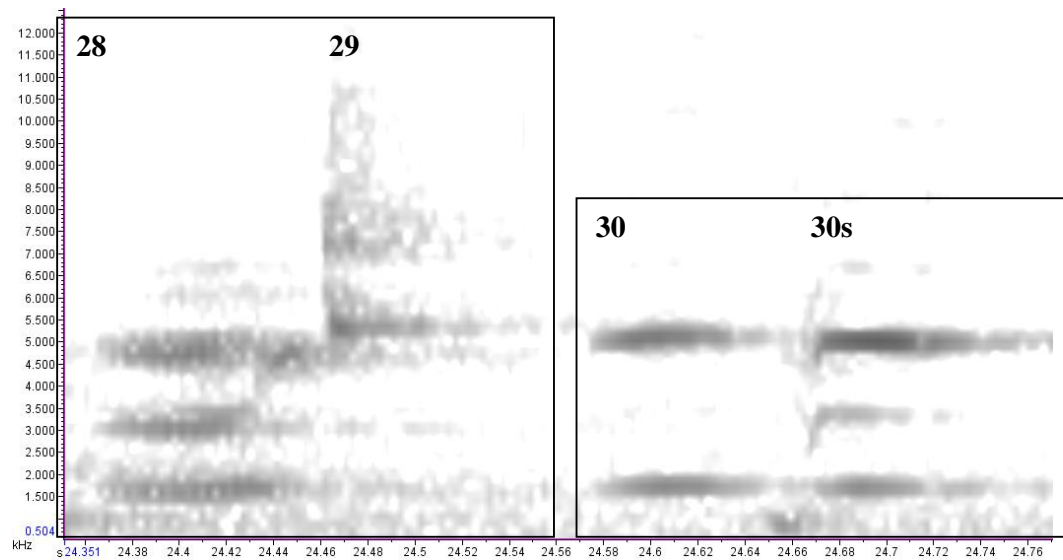
Syllable 27. Considered one syllable due to overlap within the two notes.



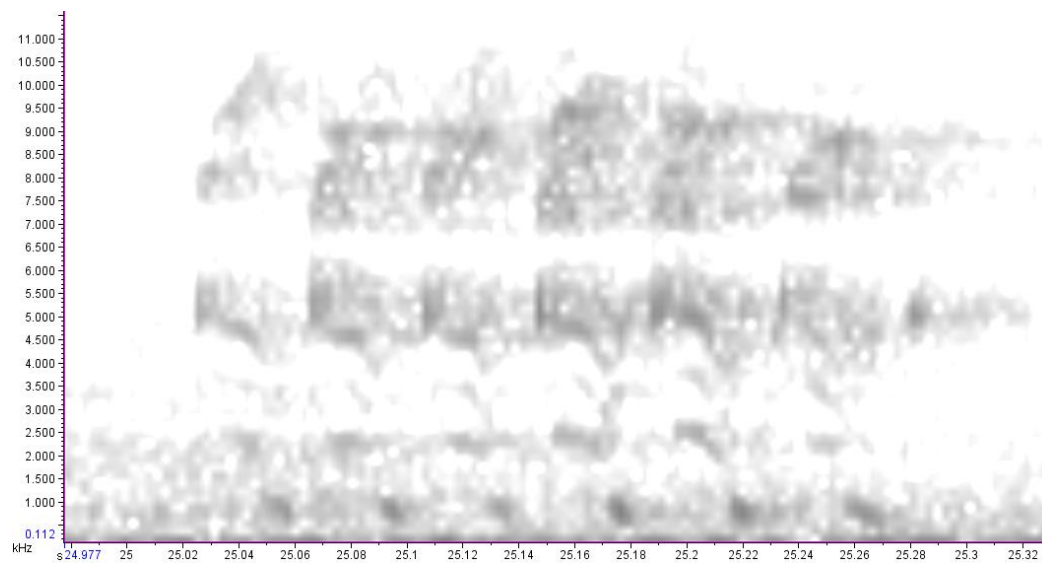
Repeated. Harmonic syllable sounding similar to an alarm call syllable.



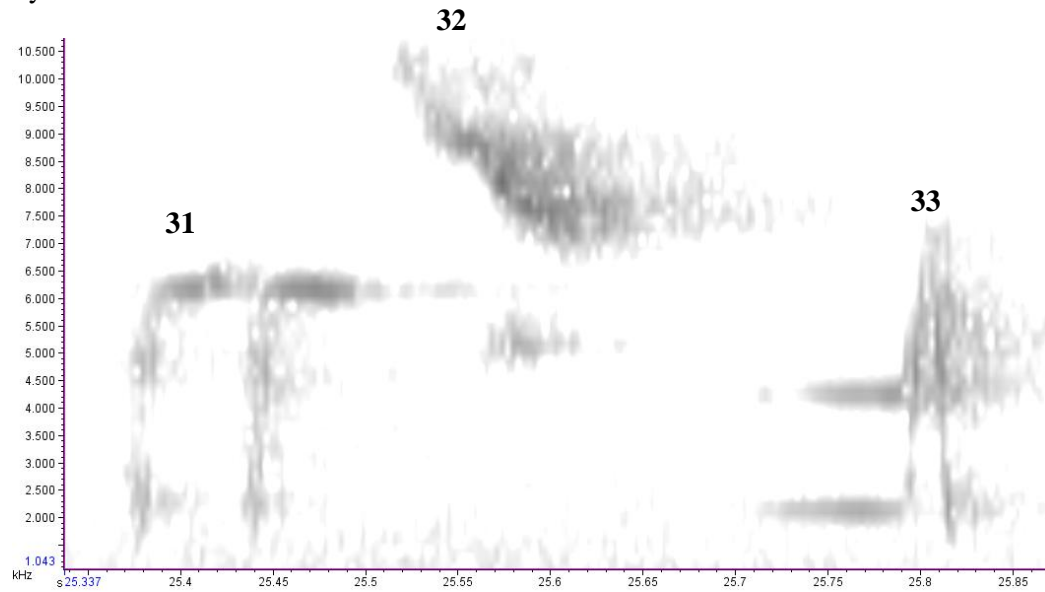
Syllable 28-30.



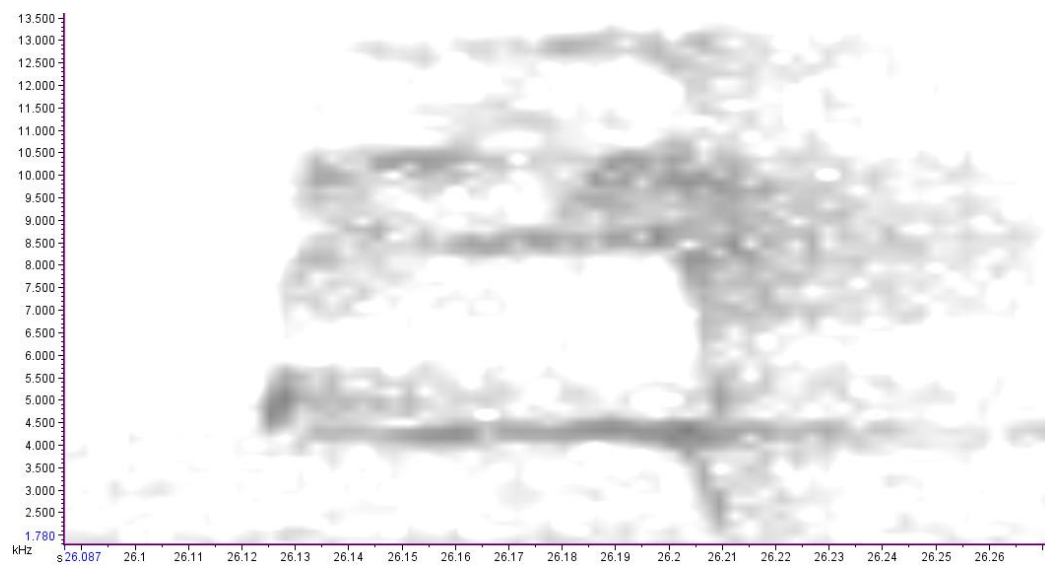
Repeated



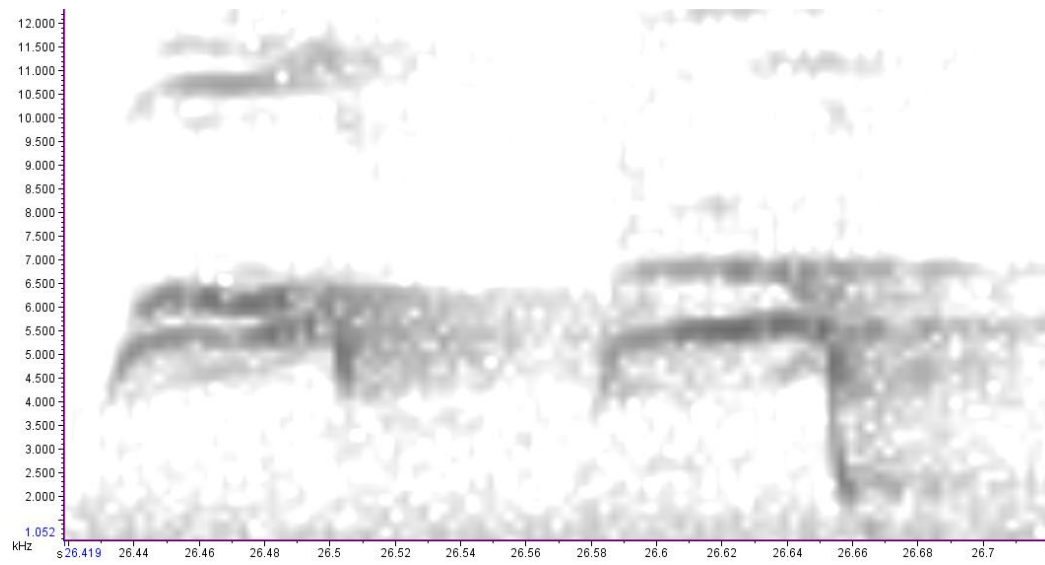
Syllable 31-33.



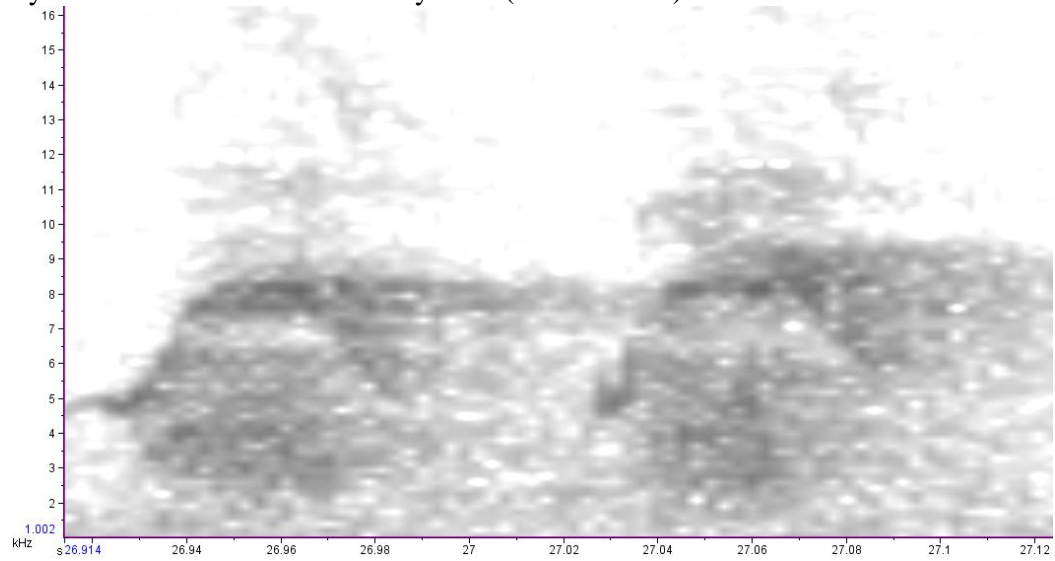
Syllable 34. 14th most common syllable (Section 3.3.3)



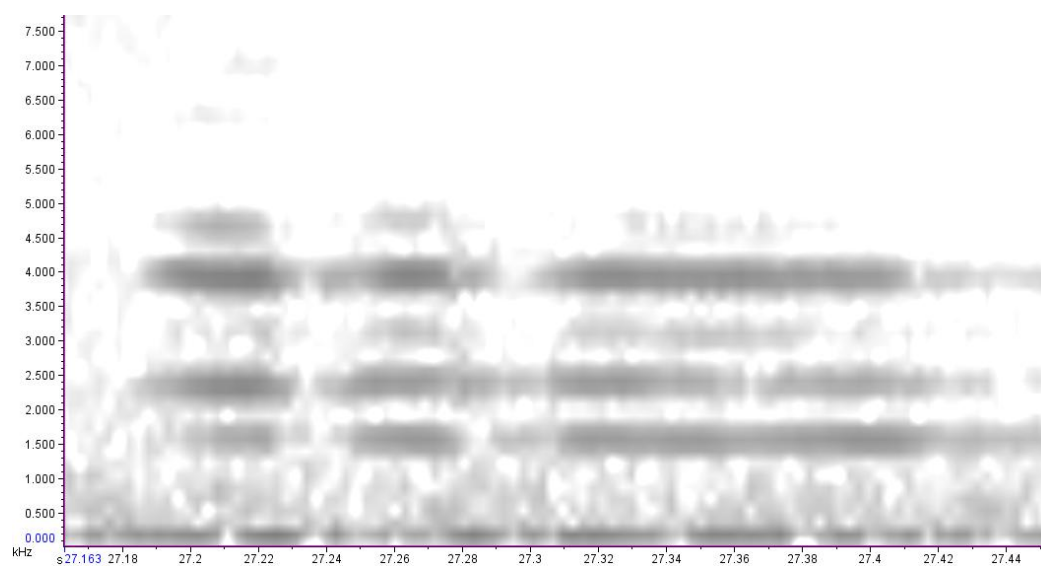
Repeats.



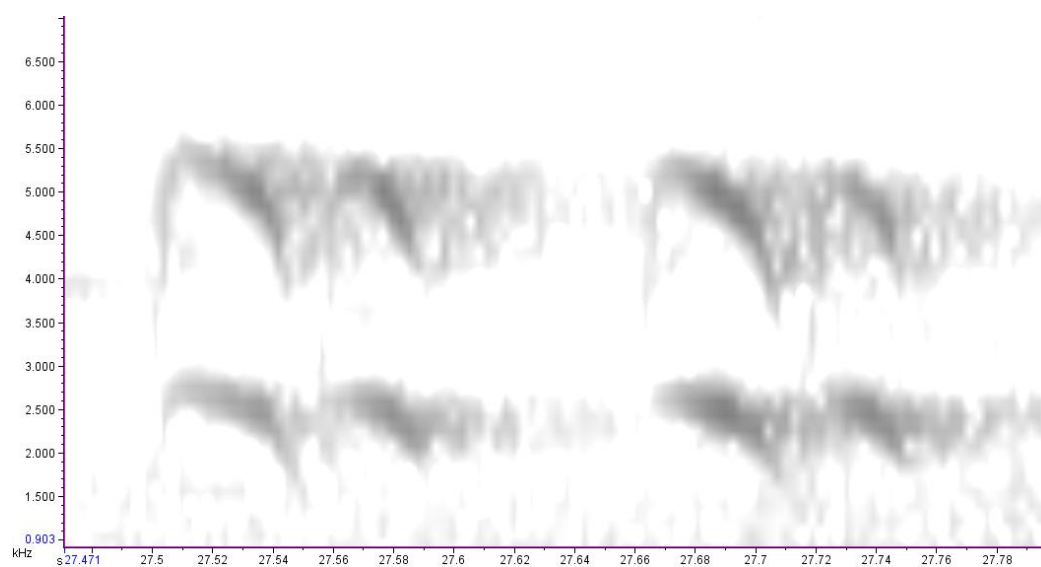
Syllable 35. 10th most common syllable (Section 3.3.3)



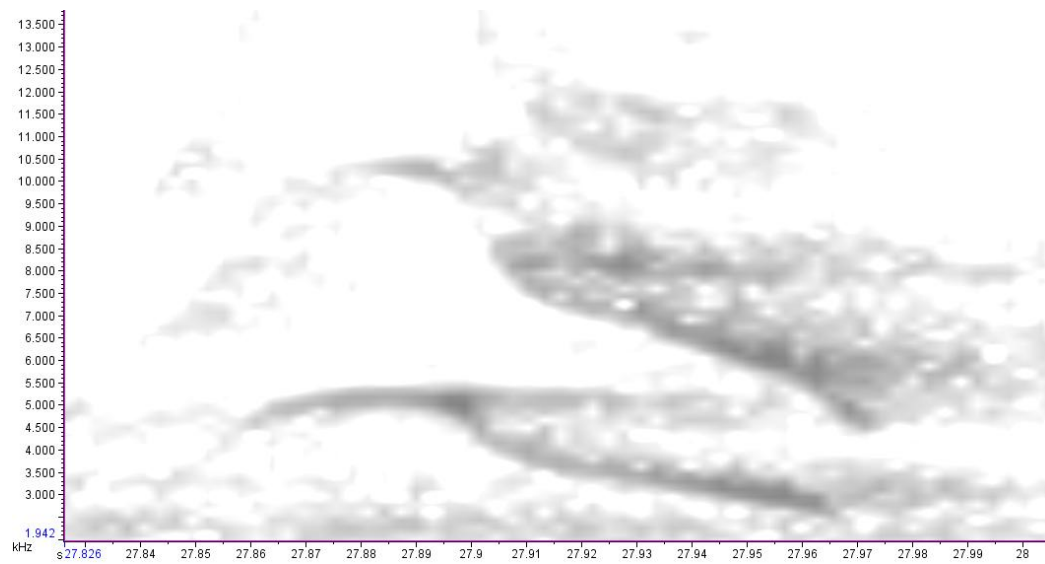
Repeated



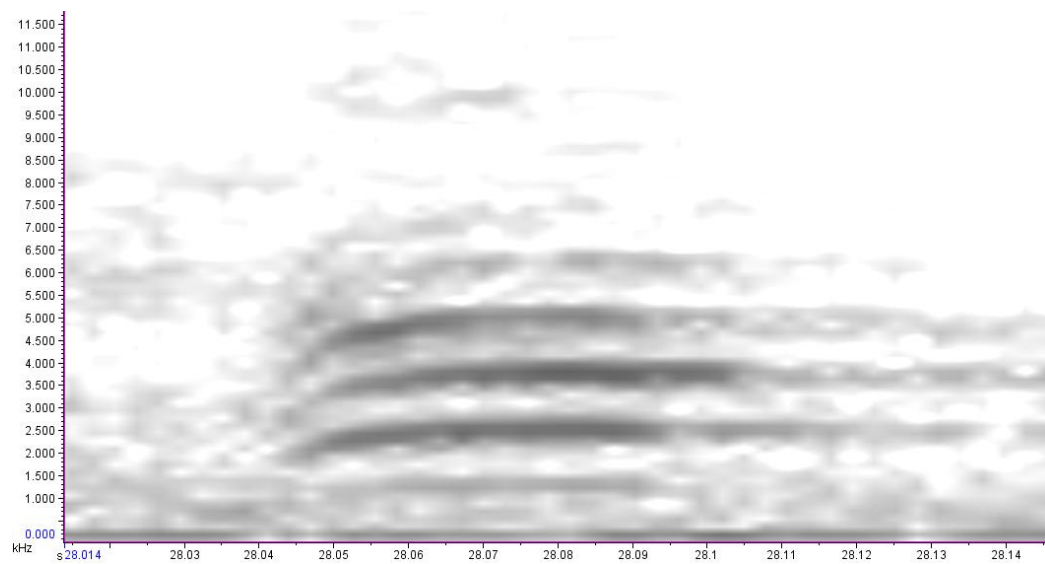
Repeated



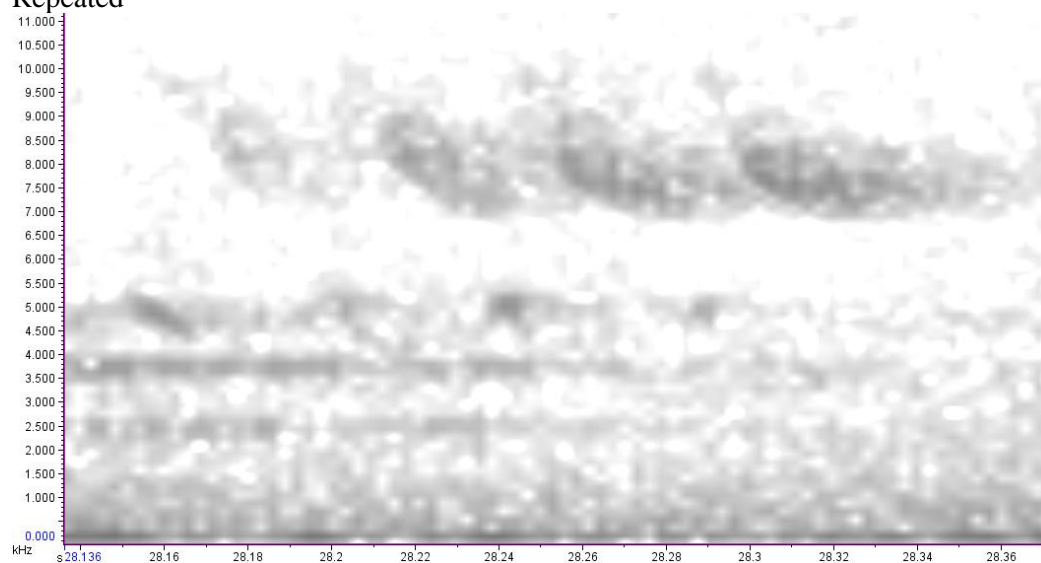
Repeated



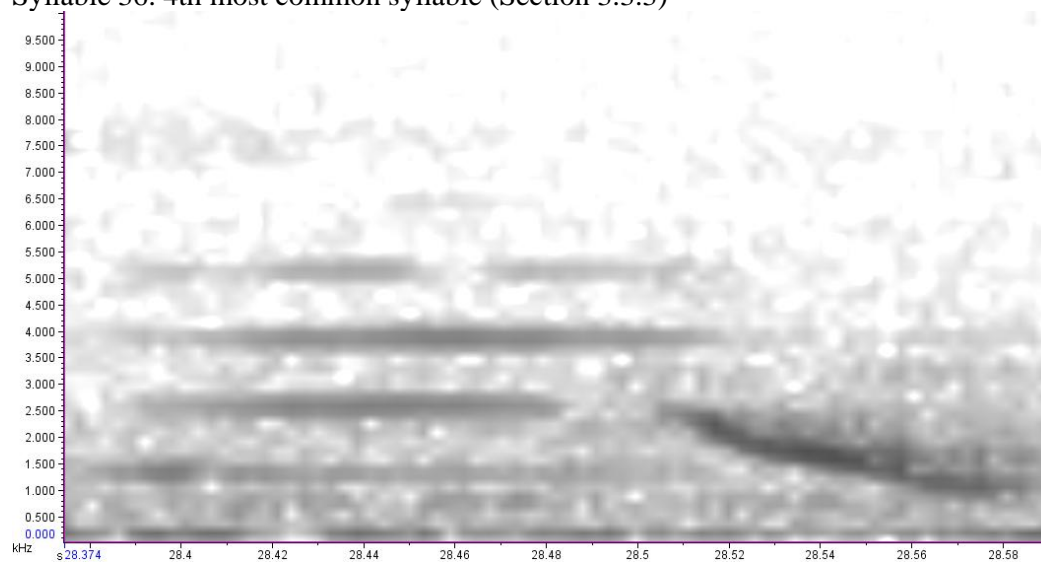
Repeated



Repeated

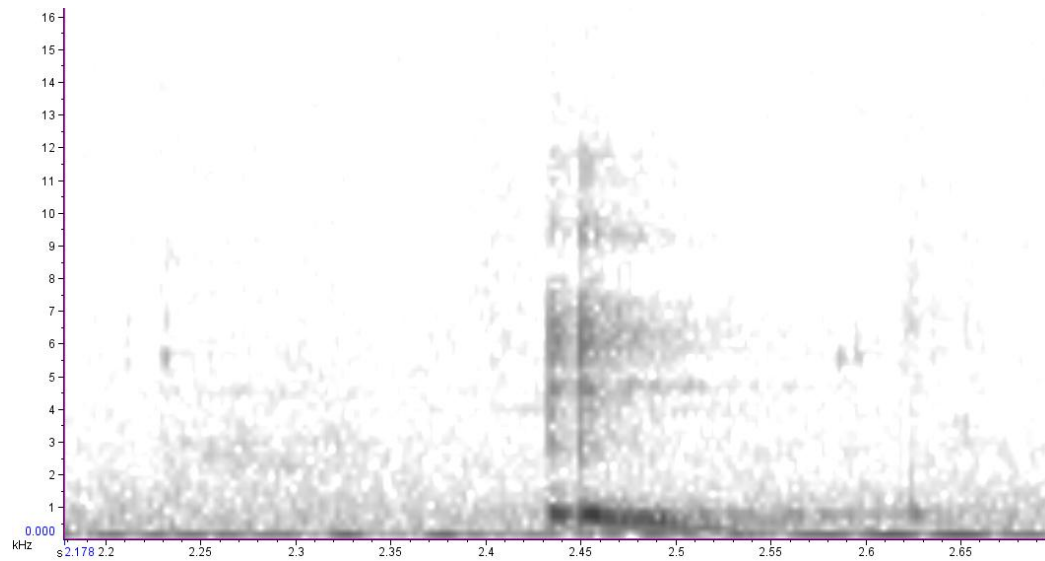


Syllable 36. 4th most common syllable (Section 3.3.3)

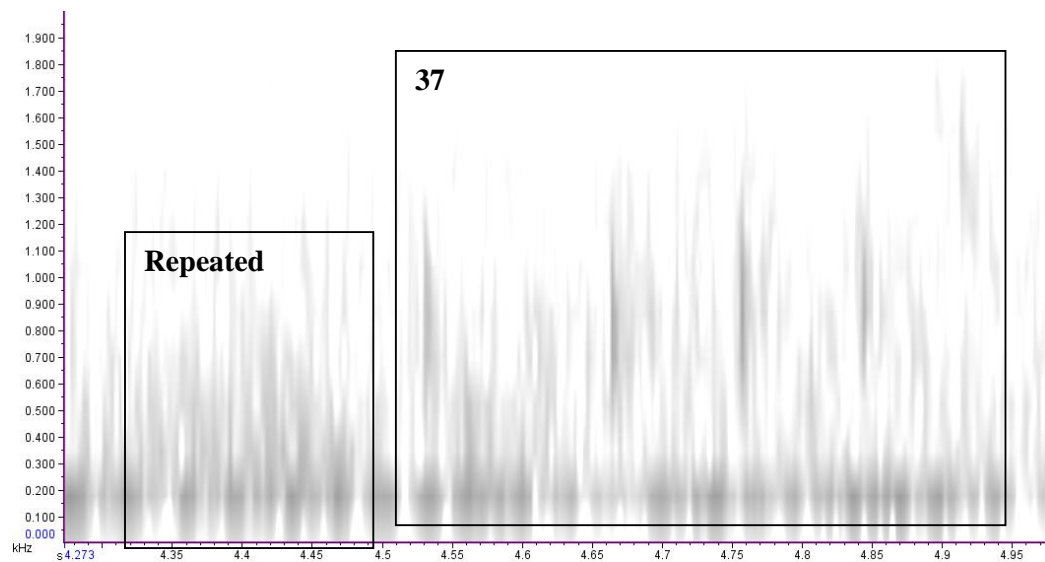


Song 3 - 004-2010-07-26 02_09_43. Non-breeding season. Long-Range

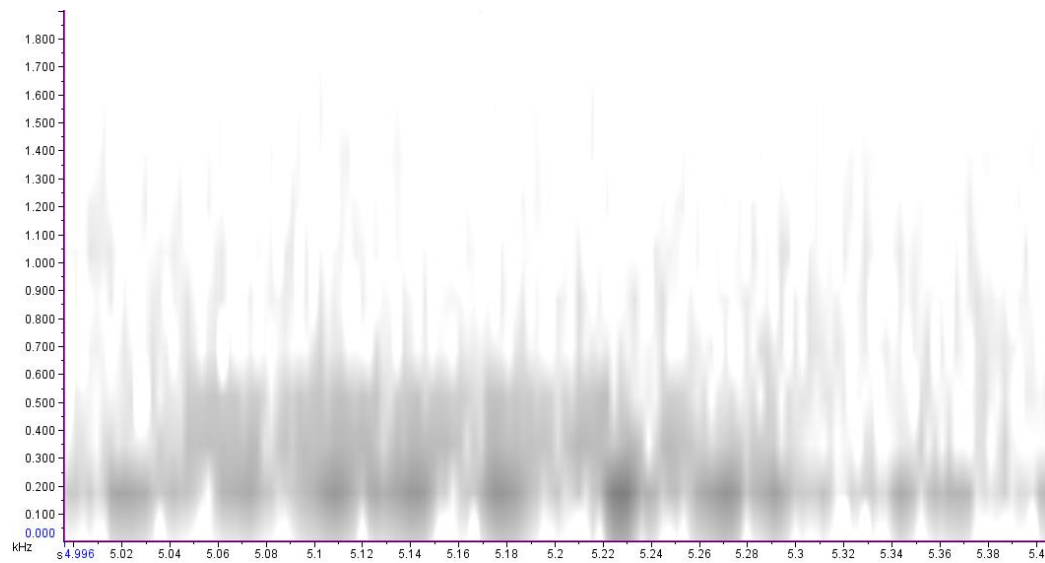
Repeated



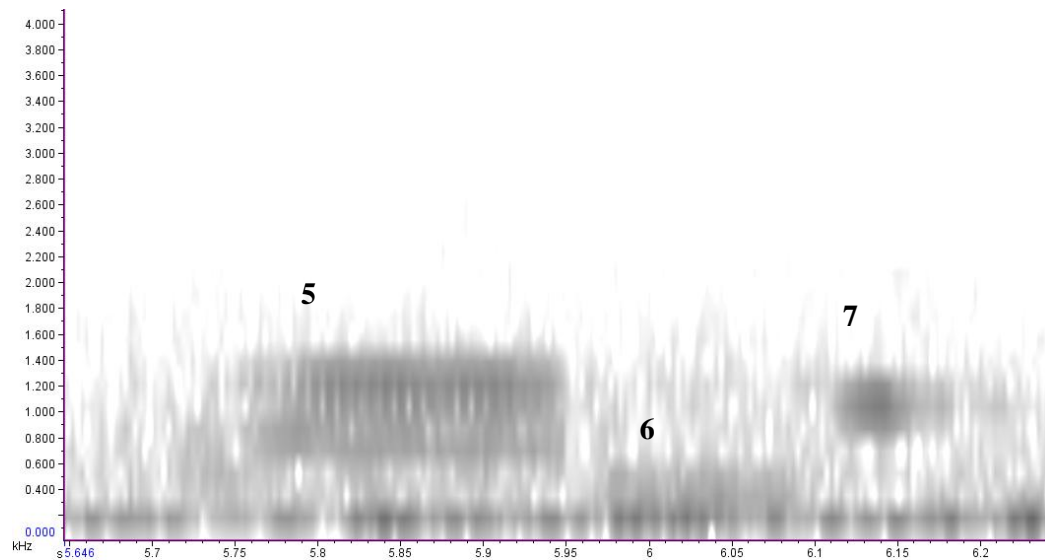
Repeated and Syllable 37. The first a very low frequency syllable, followed by an ascending kok-kok-kok (syllable 37), consisting of 5 notes, culminating in the last note being a higher pitched sound. Syllable 37 is 5th most common syllable (Section 3.3.3)



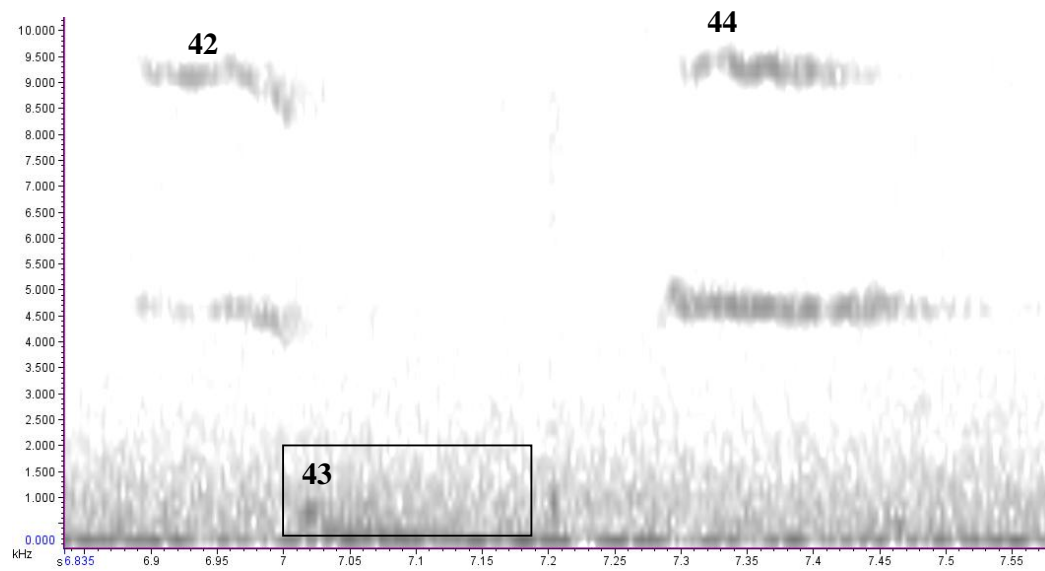
Syllable 38.



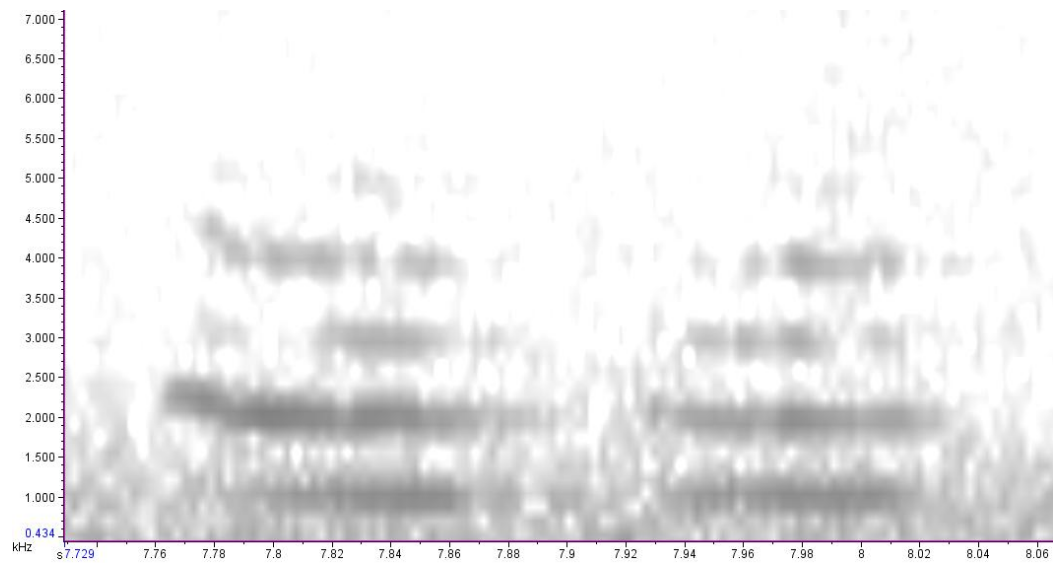
Syllable 39-41. Often heard together in Ecology Bush. A common Ecology Bush 'phrase'. Usually heard at the beginning of a song in Ecology Bush.



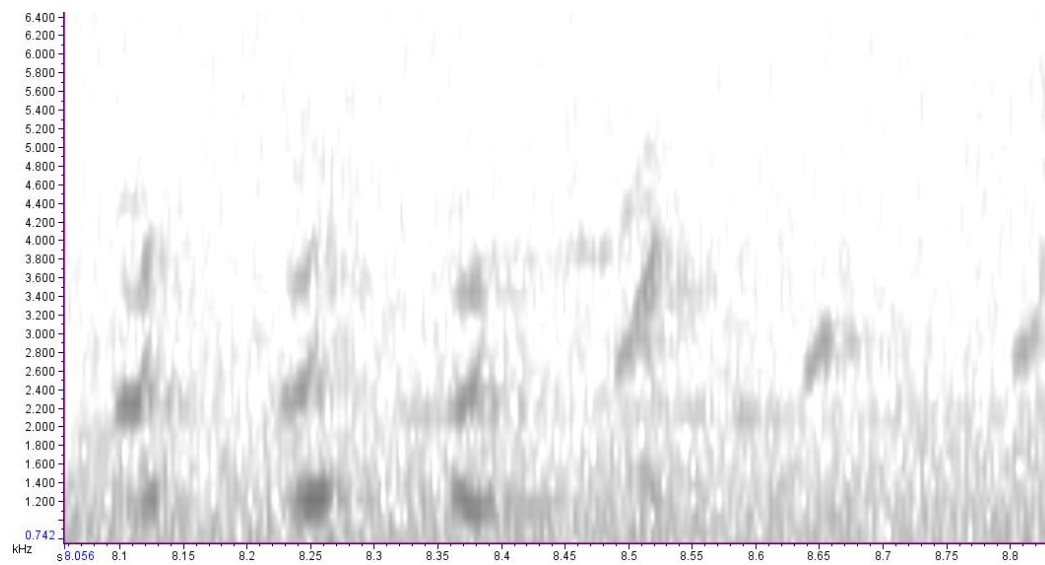
Syllables 42, 43 and 44. Syllable 43 is a subtle syllable.



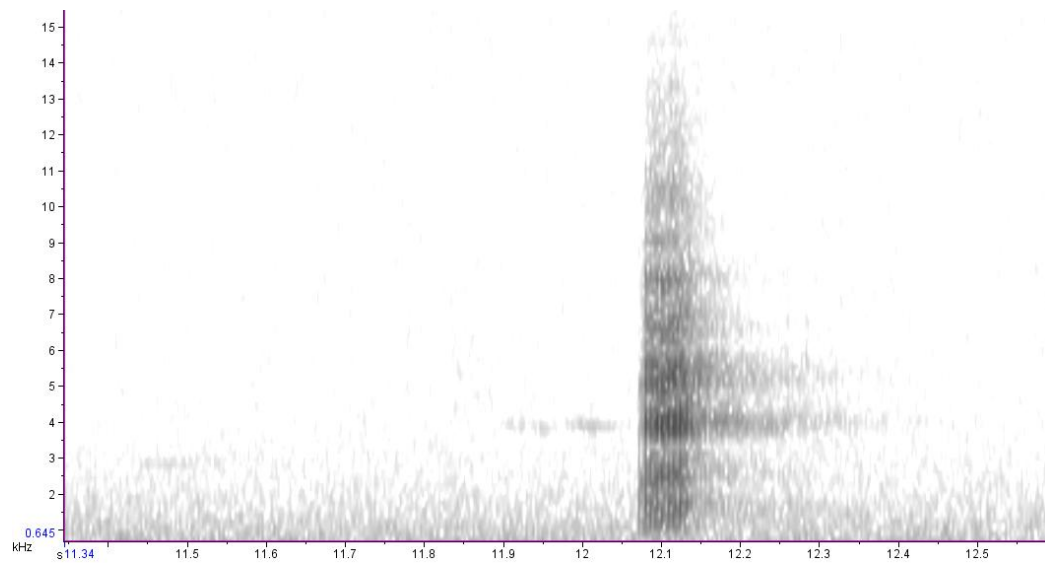
Repeated



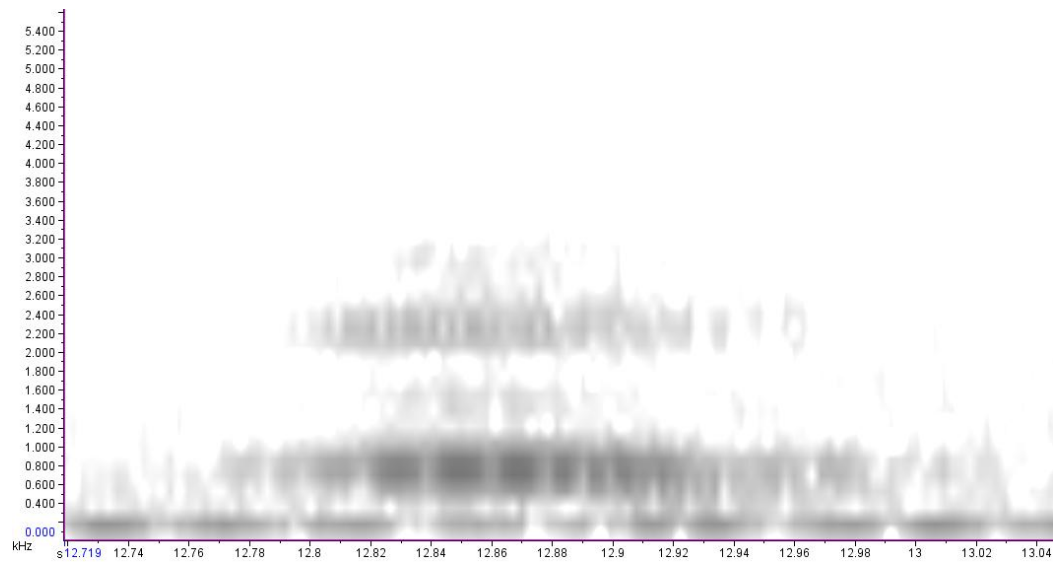
Syllable 45. All considered part of the same syllable due to similar structures, syllable orientation and a consistent interval between the notes, as well as being sung consecutively.



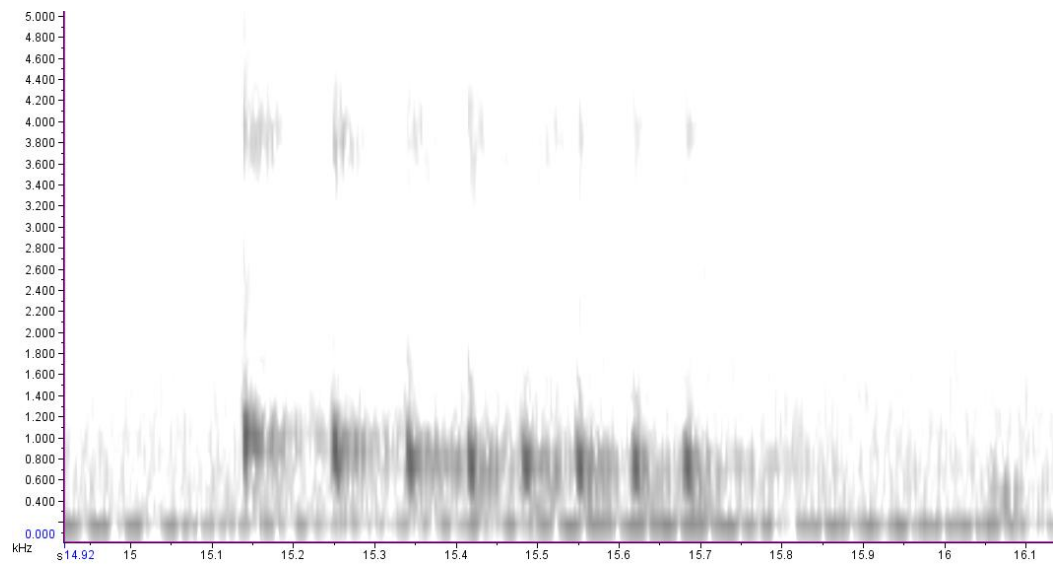
Repeated



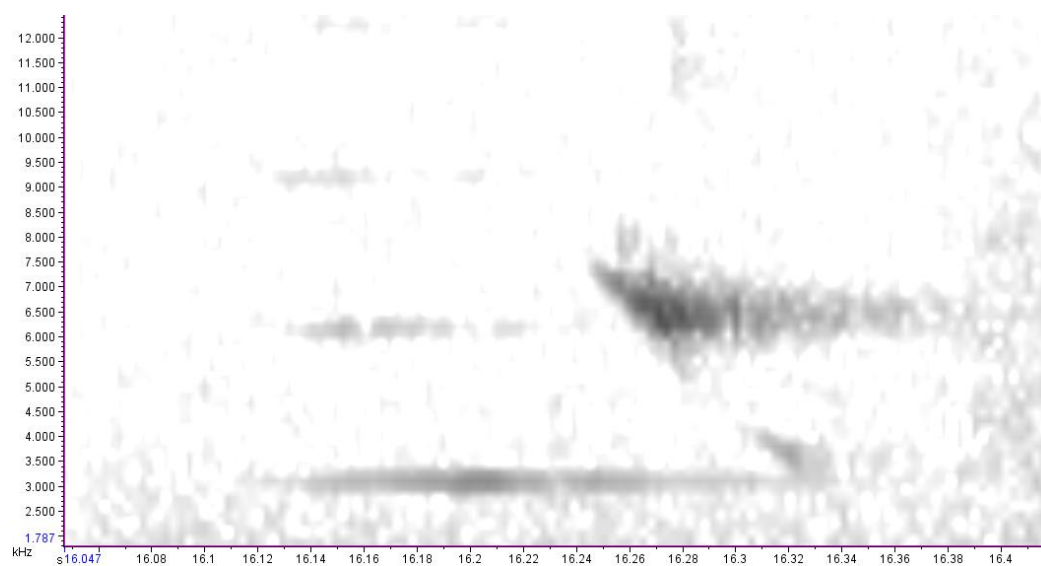
Repeated. A harmonic 'whoa'.



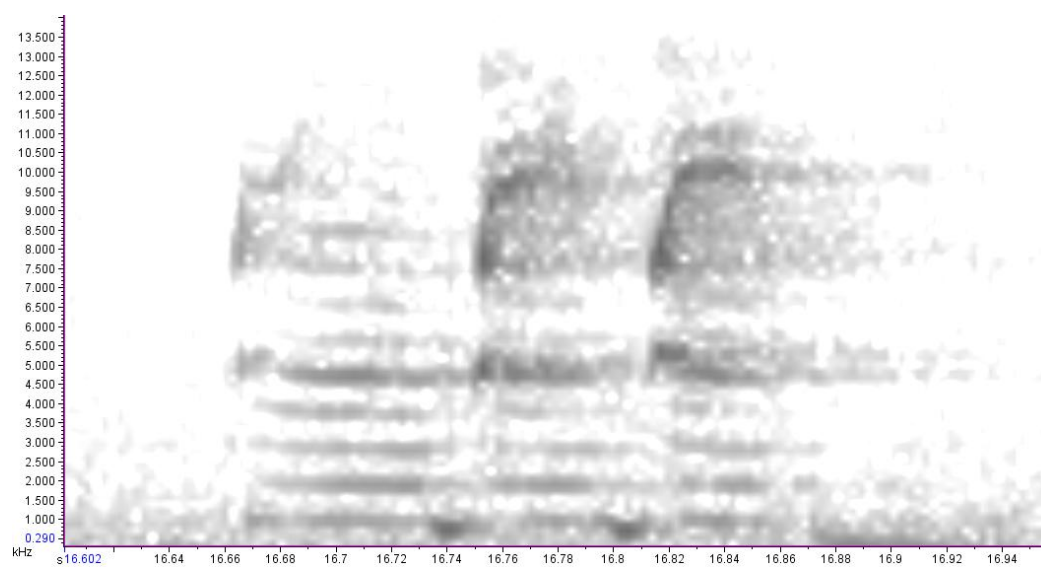
Repeated. The common Ecology Bush 'kok-kok-kok' syllable. This particular one consists of 8 consecutive 'koks'. The number of 'kok's varies.



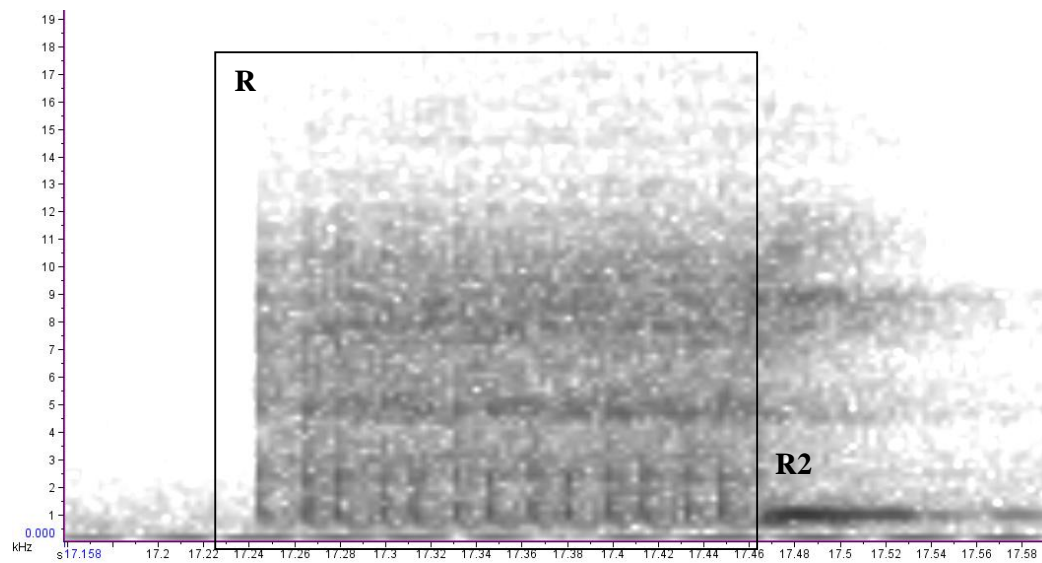
Repeated



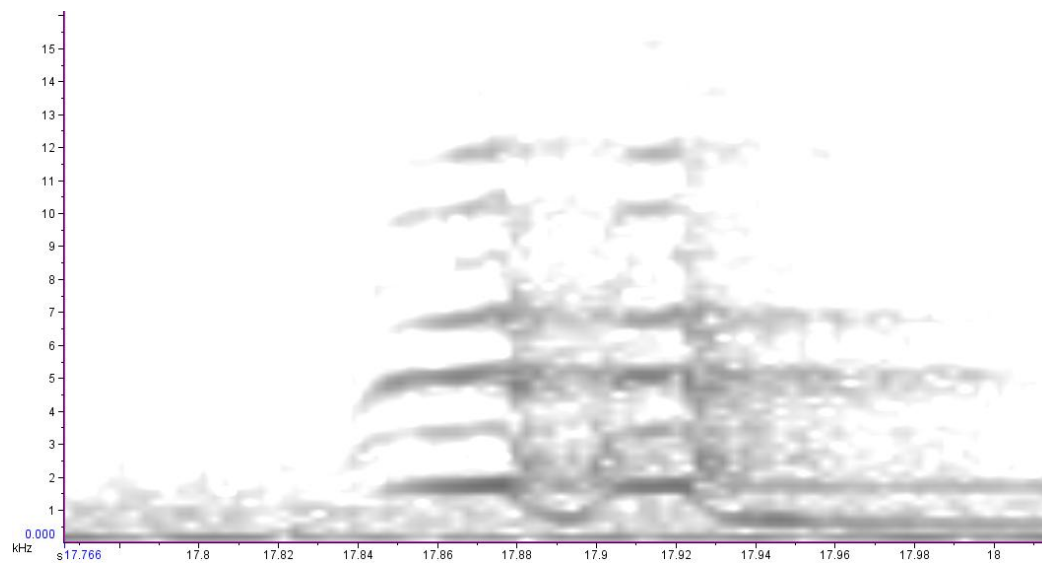
Repeated



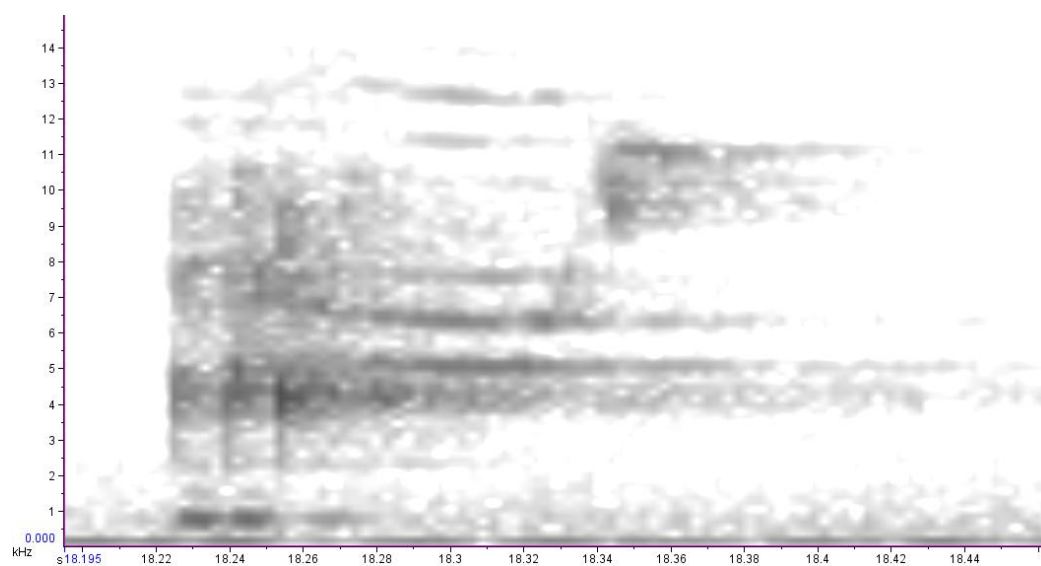
Repeated. Cork-popping syllable. Syllable R2 is the cork-popping syllable, preceded immediately by the 'scrape' sounding syllable. These often occur together but are two different syllables due to the very different sound of both to each other.



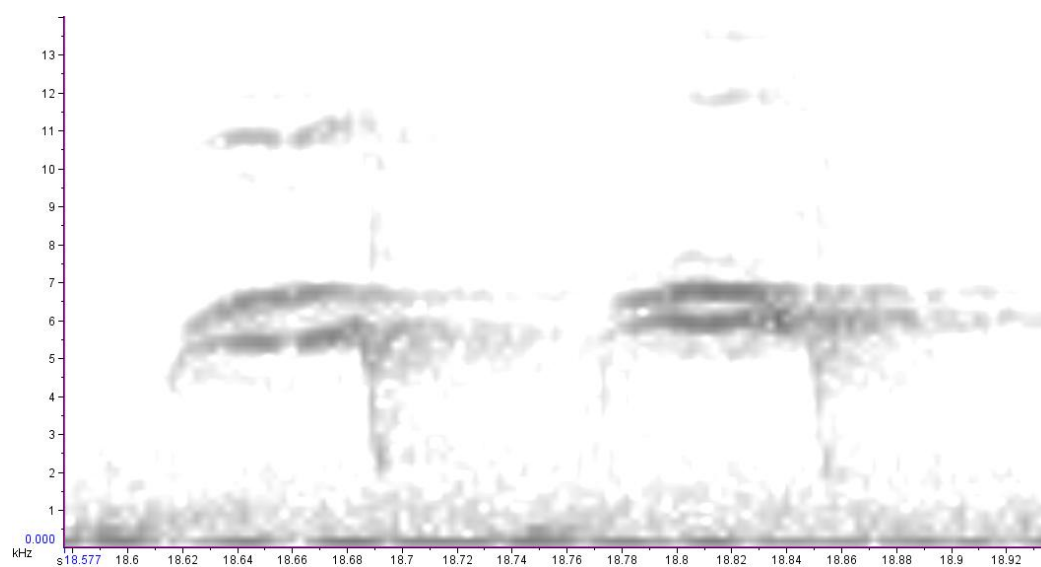
Repeated



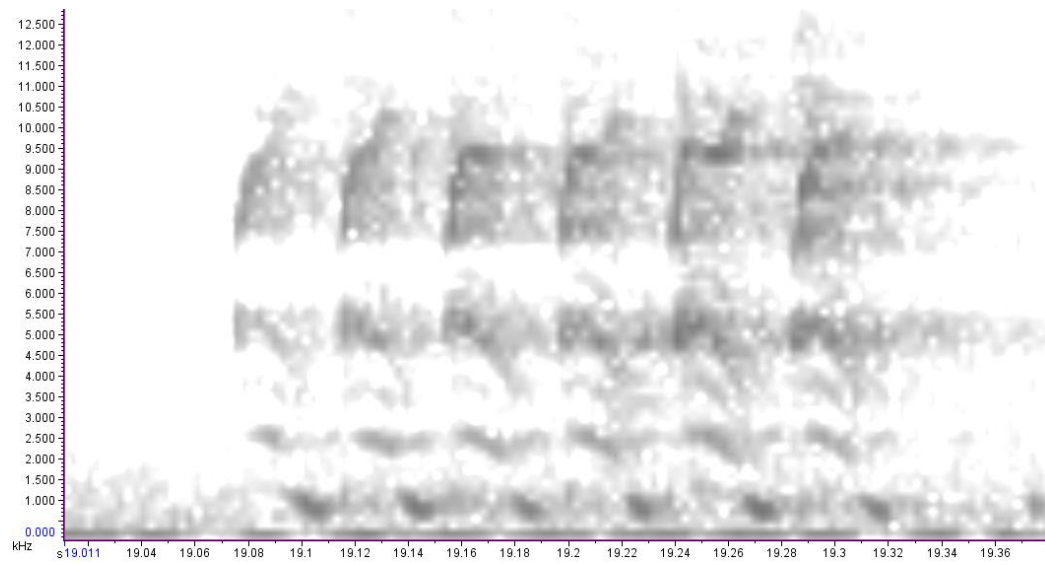
Syllable 46.



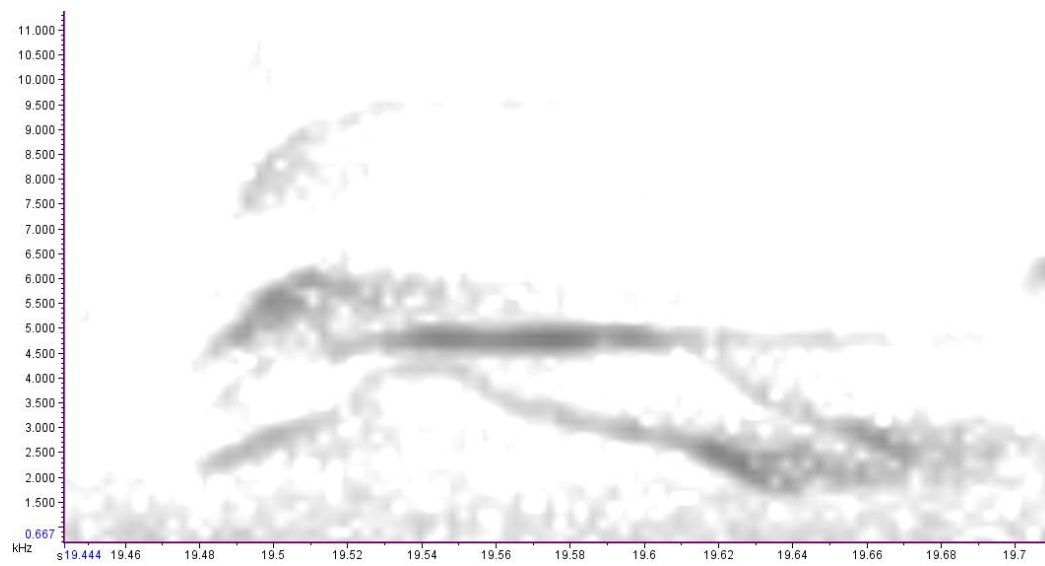
Repeated.



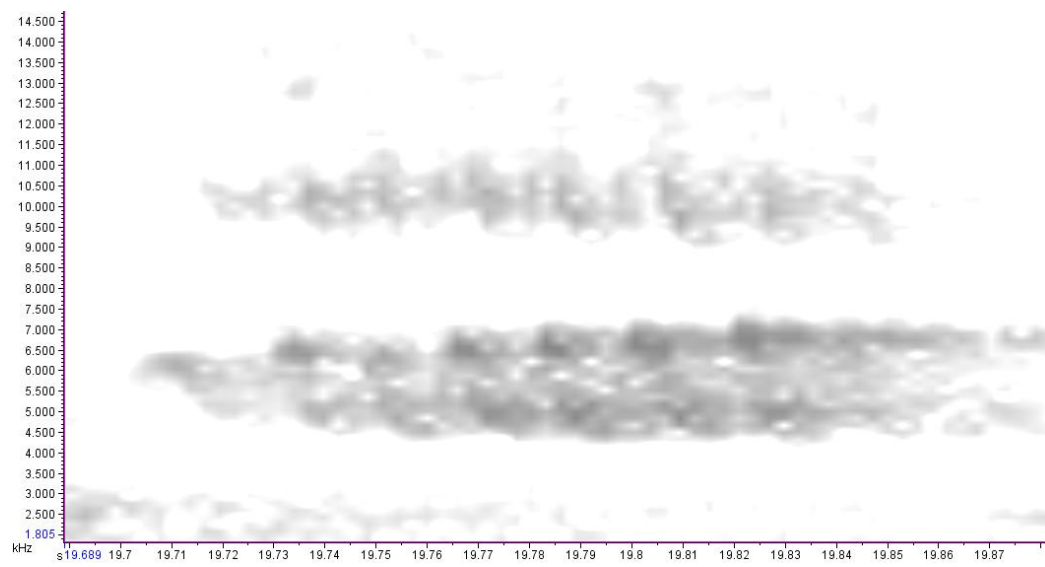
Repeated



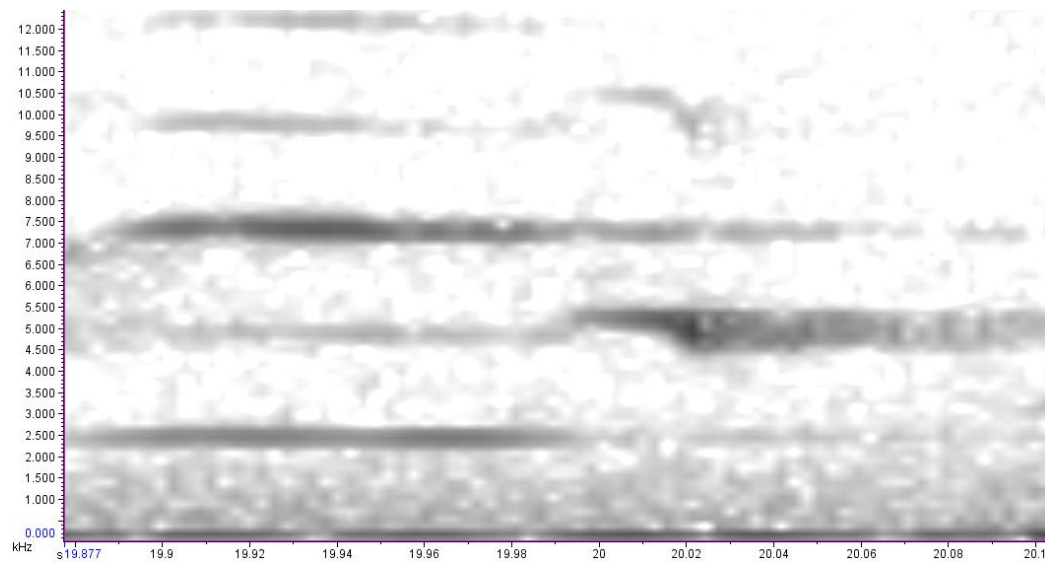
Repeated. (Same as song 2, syllable 43)



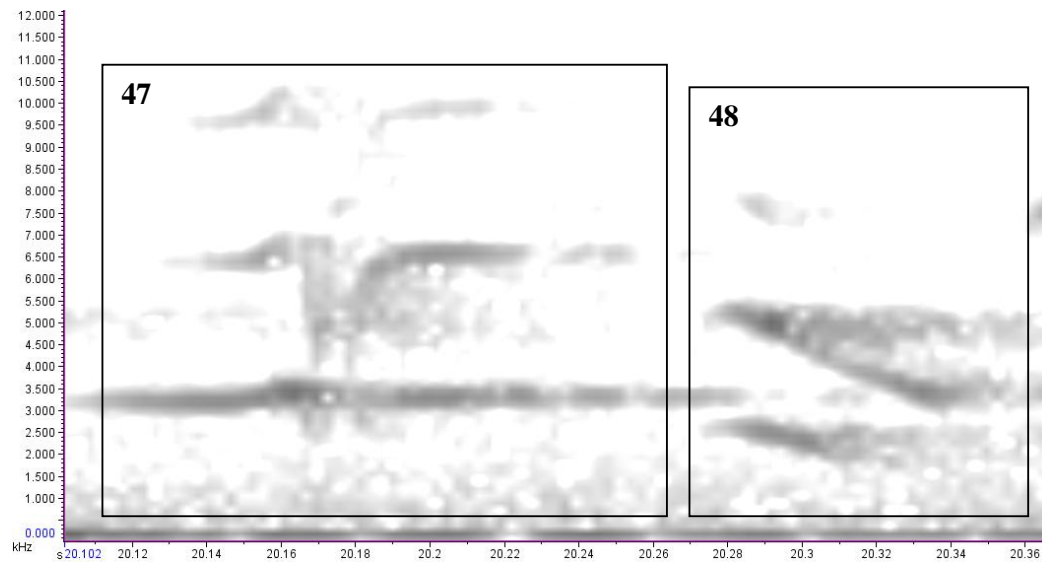
Repeated.



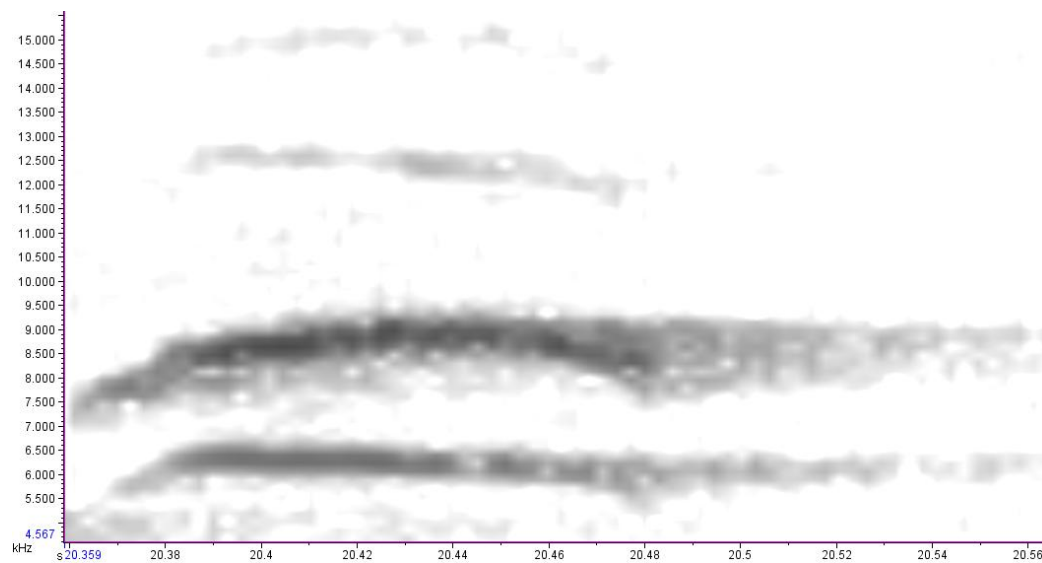
Repeated



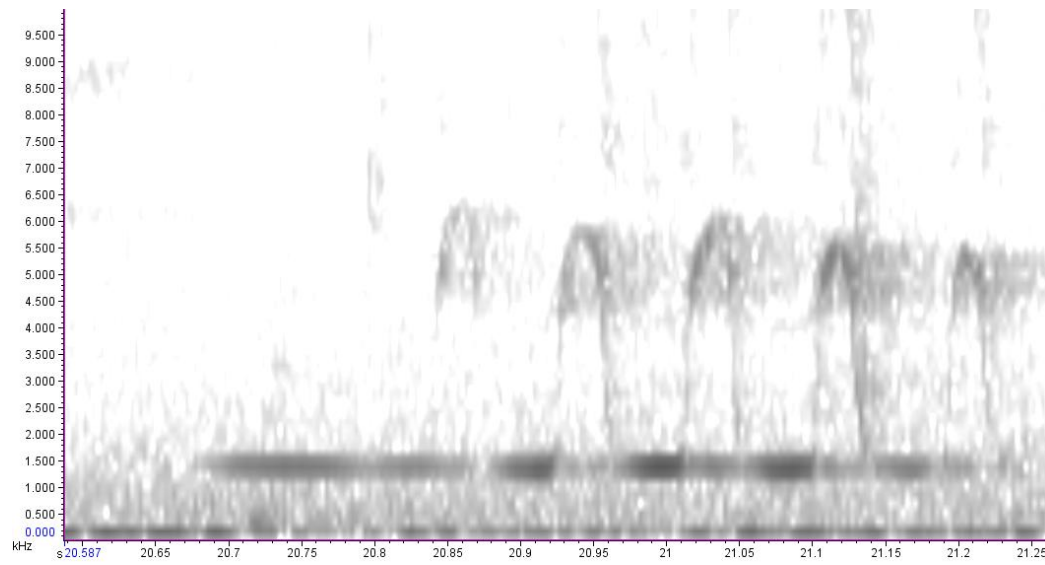
Syllable 47 (11th most common syllable (Section 3.3.3)) and 28. Very slight overlap, but the two different sounds make this two different syllables.



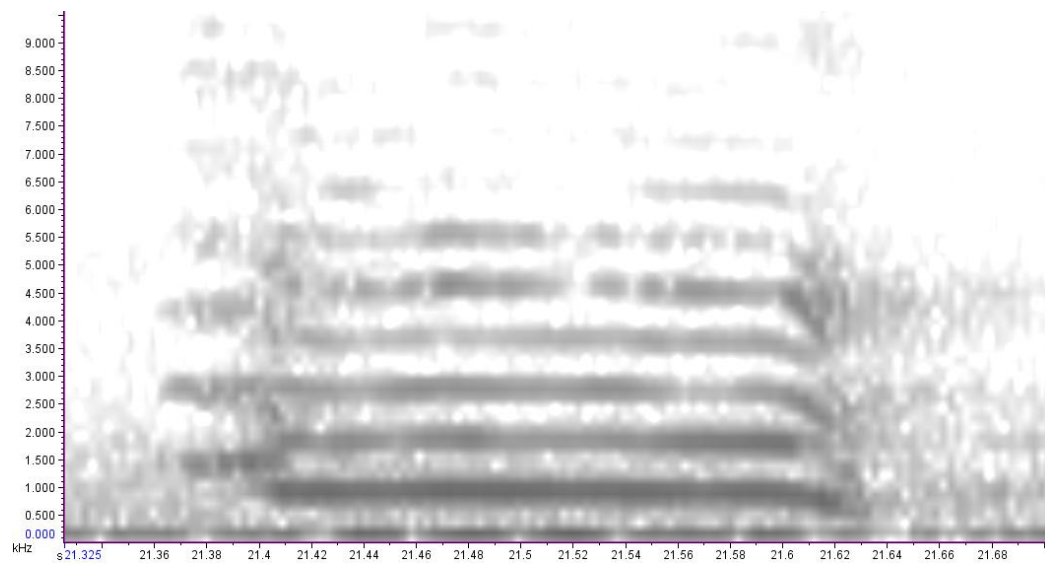
Syllable 49.



Syllable 50.

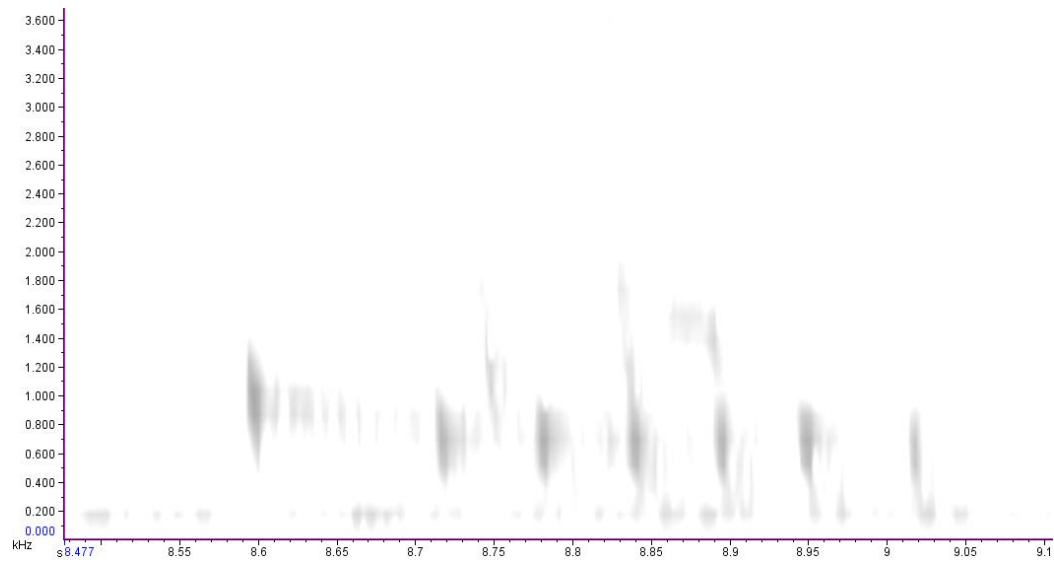


Repeated. Harmonic sound similar to an alarm call syllable (like syllable 30 of song 2).

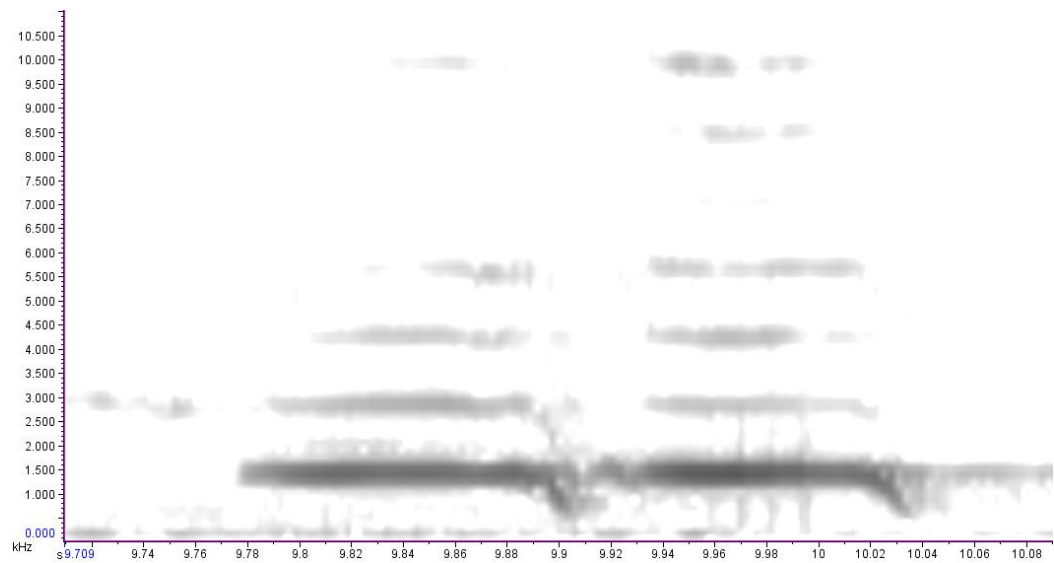


Song 4 - 004-2010-09-27 23_21_41. Non-breeding season. Long-Range

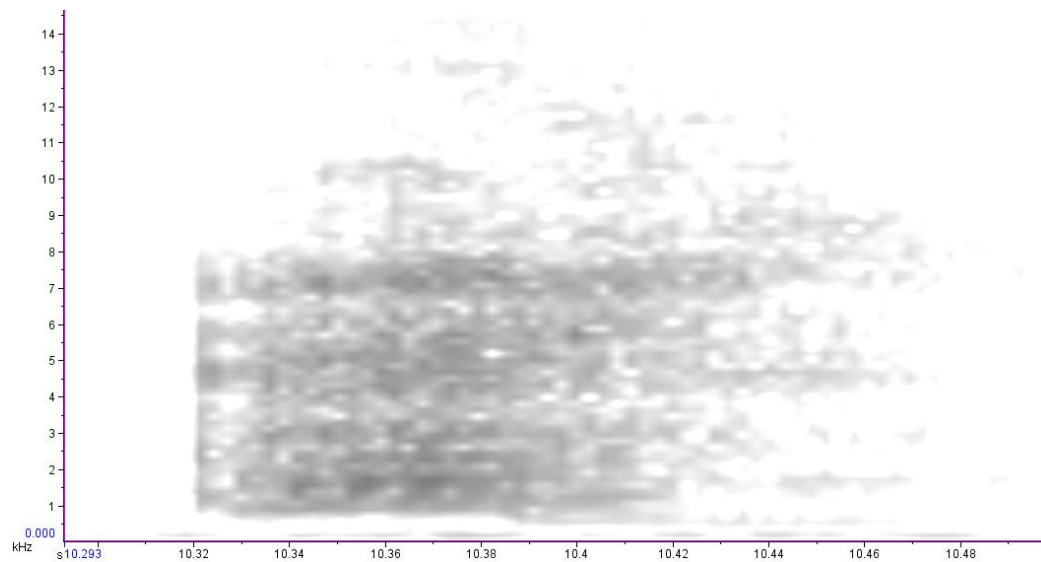
Repeated. The 'kok-kok-kok' syllable. There are 7 notes in this particular kok-kok-kok syllable.



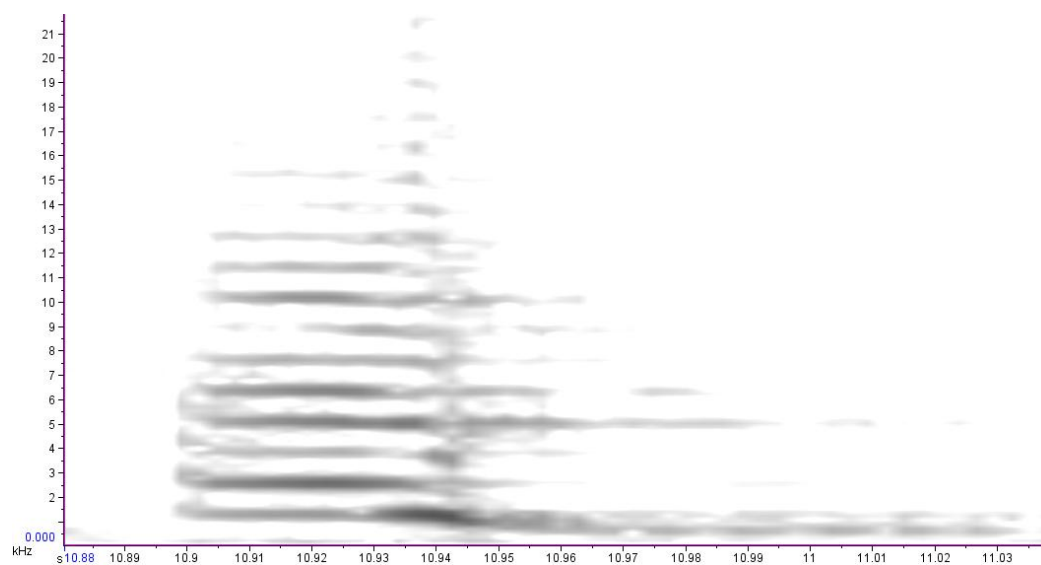
Syllable 51. Two notes, usually heard together.



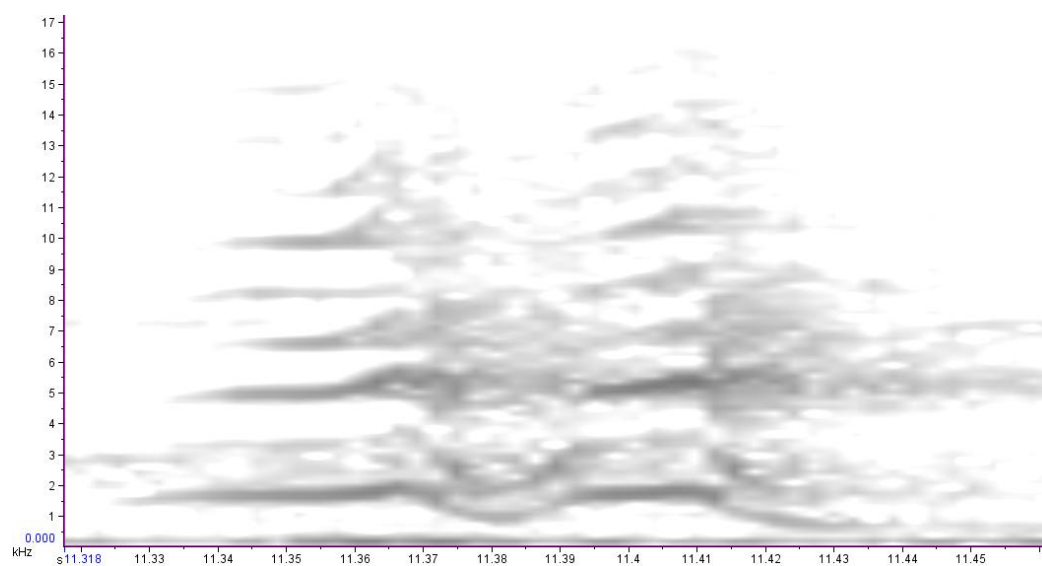
Repeated. Often heard immediately following syllable 2 above.



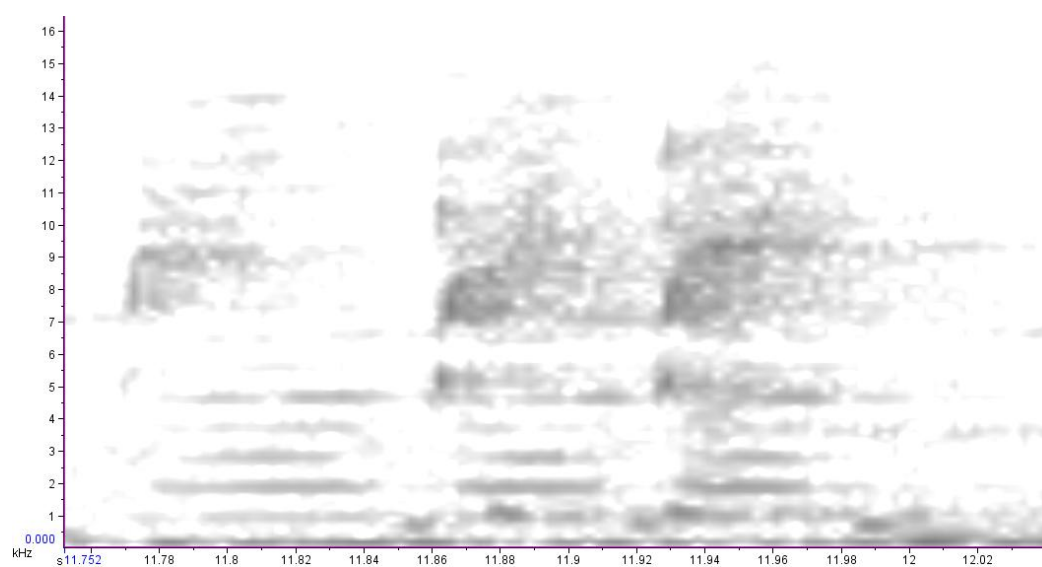
Repeated.



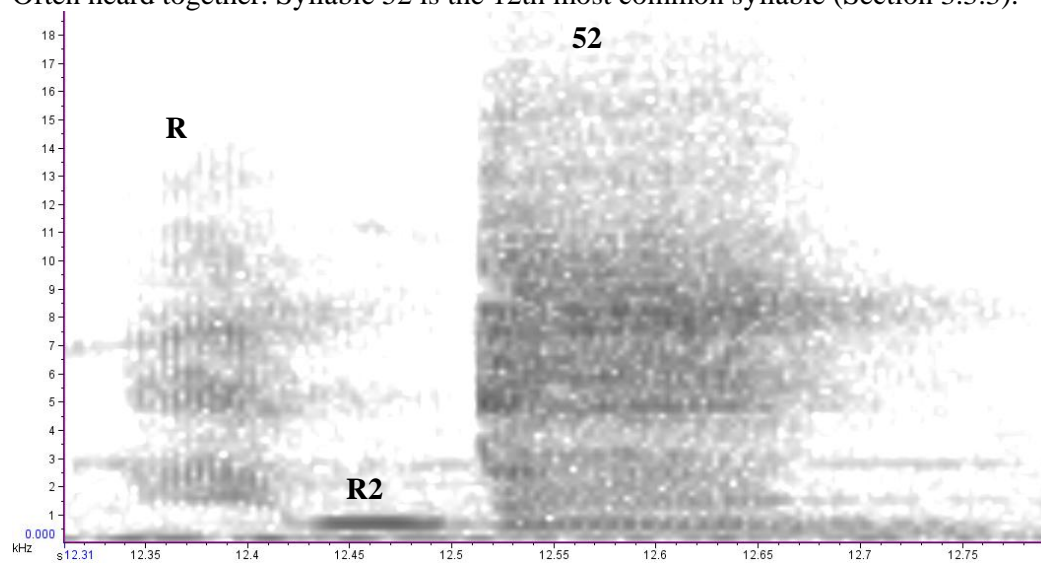
Repeated



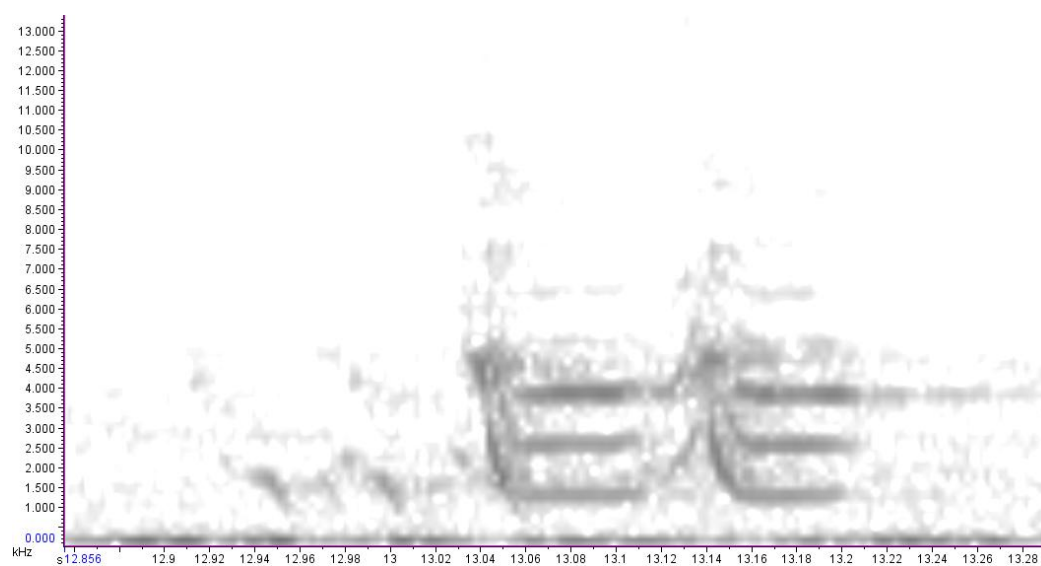
Repeated



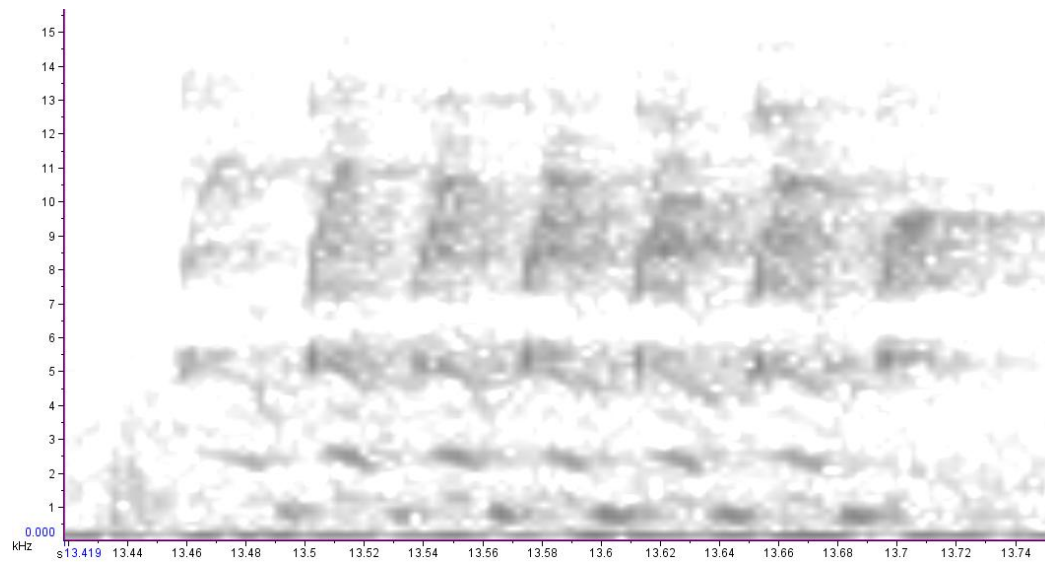
Often heard together. Syllable 52 is the 12th most common syllable (Section 3.3.3).



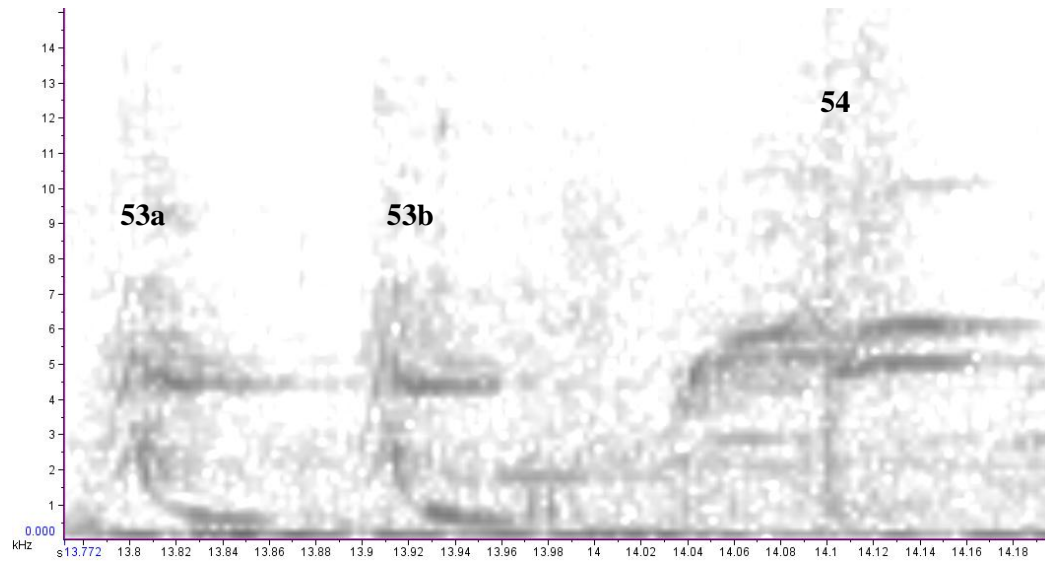
Repeated.



Repeated

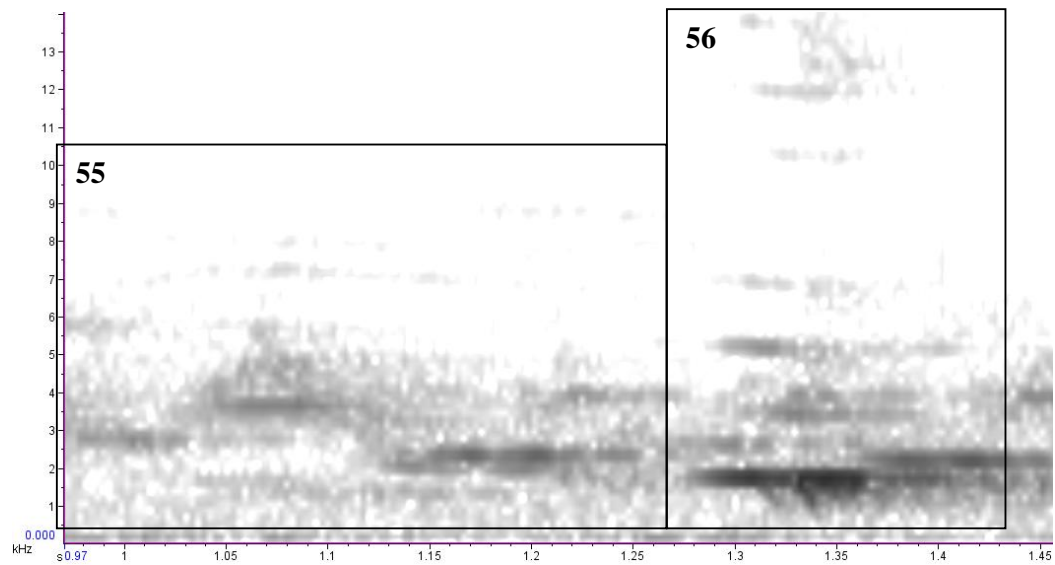


Syllables 53 and 54.

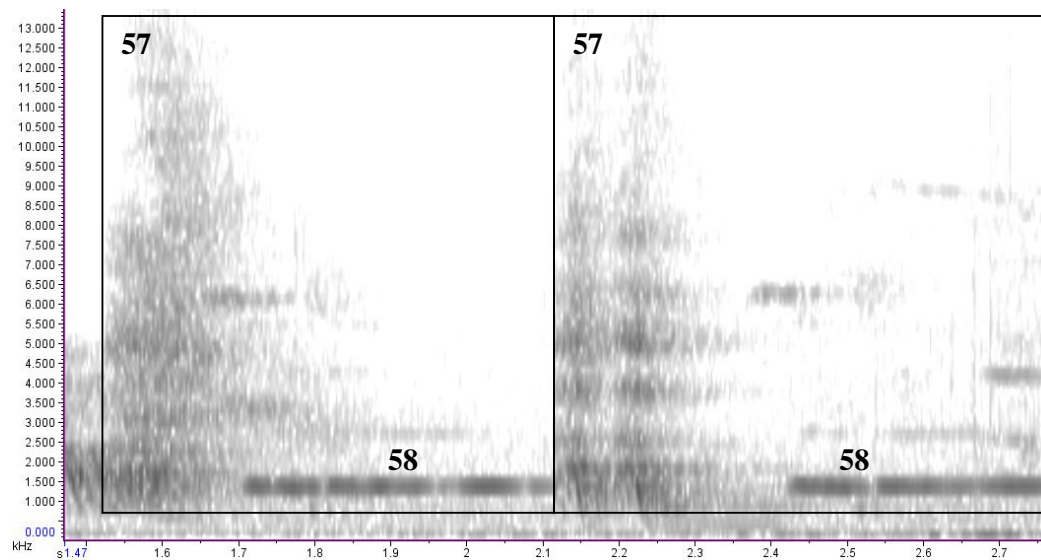


Song 5 – 1004 (LbW-YM). Long-Range

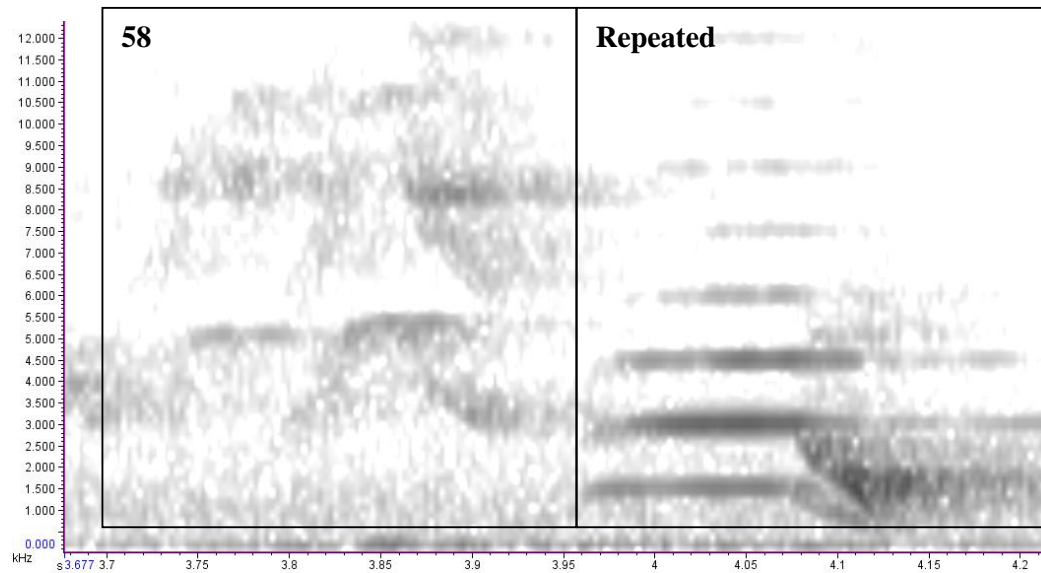
Syllables 55 and 56. Syllable 55 consists of four overlapping single notes.



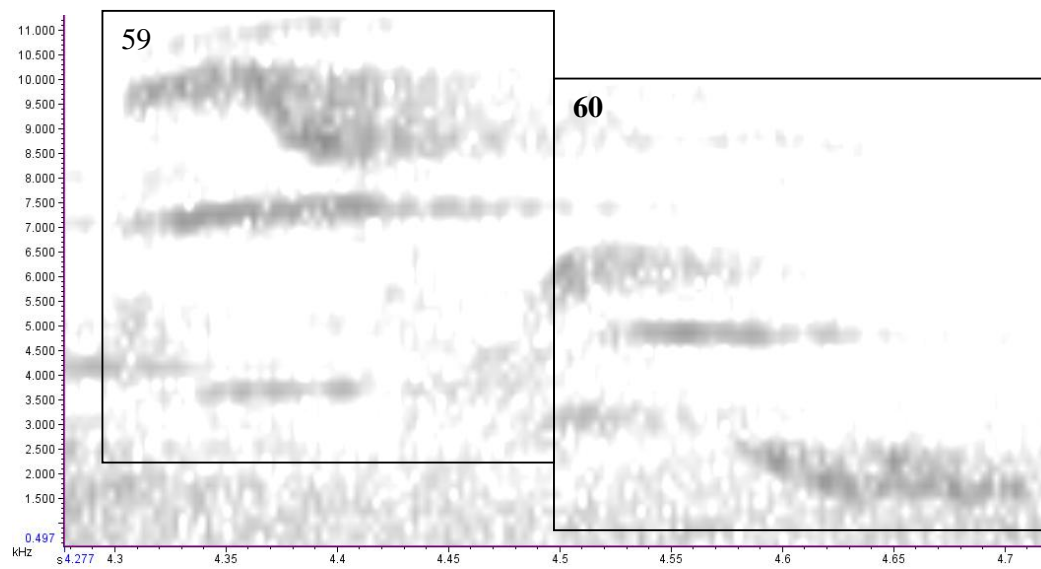
Syllables 57 and 58. 2 consecutively repeated iterations



Syllable 58

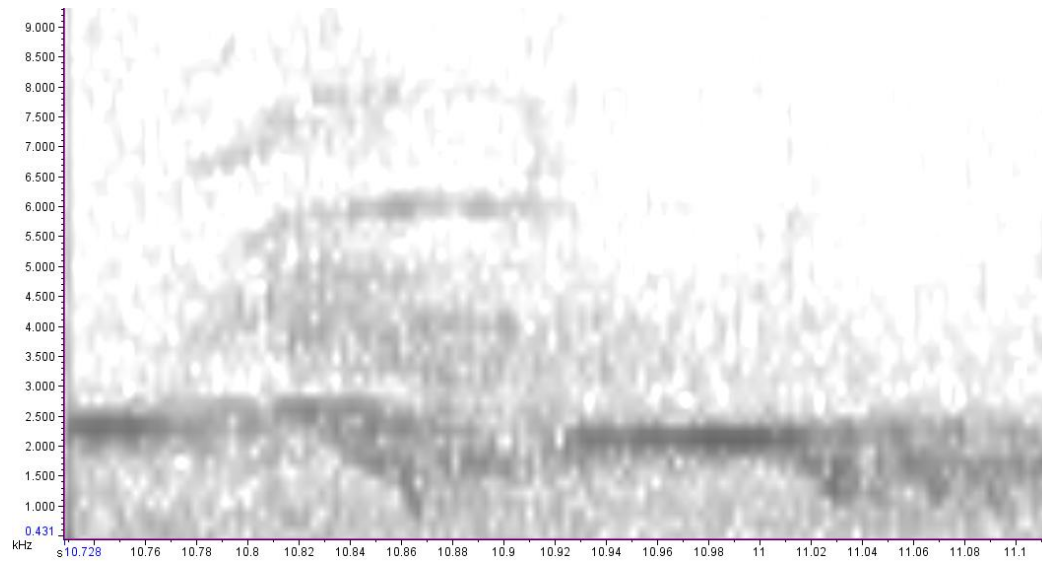


Syllables 59 and 60.

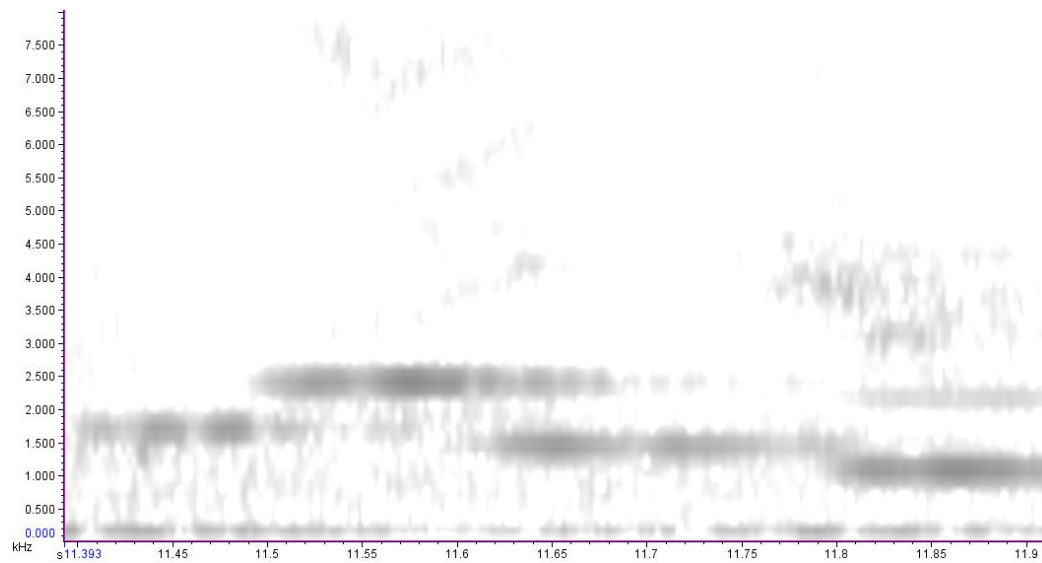


Song 6 – 1001 (female). BkM-RB. Long-Range

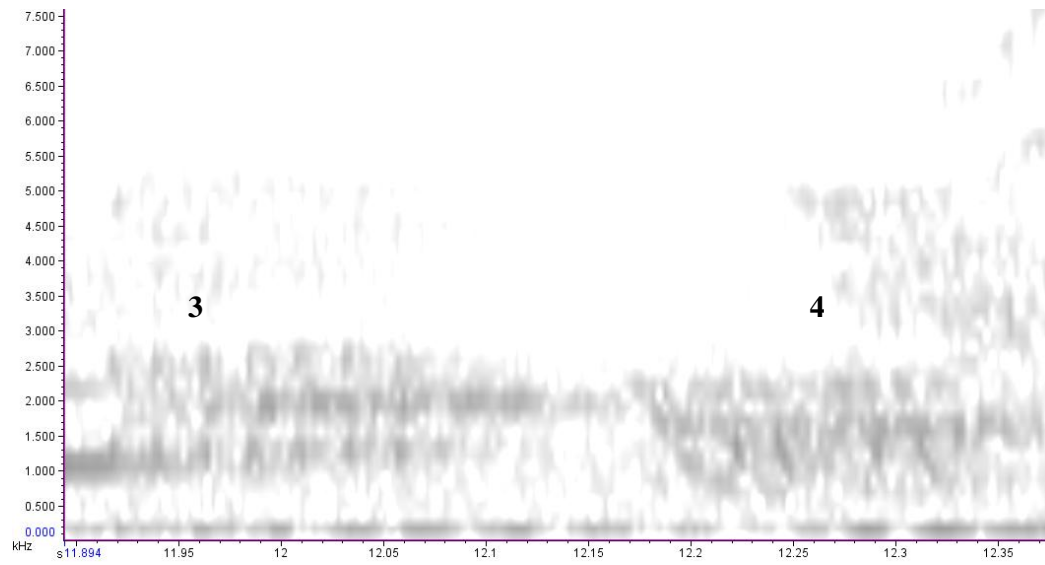
Syllable 61. Overlap and similarity of the sounds of the two notes, means this is just one syllable.



Syllable 62. 3-toned syllable.

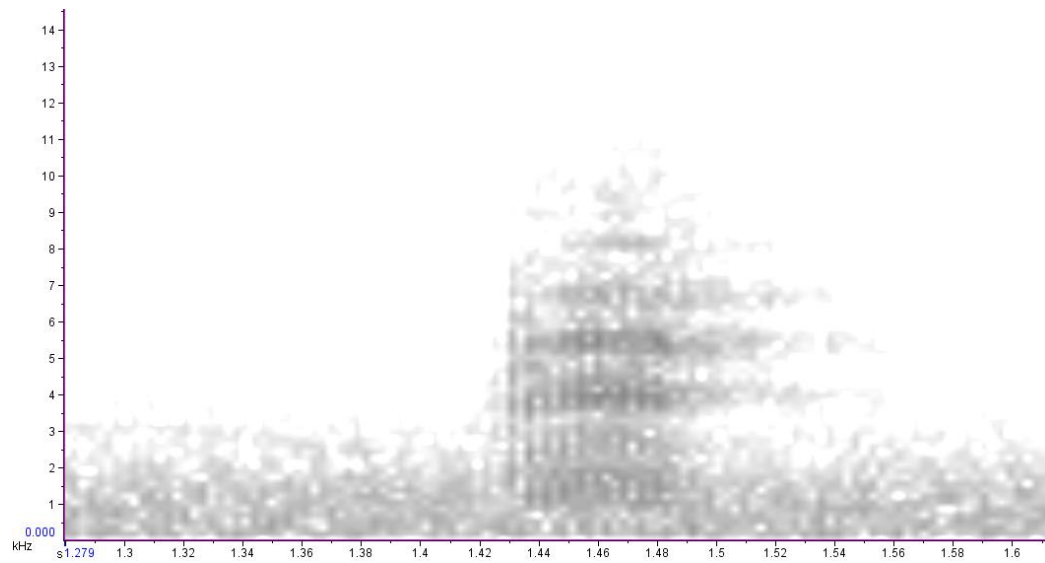


Syllables 63 and 64.

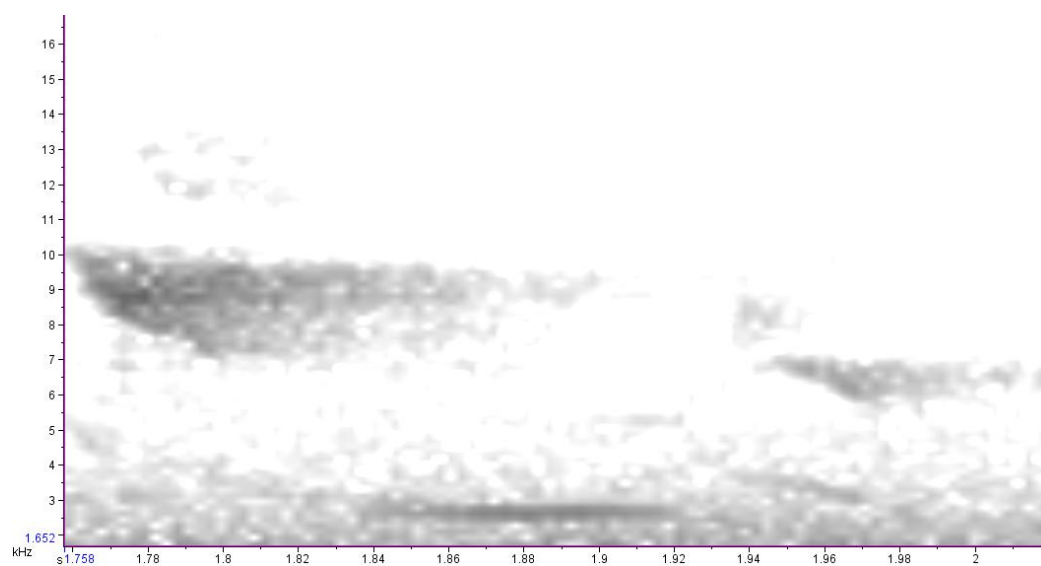


Song 7 - 023-2010-09-28 00_38_45.

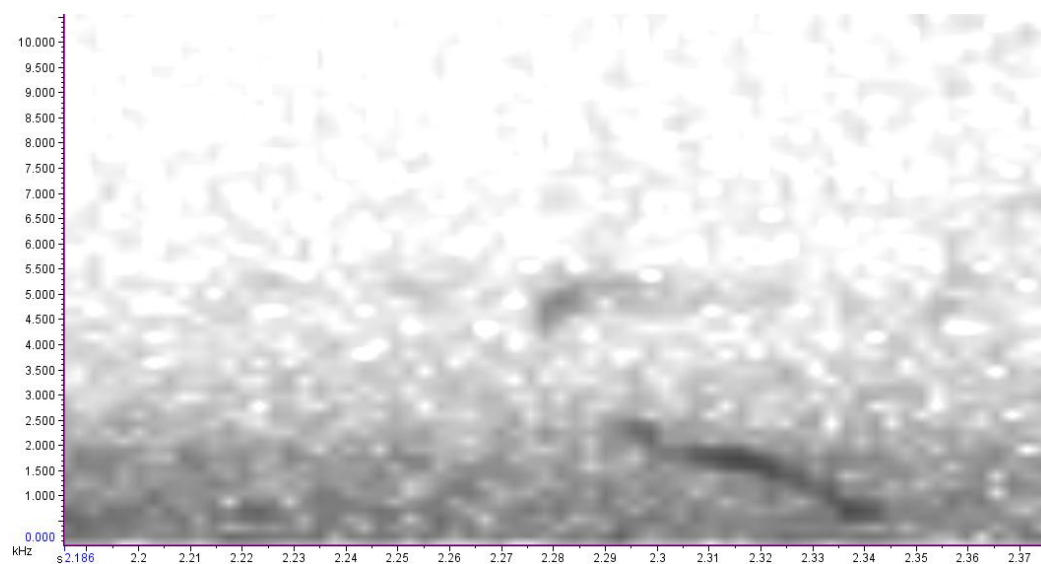
Syllable 65.



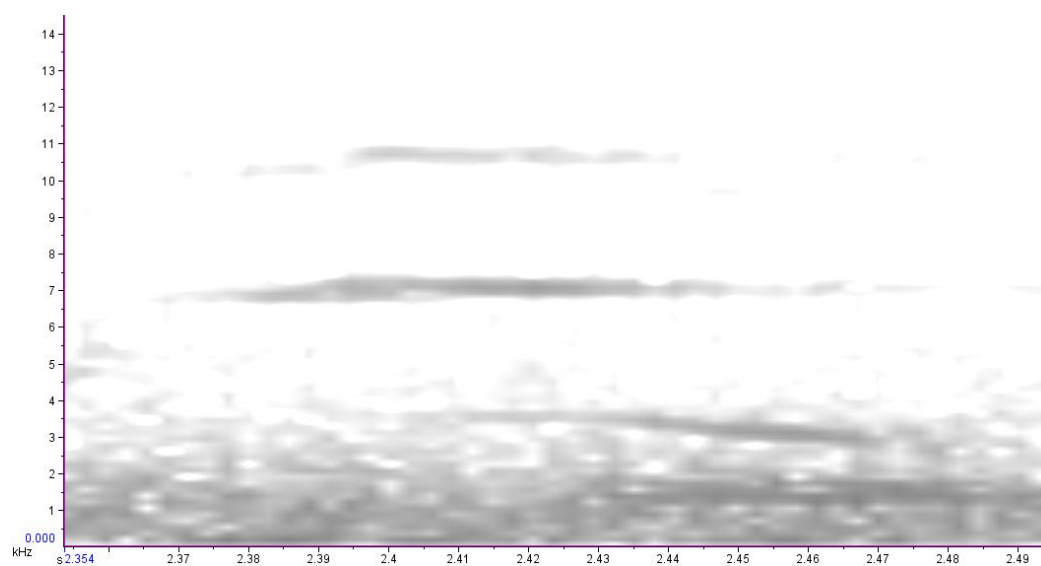
Syllable 66. An overlapping syllable.



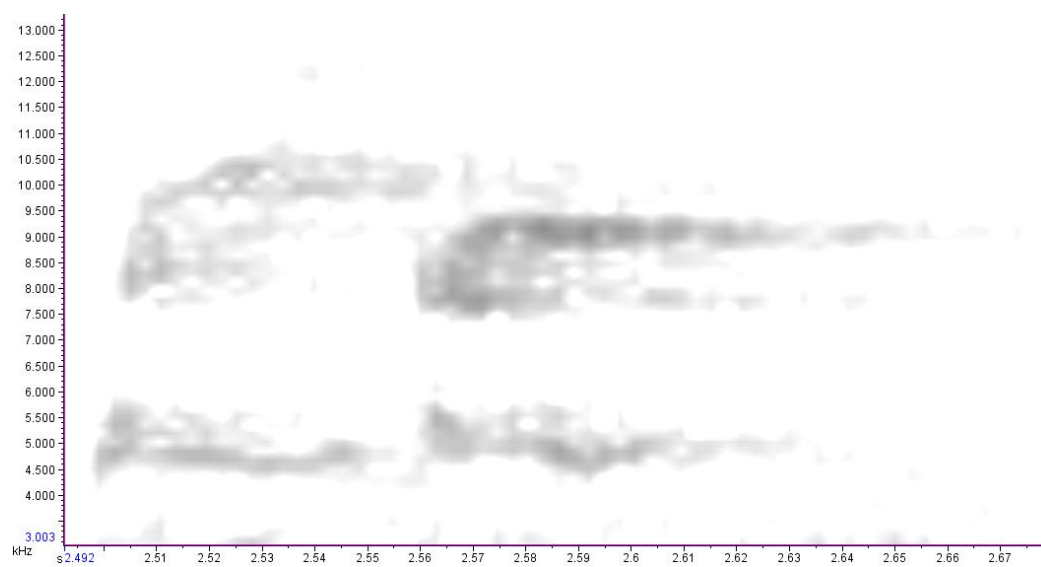
Syllable 67.



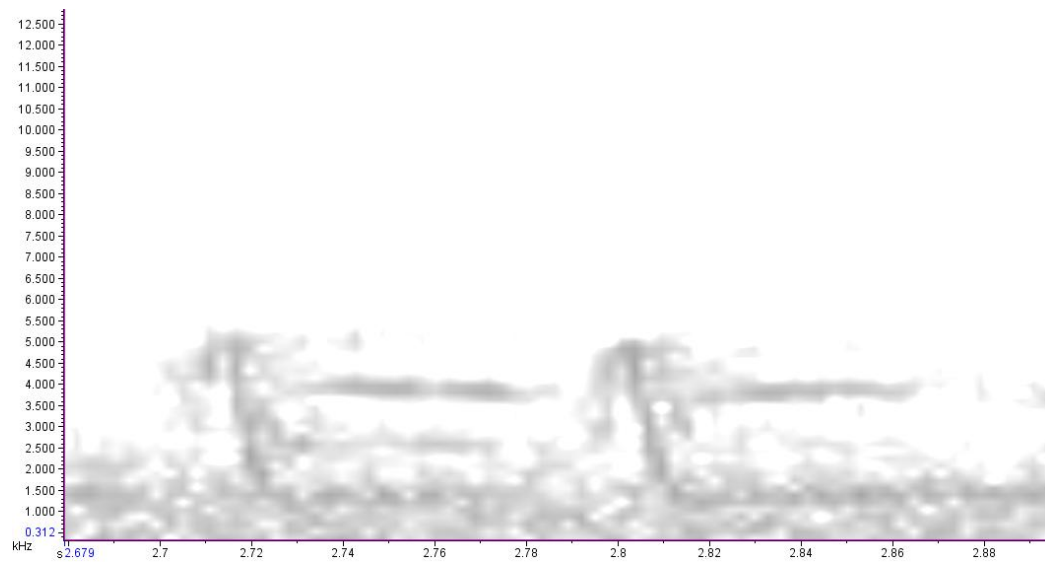
Syllable 68.



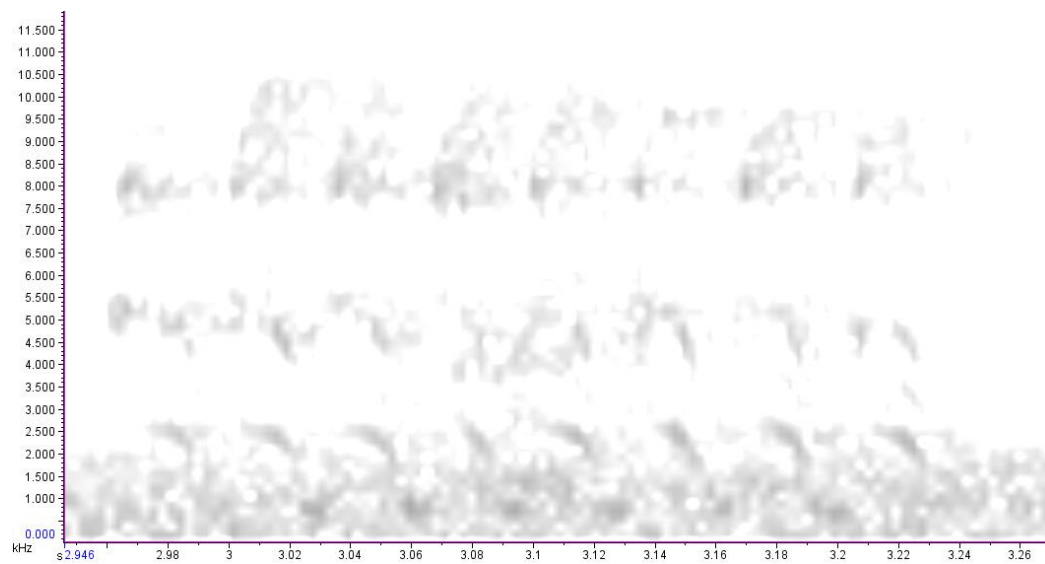
Syllable 69.



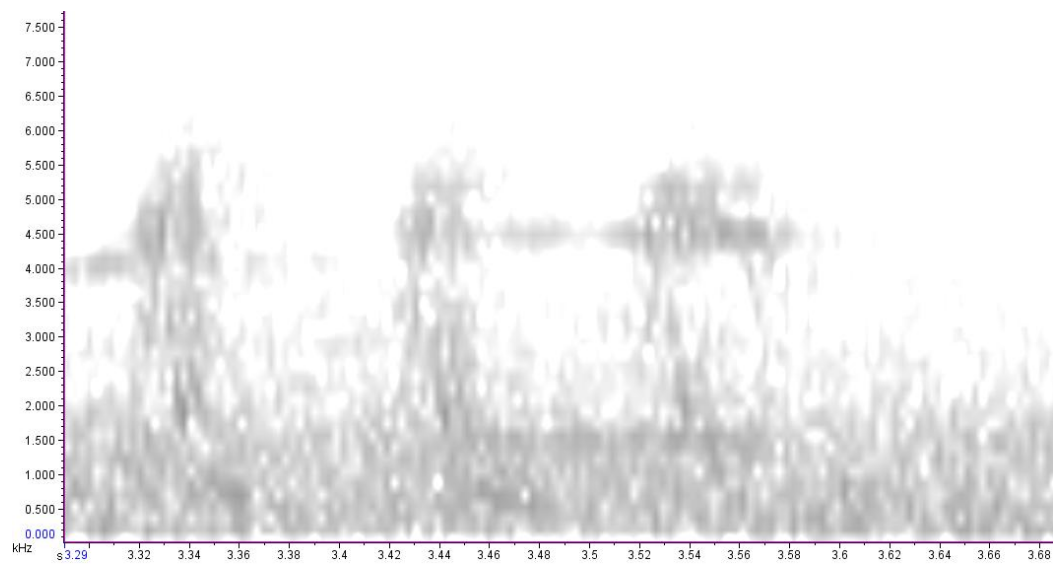
Syllable 70.



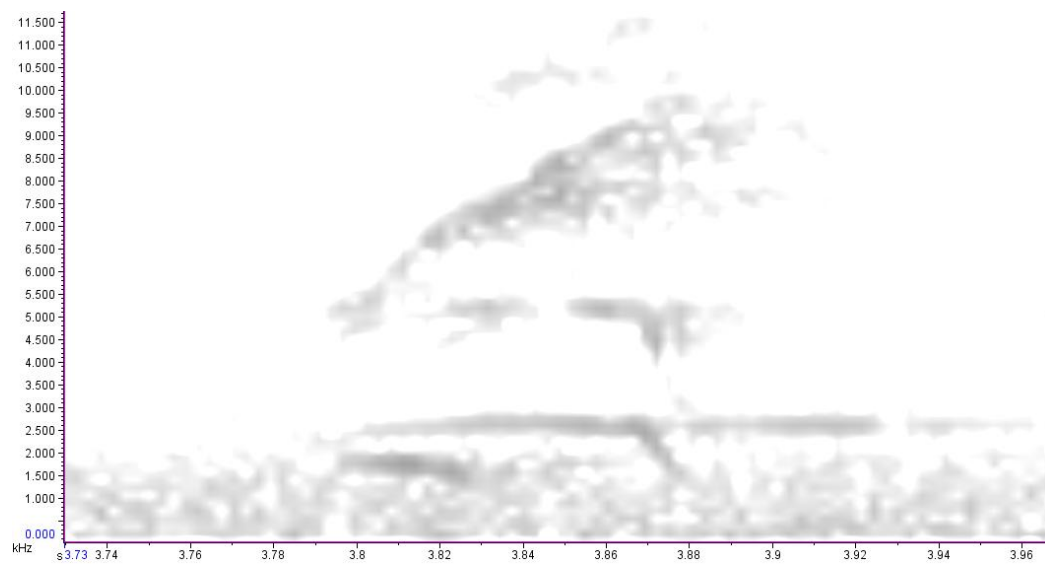
Repeated



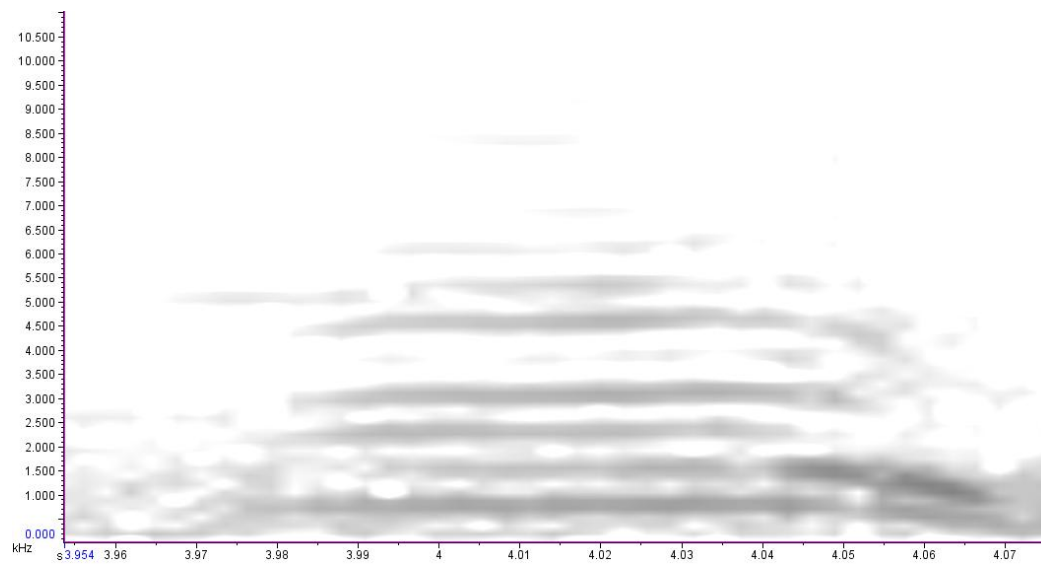
Repeated. A 3-noted affair.



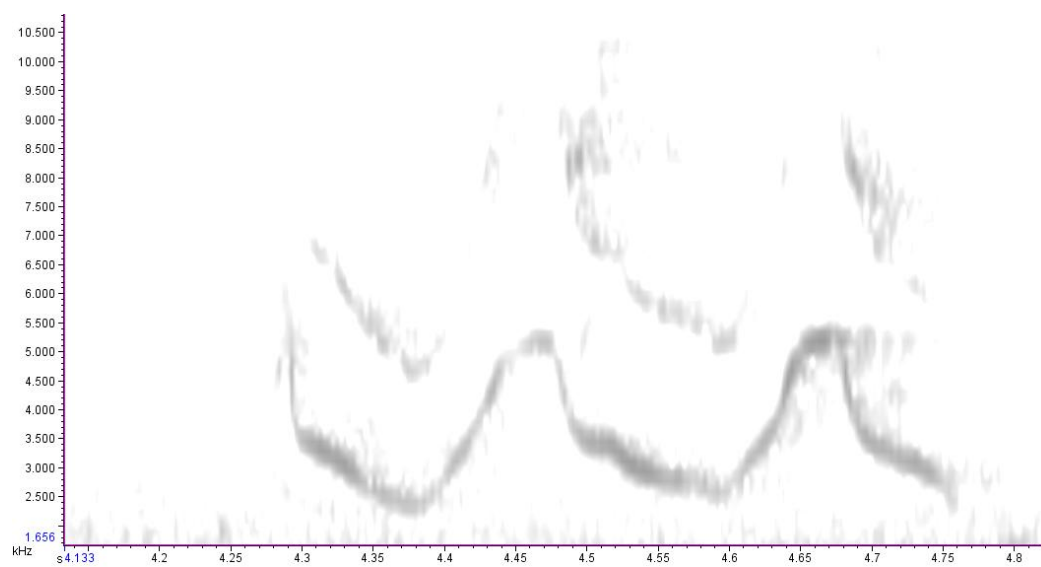
Repeated.



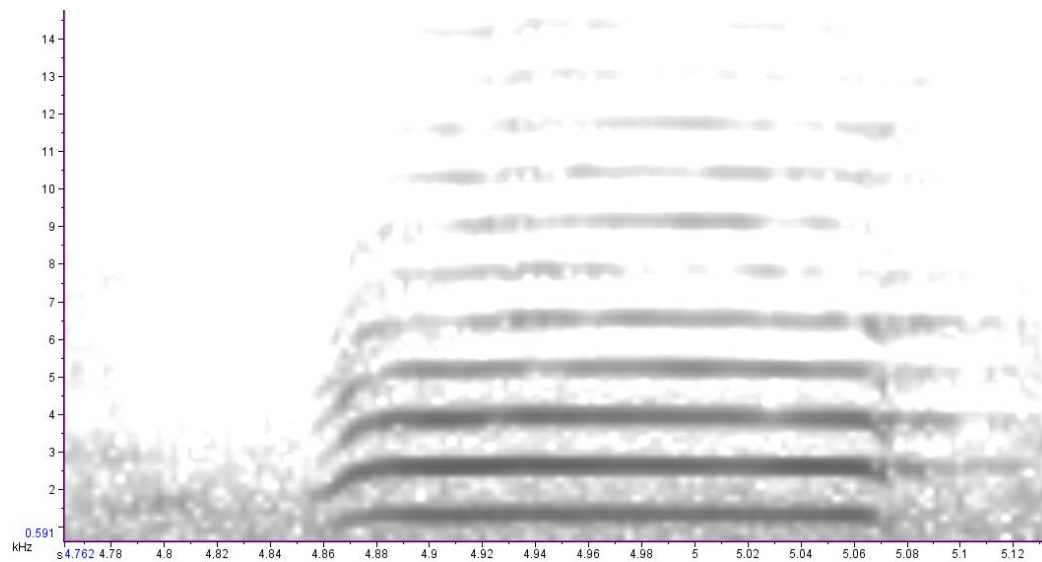
Repeated. (same as syl 46, song 2)



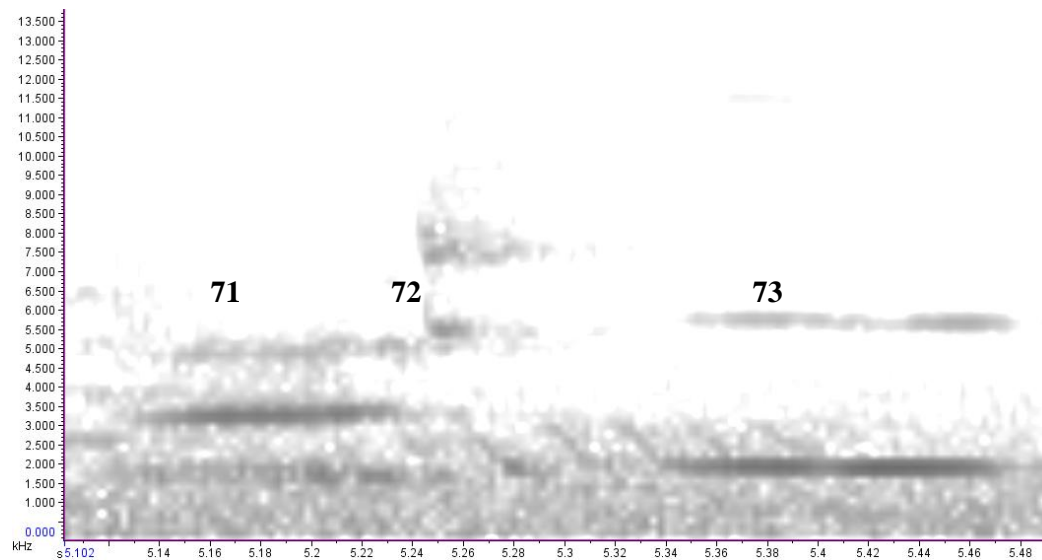
Repeated.



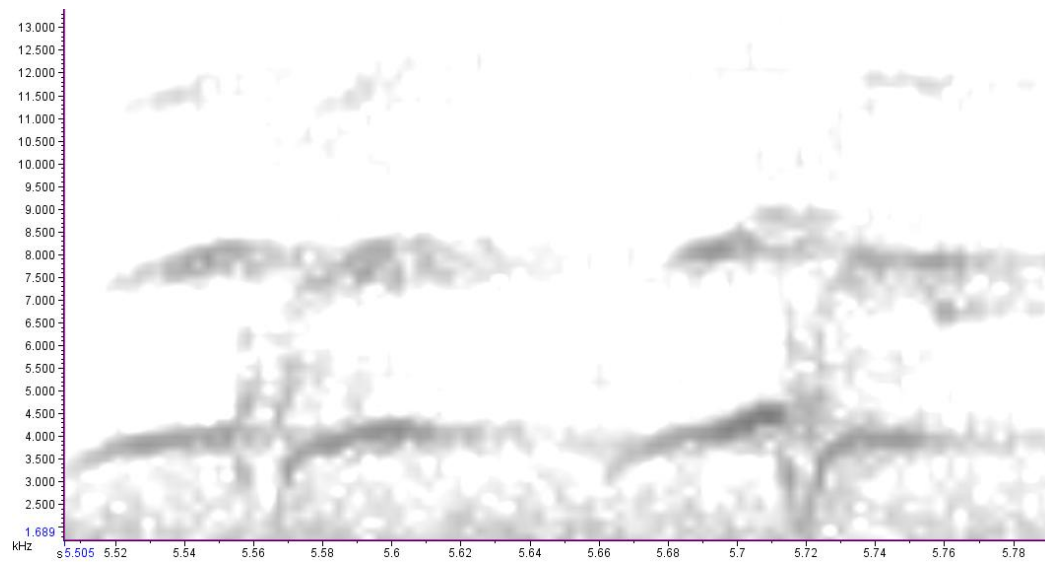
Repeated.



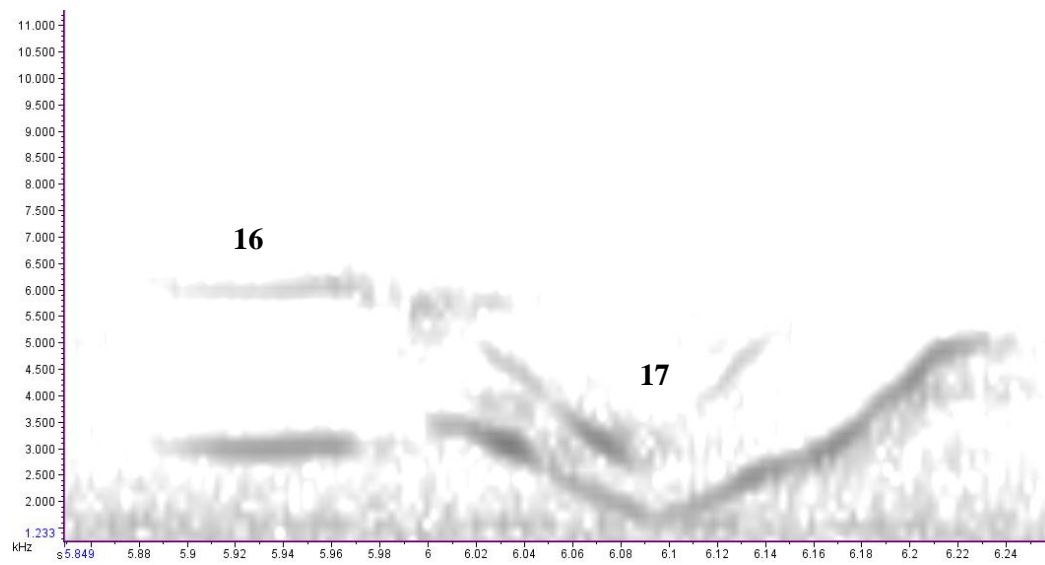
Syllables 71-73. These last 3 syllables are usually heard preceding the common 'Anchor Bay Syllable'.



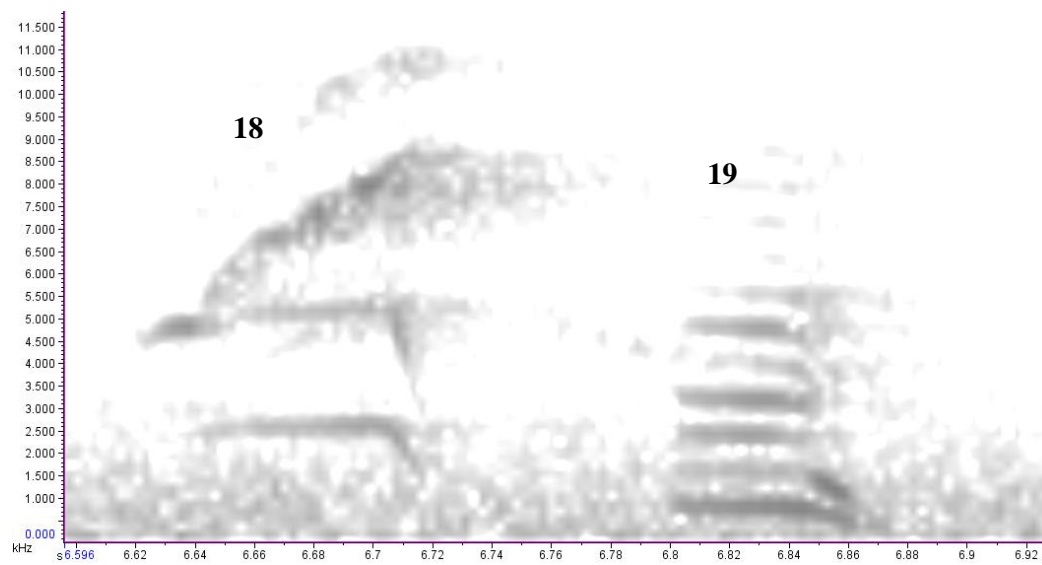
Repeated



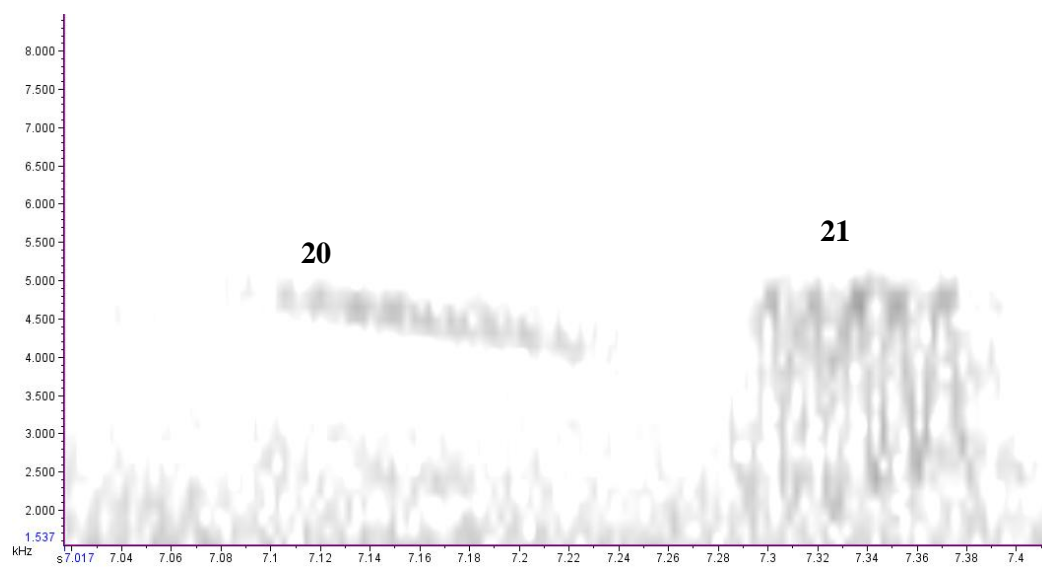
Syllables 74 and 75.



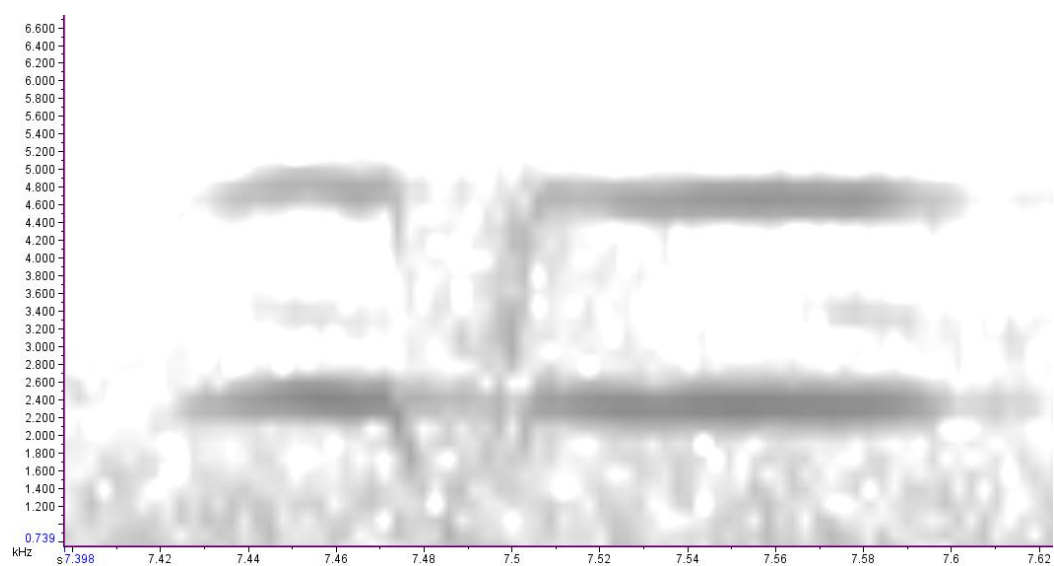
Repeated x2



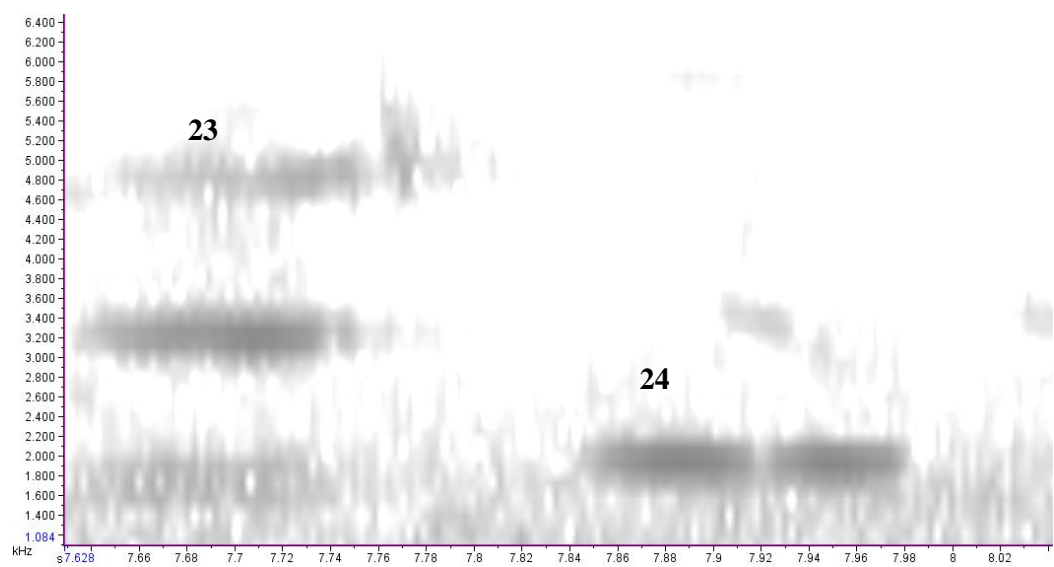
Syllables 76 and 77.



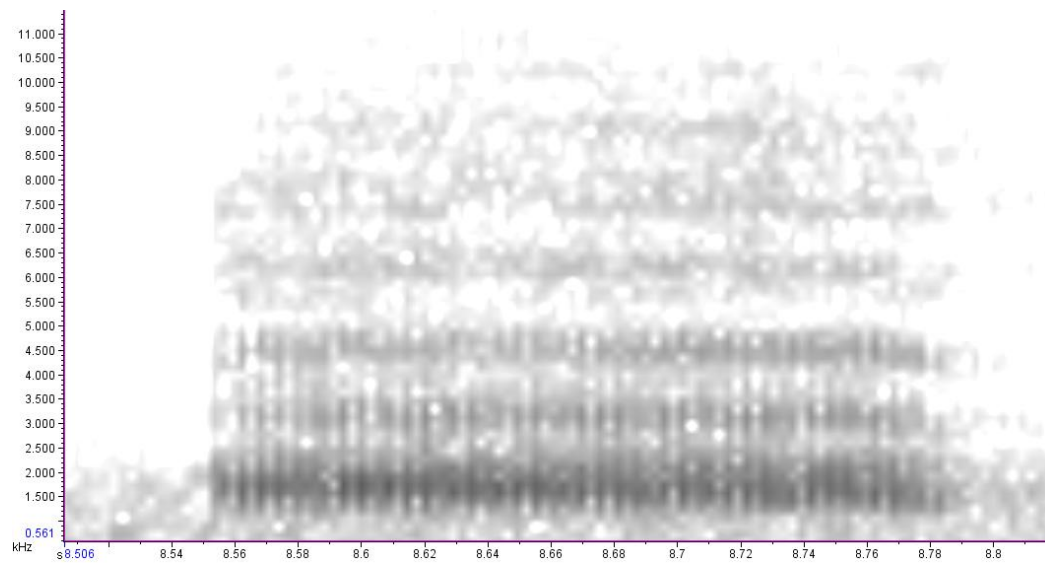
Repeated



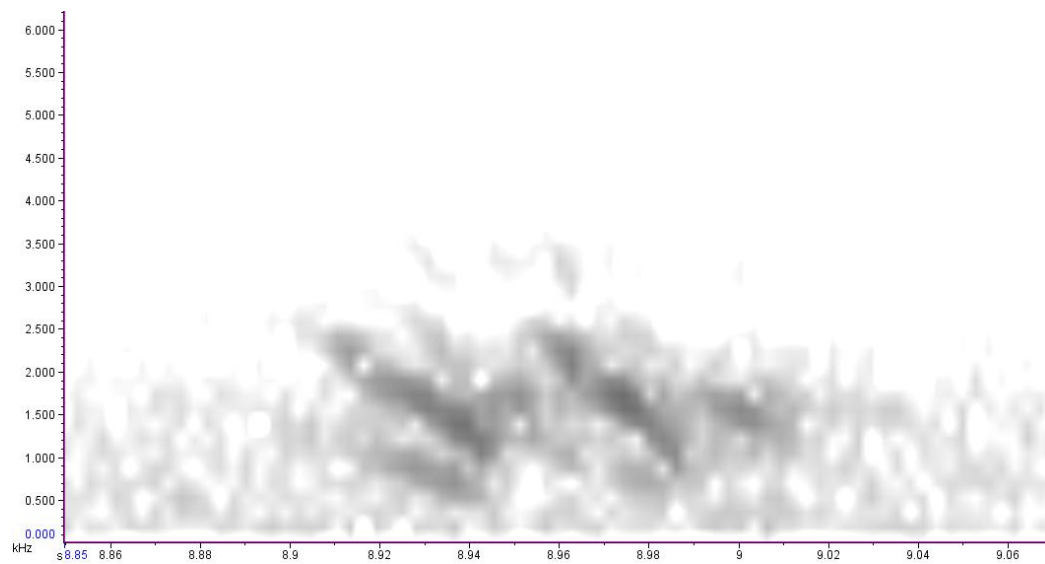
Repeated x2



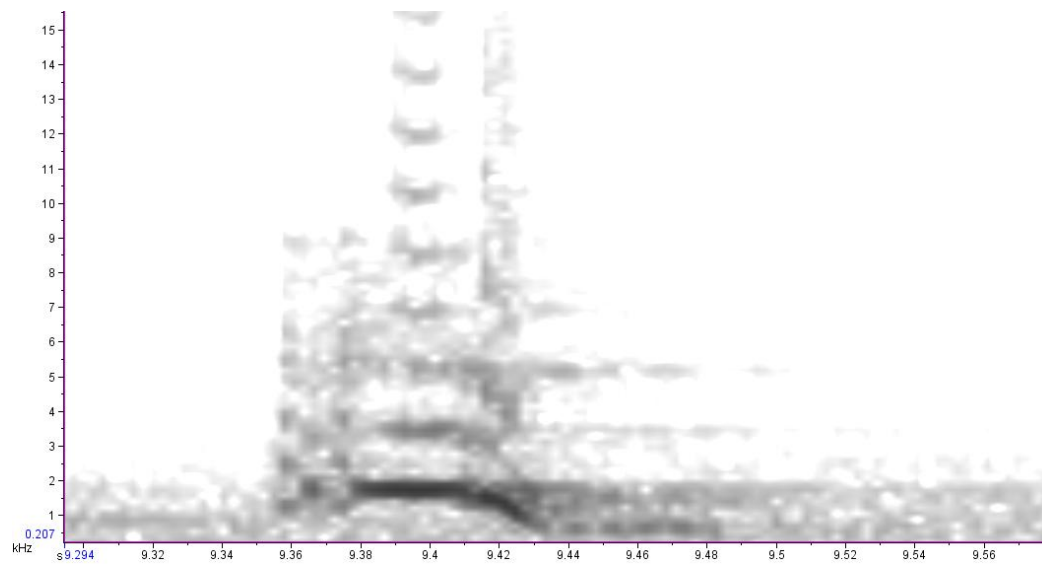
Syllable 78. Crow-like syllable.



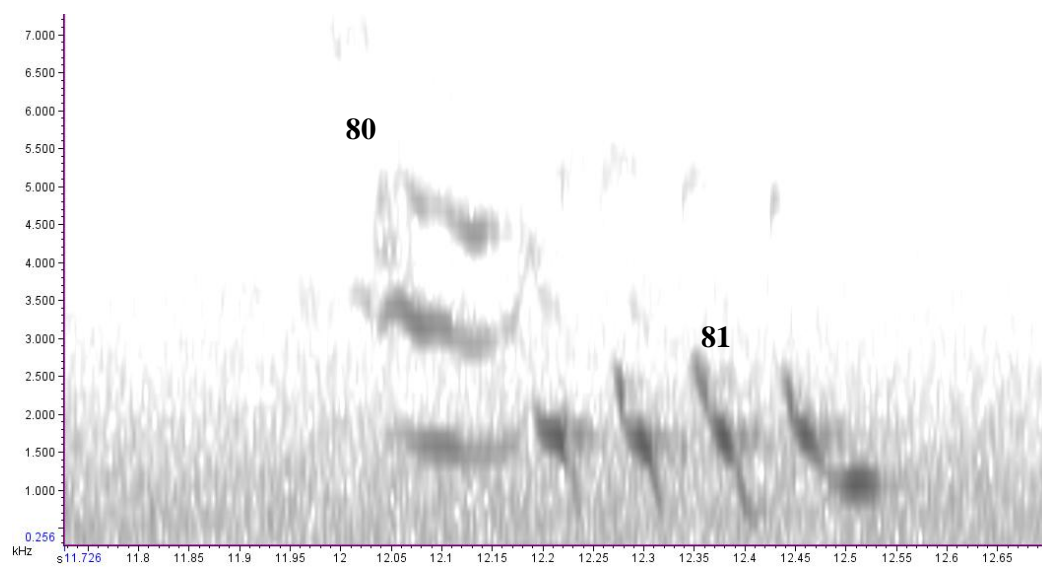
Repeated



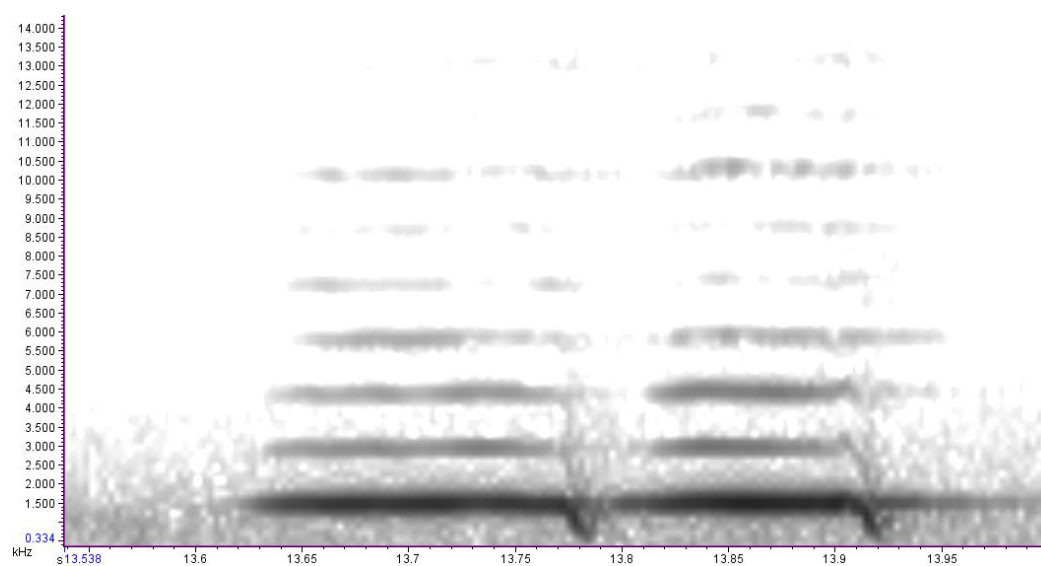
Syllable 79. 6th most common syllable (Section 3.3.3).



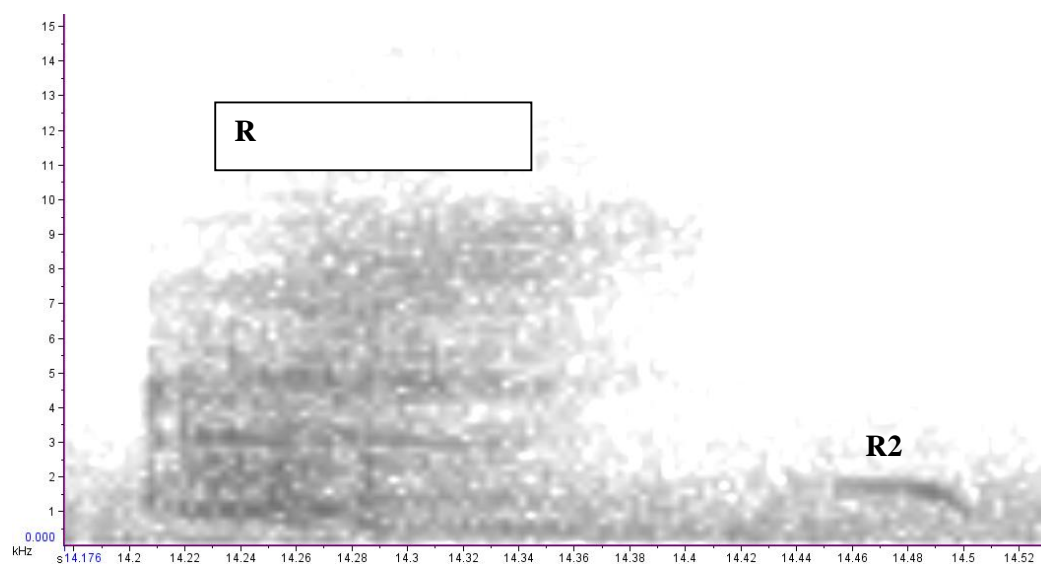
Syllables 80 and 81.



Repeated

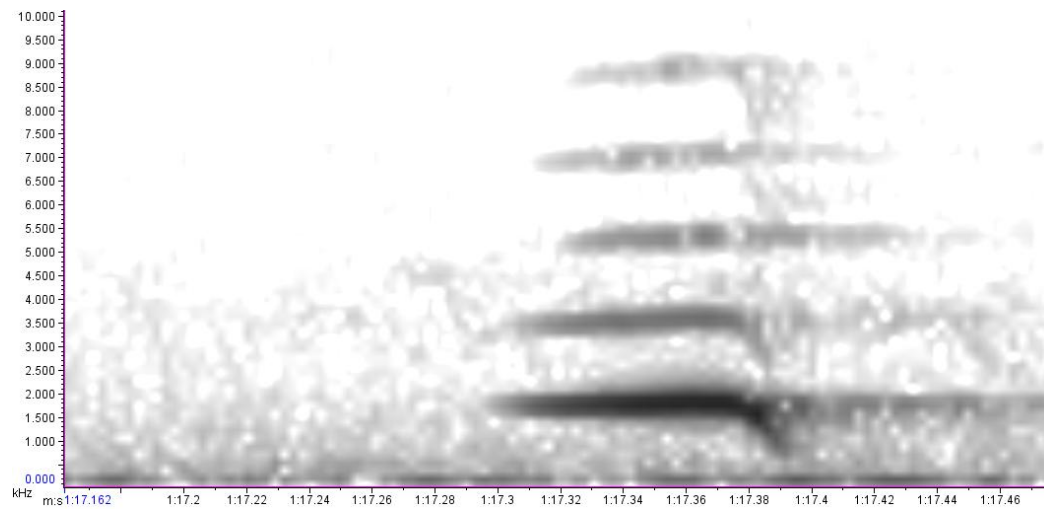


Repeated x2

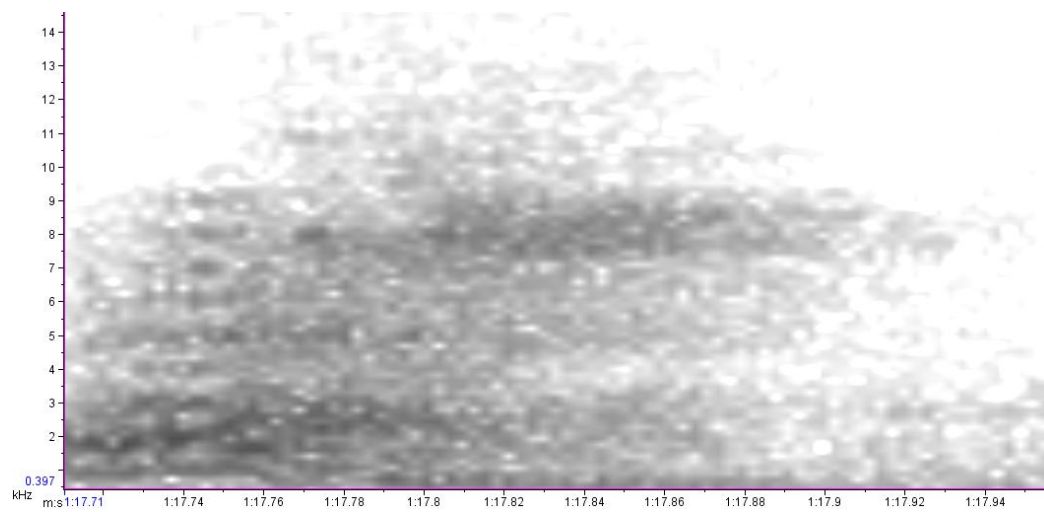


Song 8 – 1015 (GY-WM).

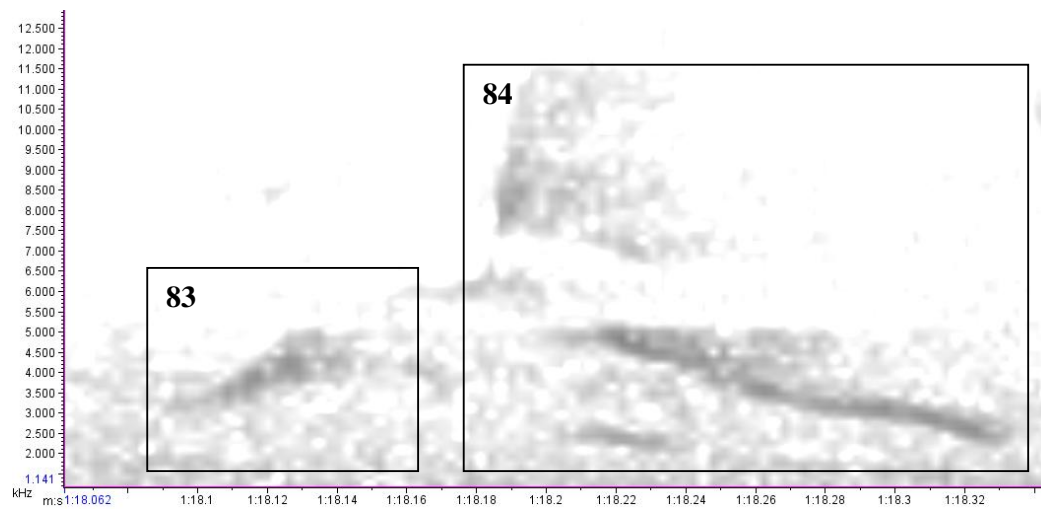
Repeated



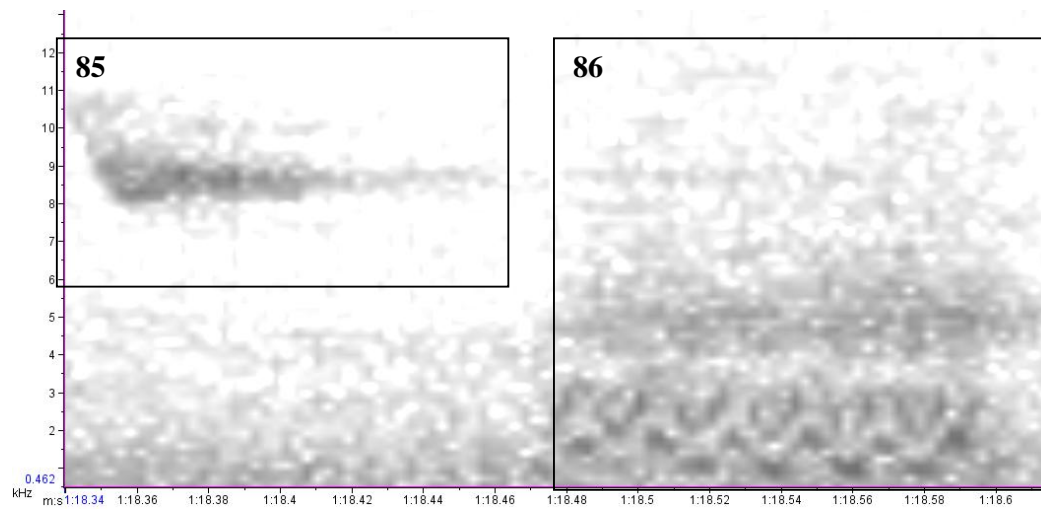
Syllable 82. 8th most common syllable (Section 3.3.3).



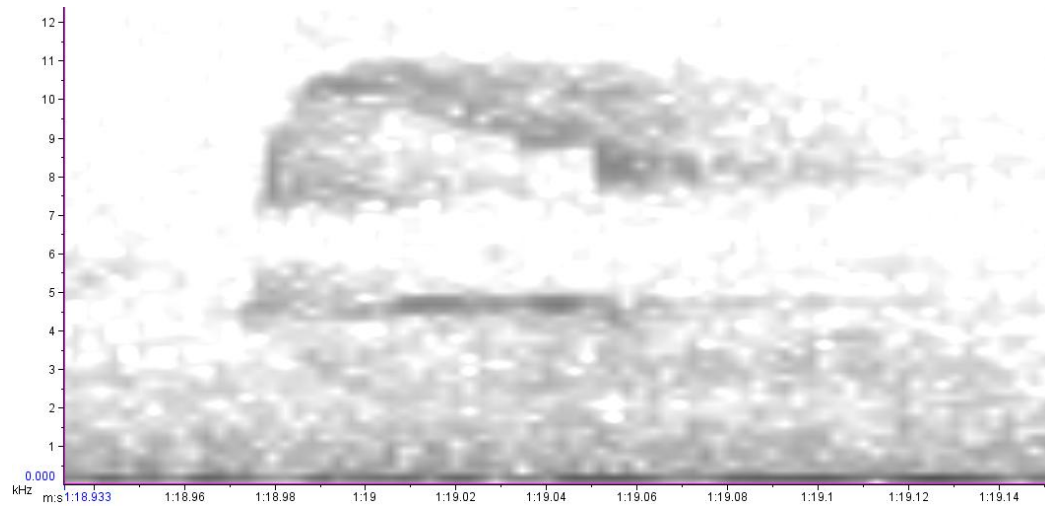
Syllables 83 and 84.



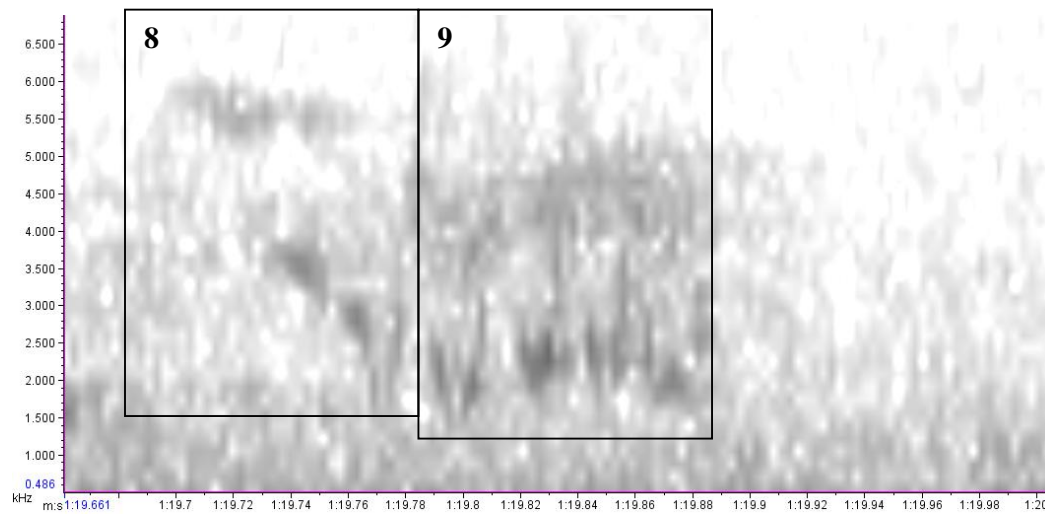
Syllables 85 and 86.



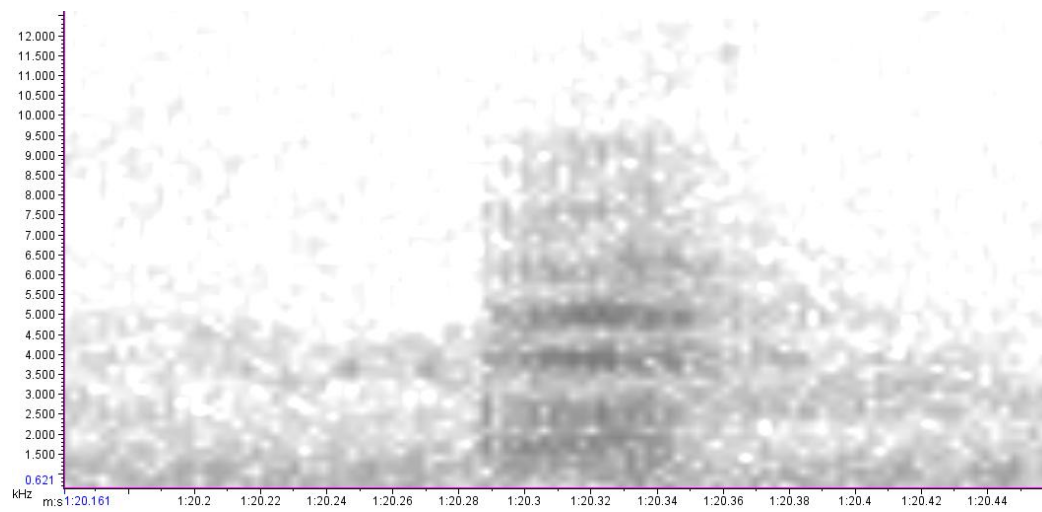
Syllable 87.



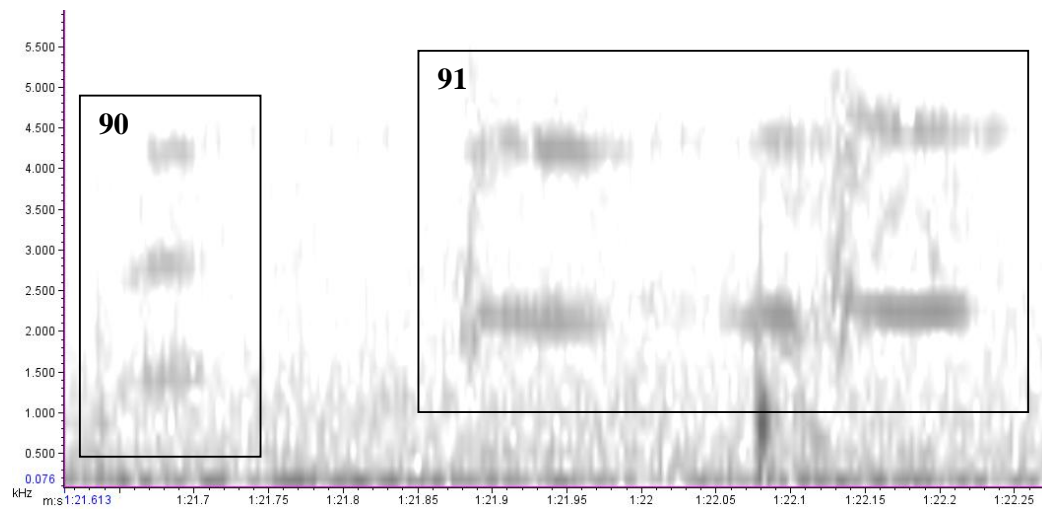
Syllables 88 and 89.



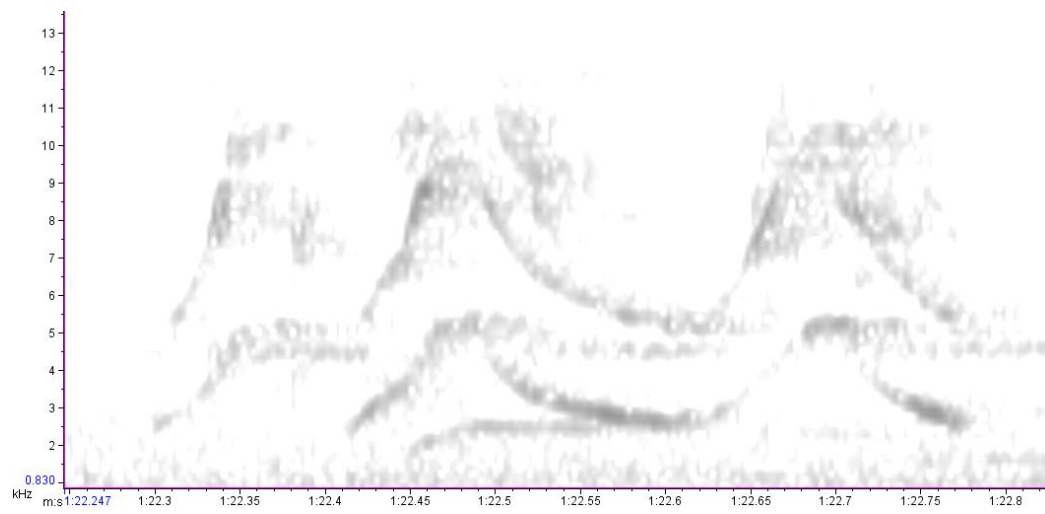
Repeated



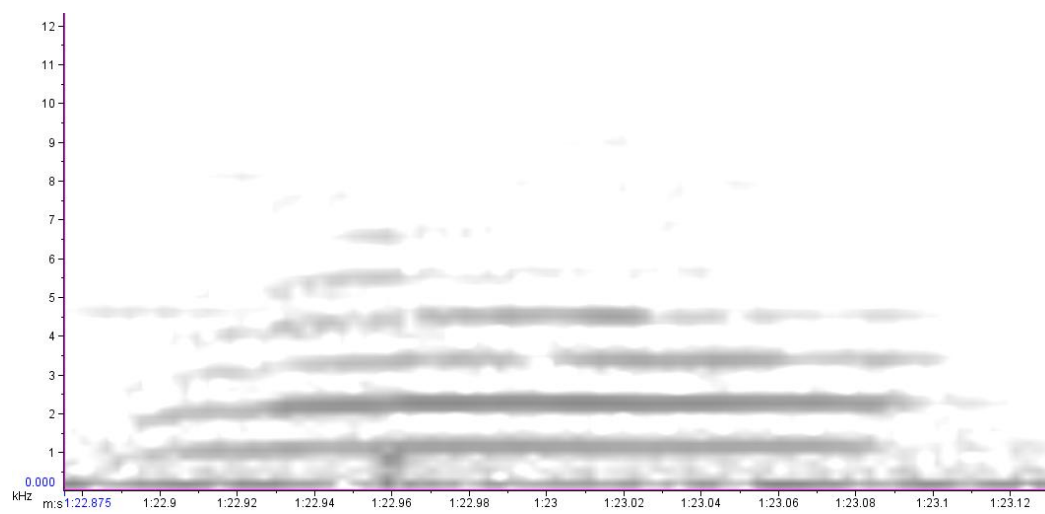
Syllables 90 and 91. Syllable 91 consists of 3 notes, all with identical structures, hence considered just one syllable.



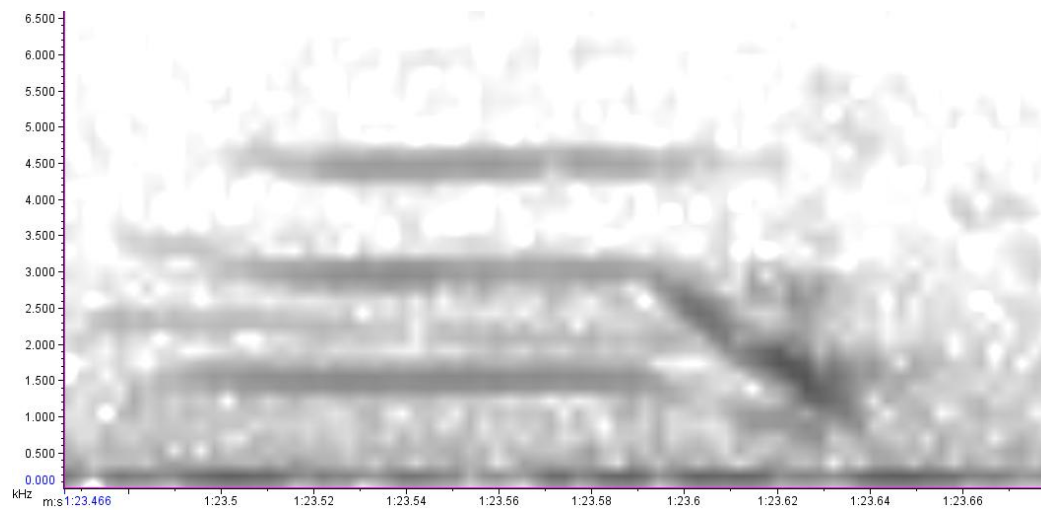
Syllable 92.



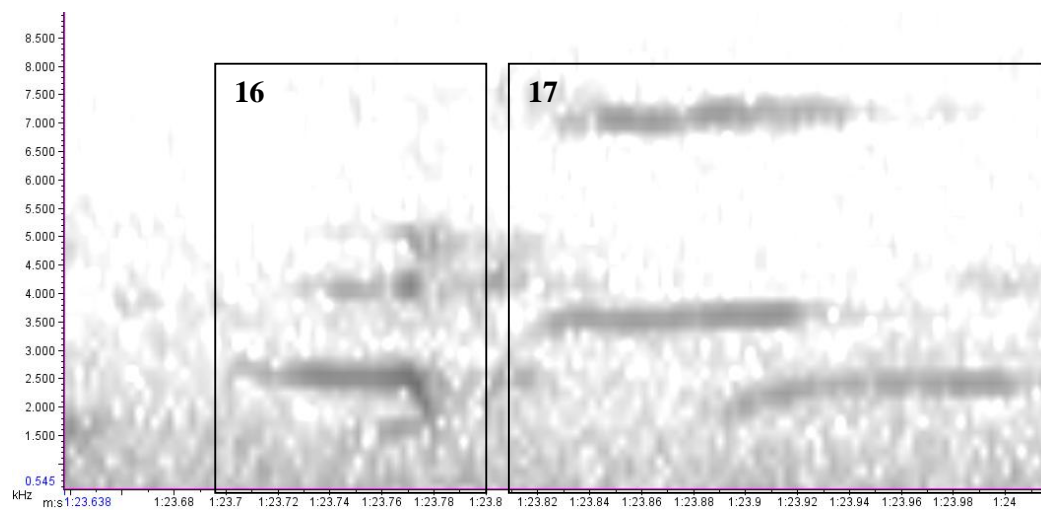
Repeated



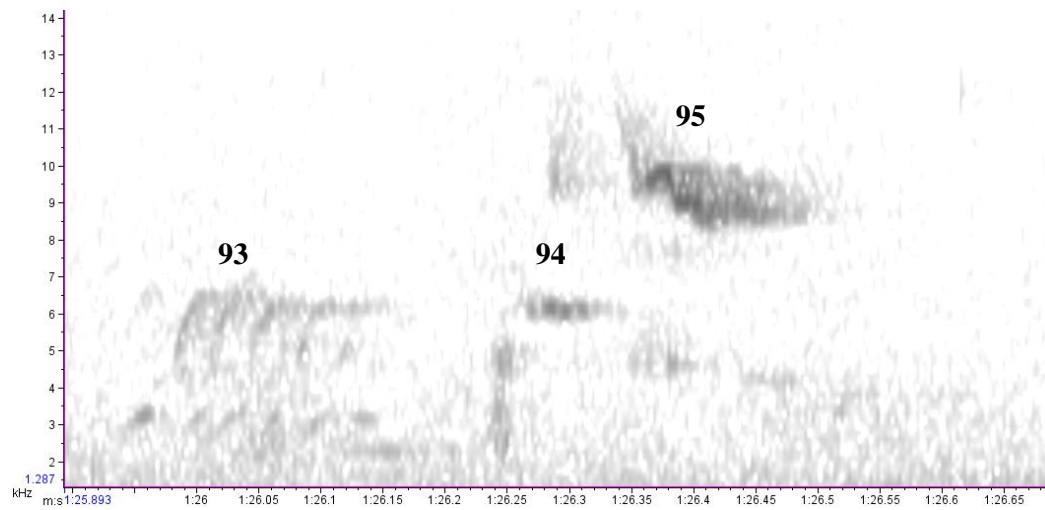
Repeated



Repeated x2.

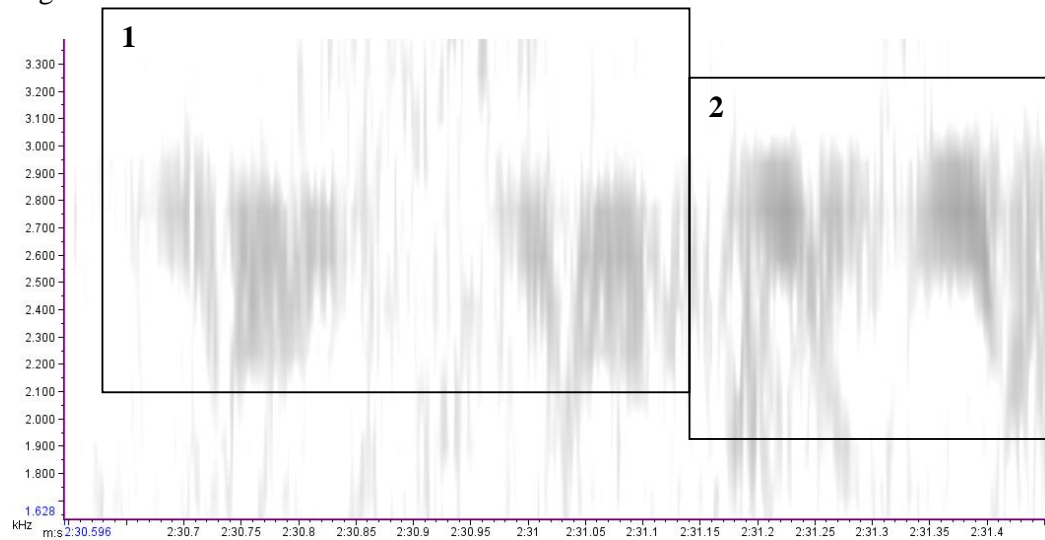


Syllables 93-95.

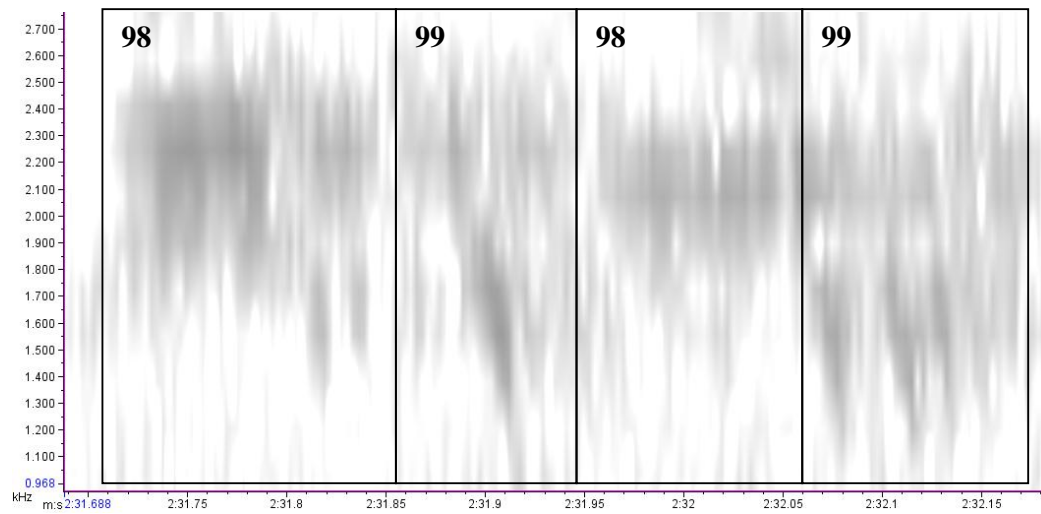


Song 9 – 1020 (GO-WM).

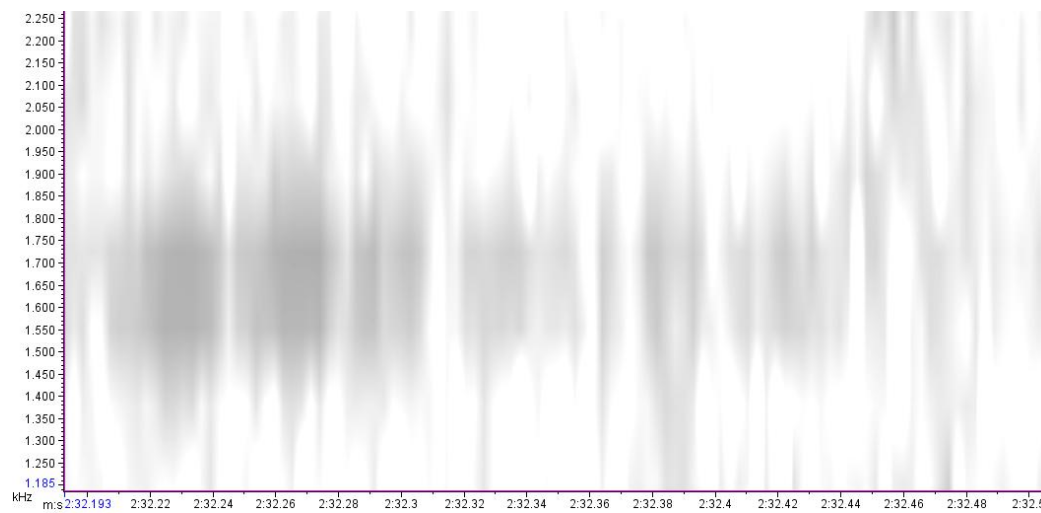
Syllables 96 and 97. 2 syllable 96s and 2 syllable 97s. These are part of an ‘ascending crescendo’ immediately preceding the main song bout. This was a territorial call in flight.



Syllables 98 and 99. 2 iterations of syllables 3 and 4. The second syllable 4 is ever-so-slightly different from the first but the similarity is enough to consider it the same syllable.

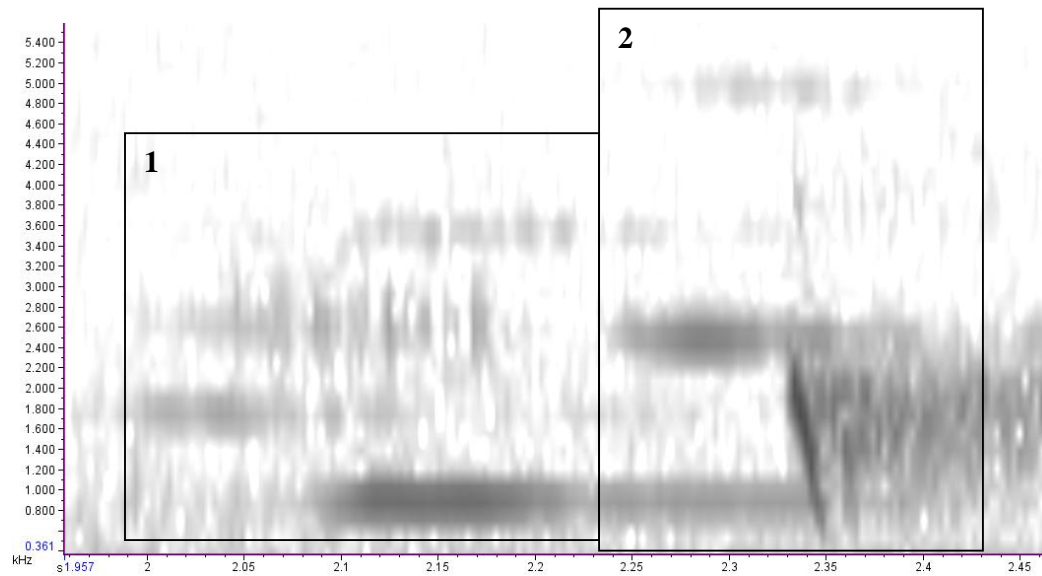


Syllable 100.

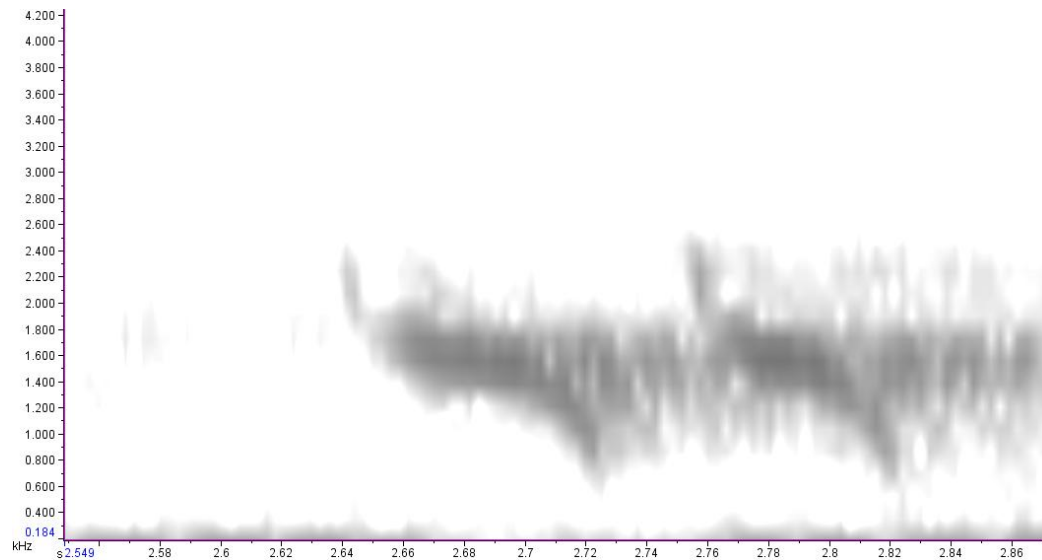


Song 10 – 007-2010-07-26 02_06_07. Ecology Bush. Non-breeding season.

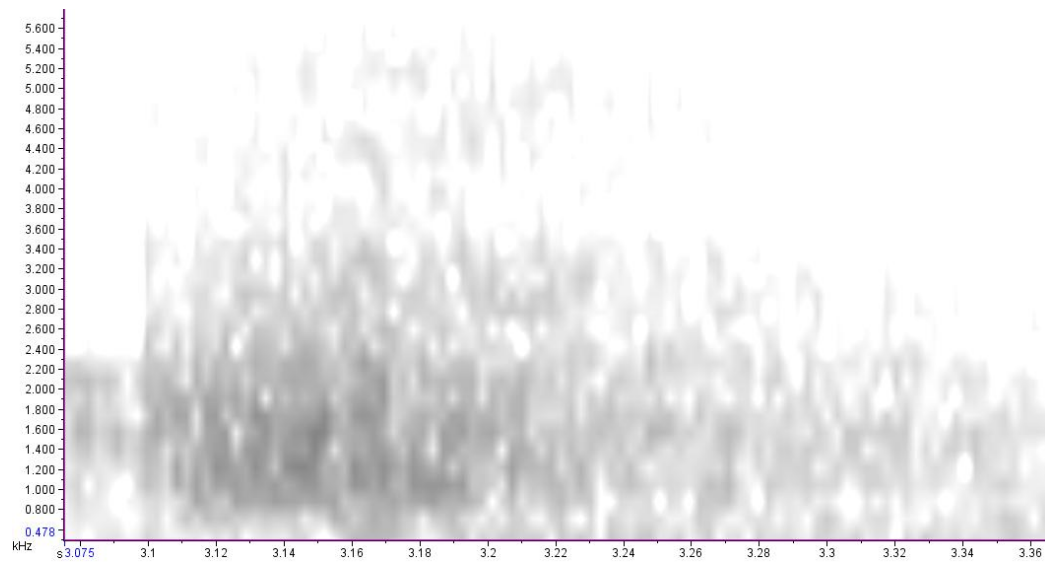
Syllables 101 and 102. Common Ecology Bush syllables. Both syllables are complex and have overlapping components.



Syllable 103.

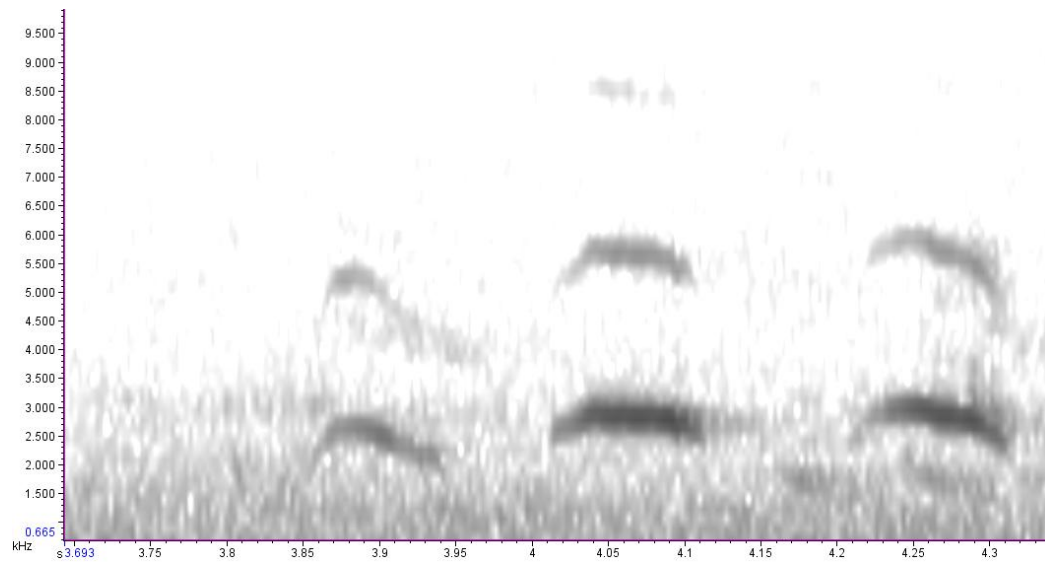


Repeated. Common terminal syllable in Ecology Bush.

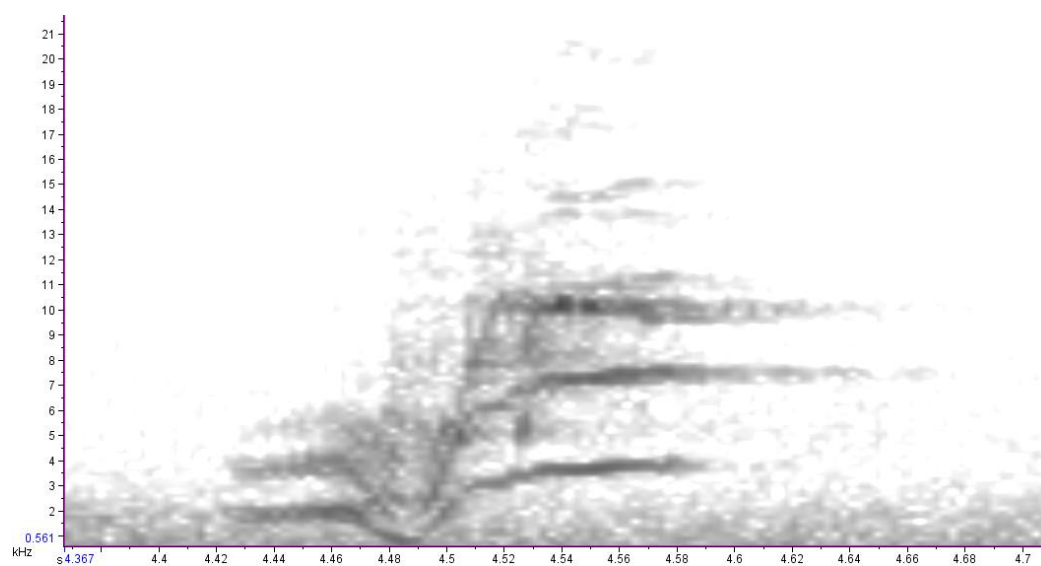


Song 11 - 007-2010-09-28 00_50_59. Female.

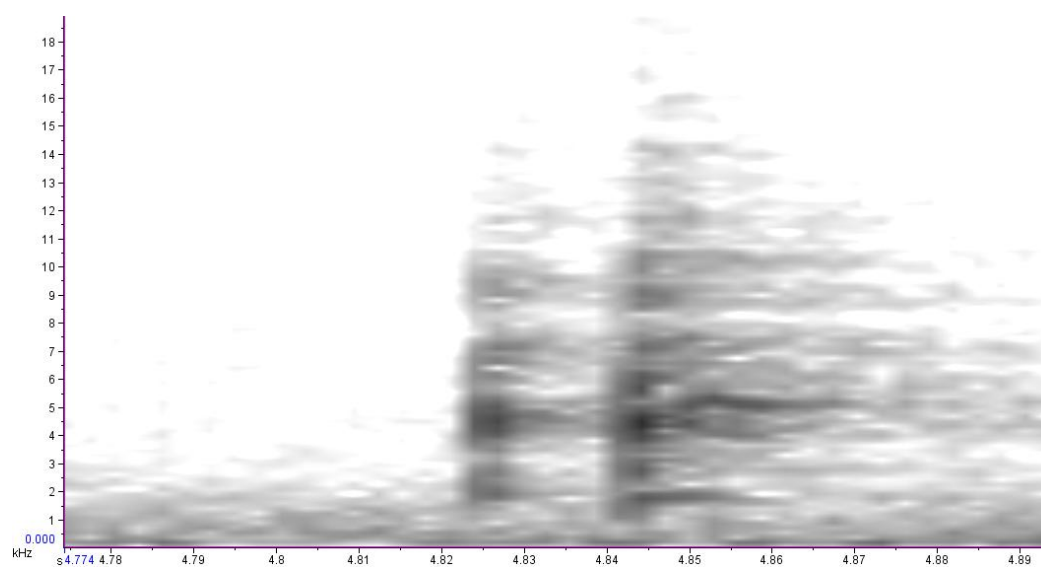
Syllable 104.



Syllable 105.



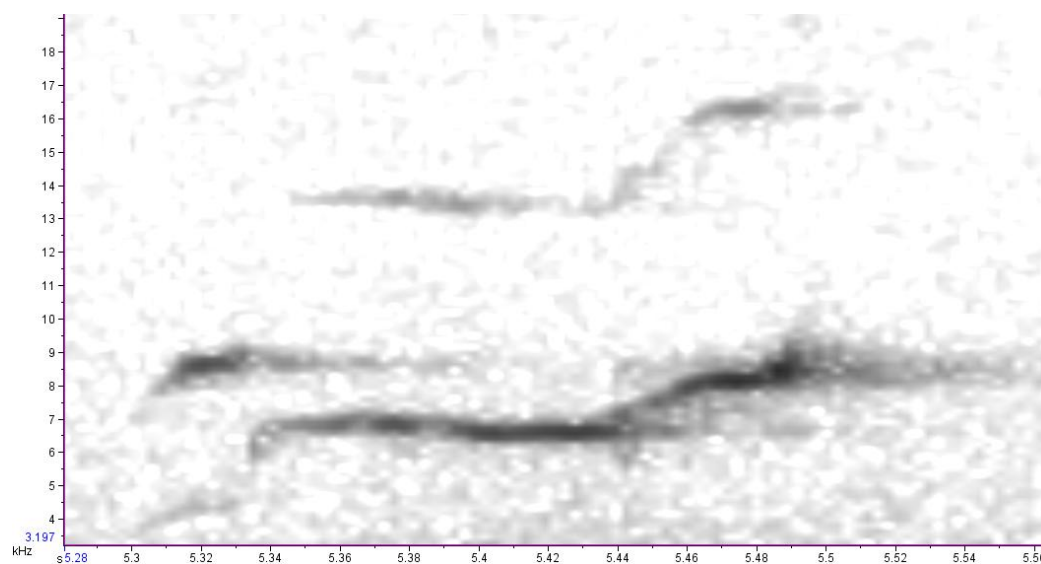
Syllable 106.



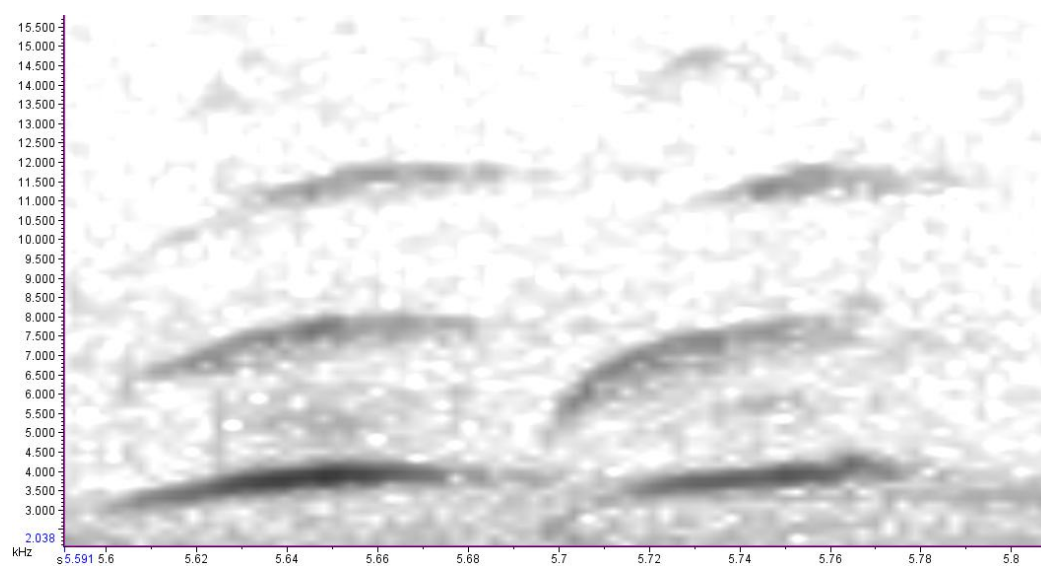
Syllable 107.



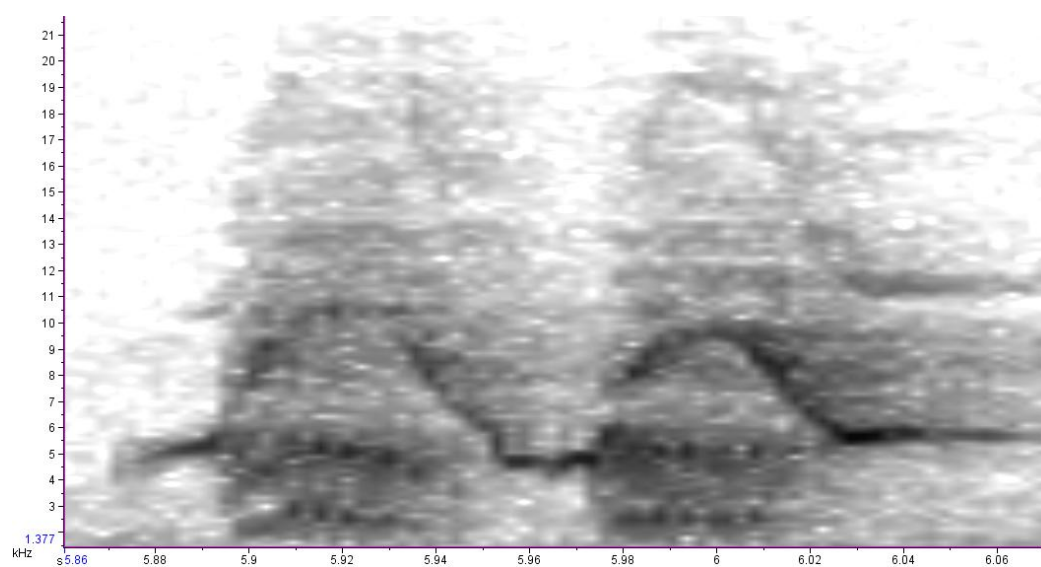
Syllable 108



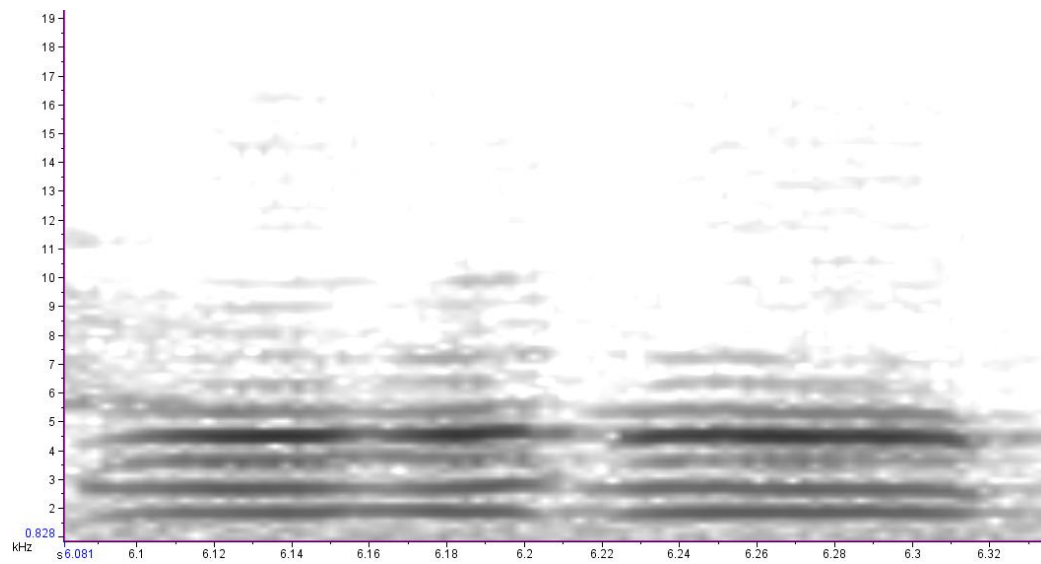
Repeated.



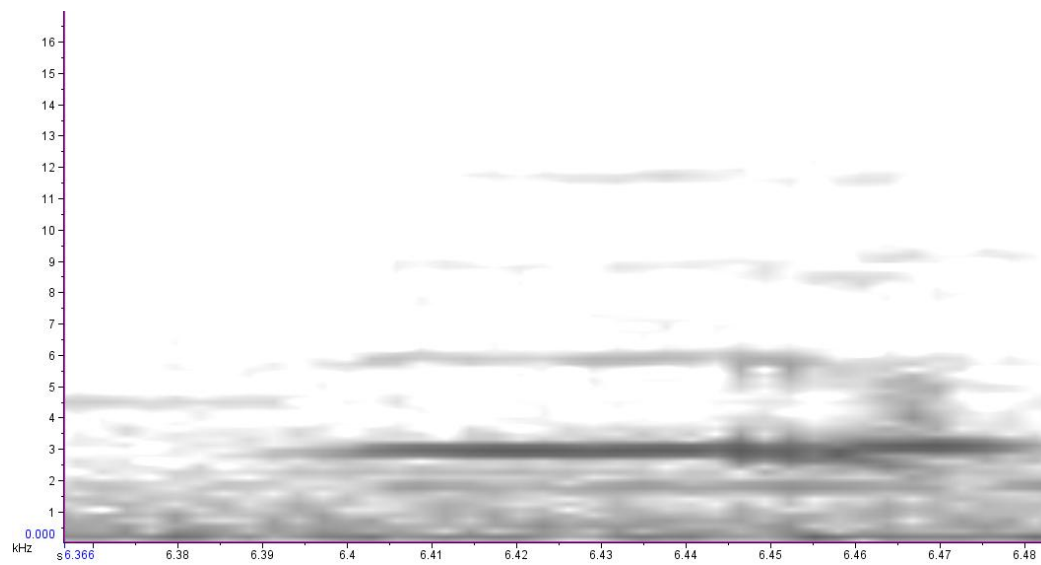
Repeated.



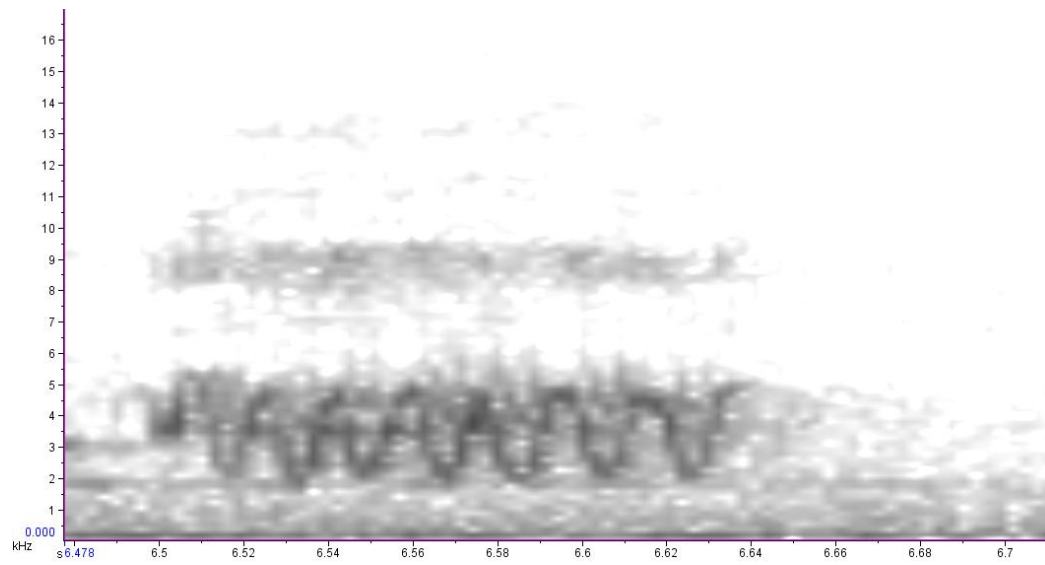
Repeated. 3 notes in this syllable.



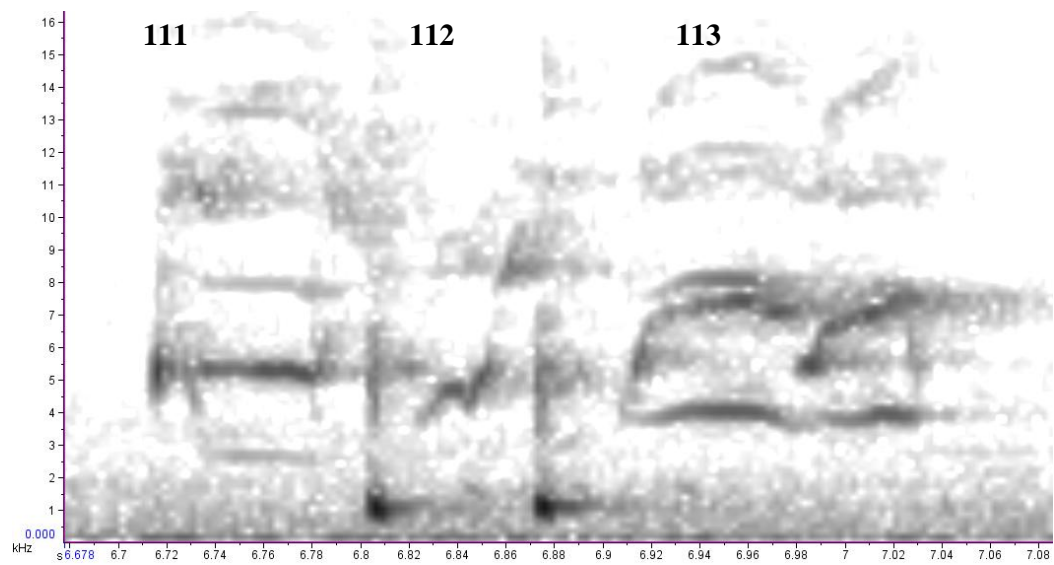
Syllable 109.



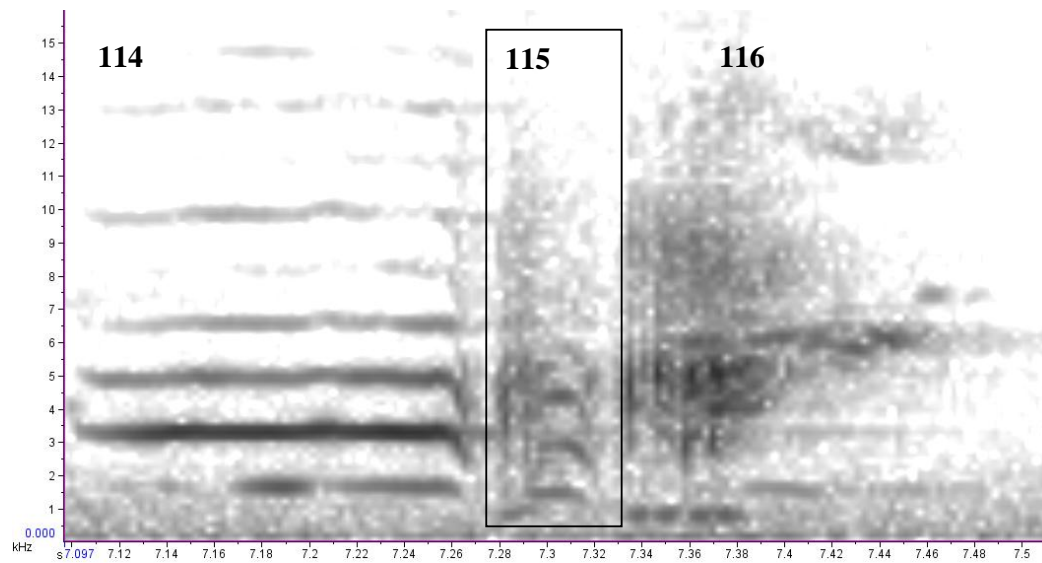
Syllable 110.



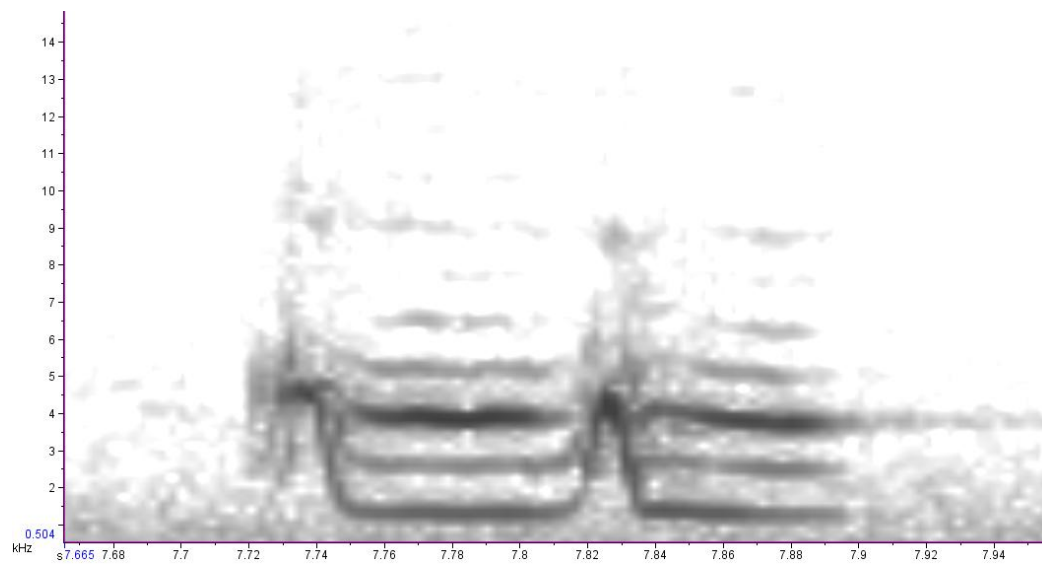
Syllables 111 to 113. Three syllables in very close proximity.



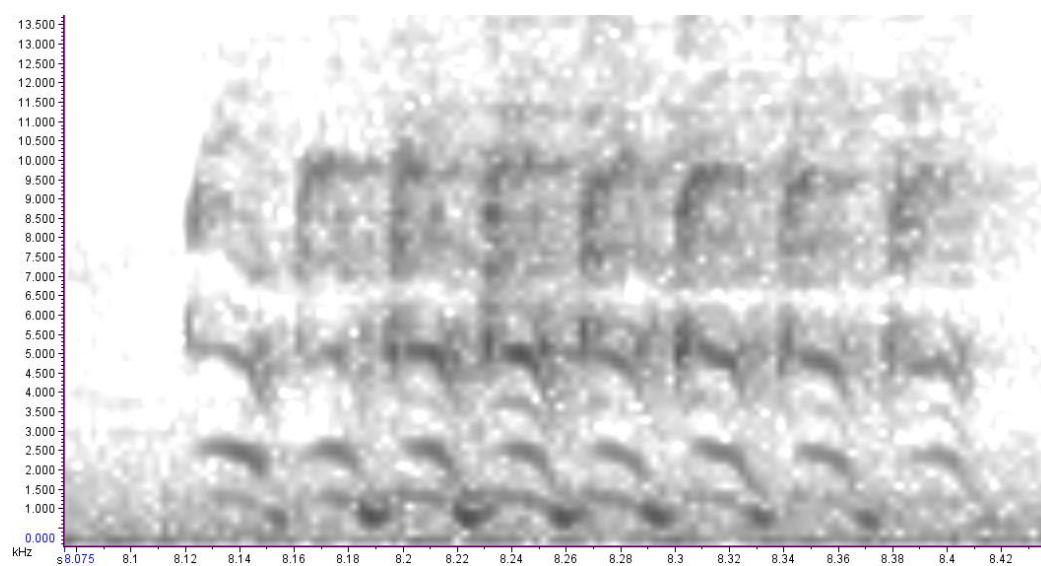
Syllables 114 to 116. Again, three syllables very closely sung together. In the first instance, it resembles just one syllable but at deeper inspection, it can be seen that there are 3 different syllables within.



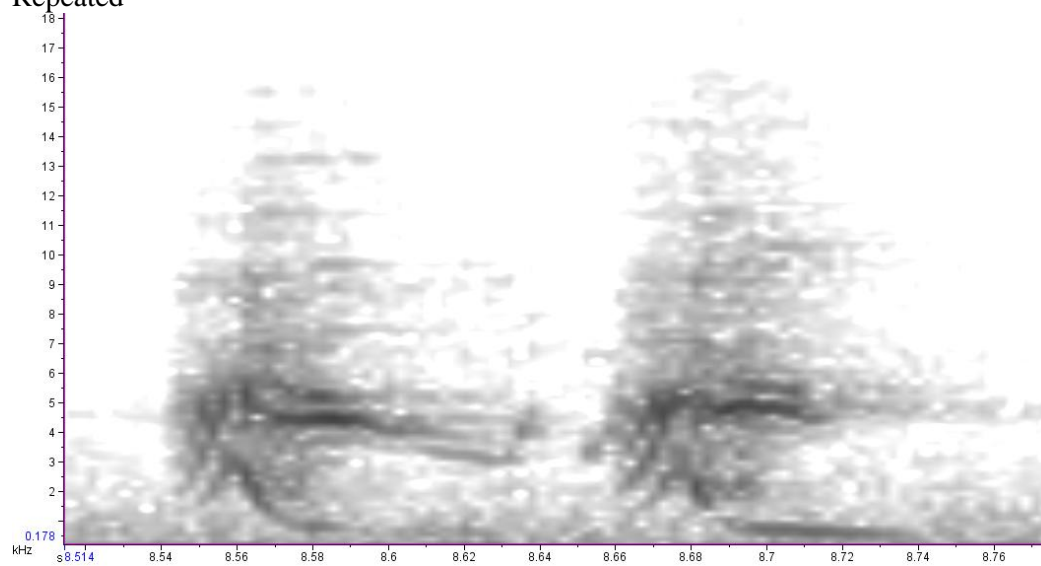
Repeated



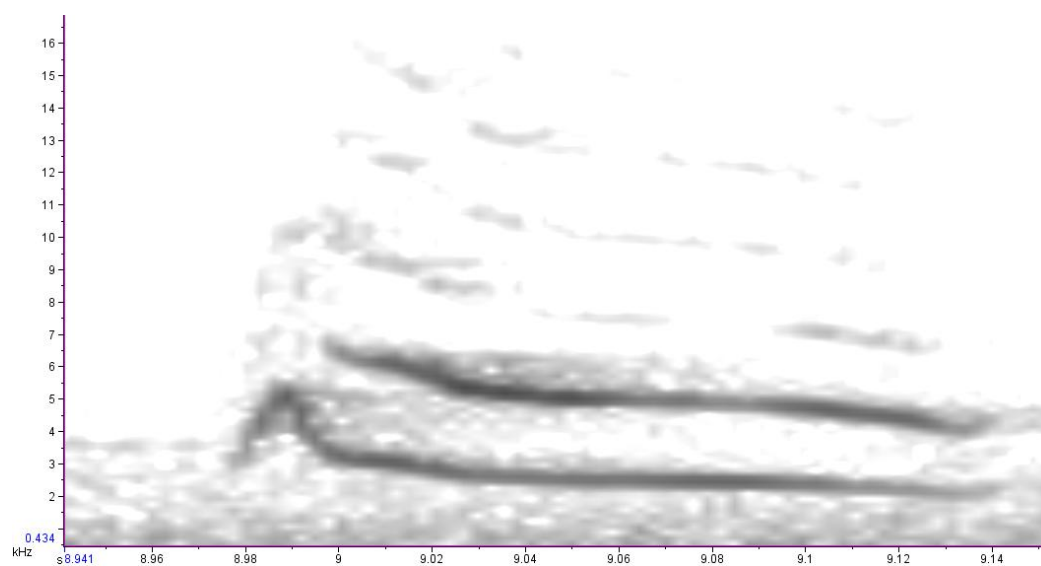
Repeated



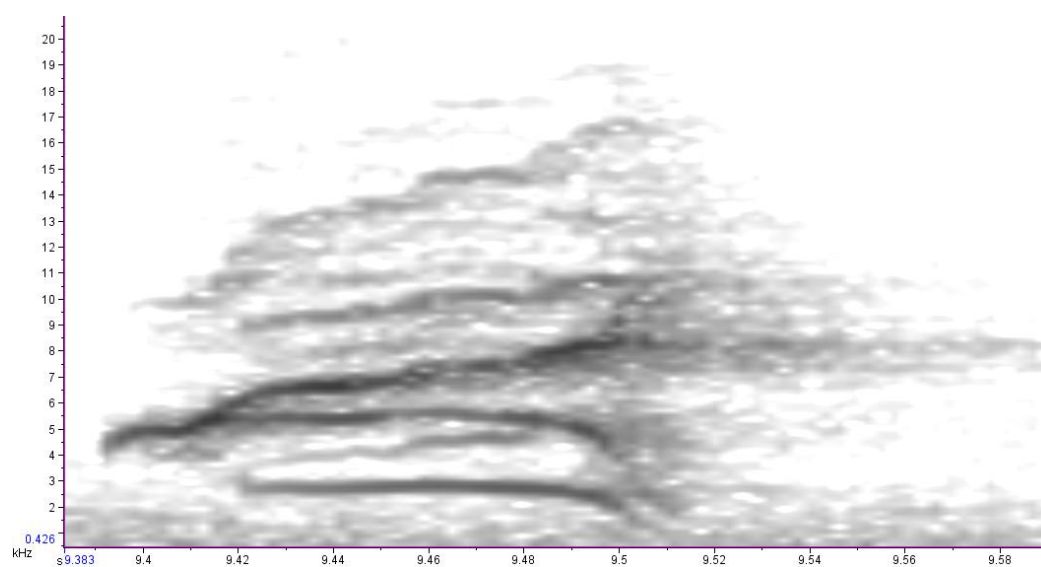
Repeated



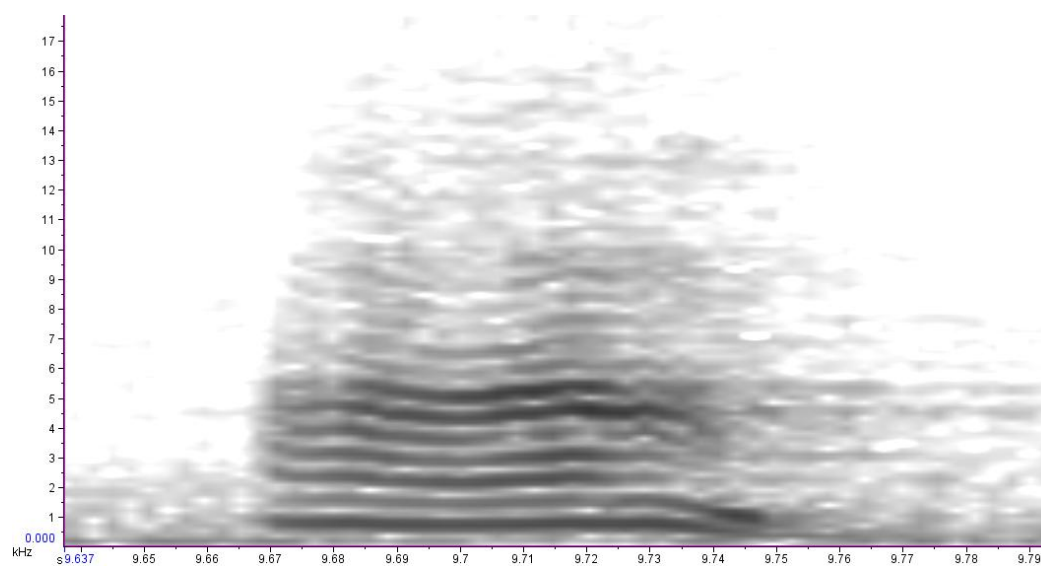
Repeated



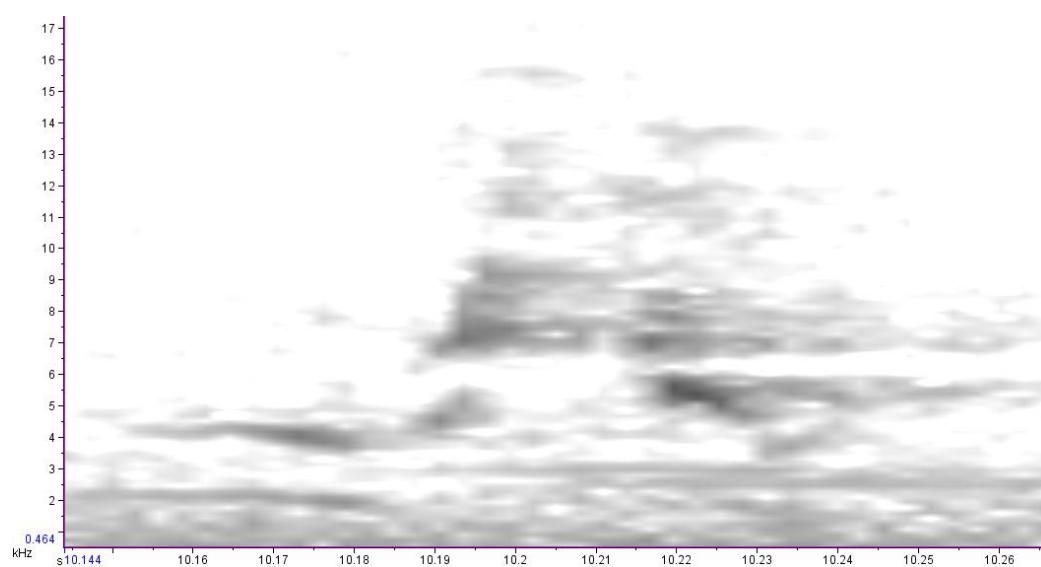
Repeated



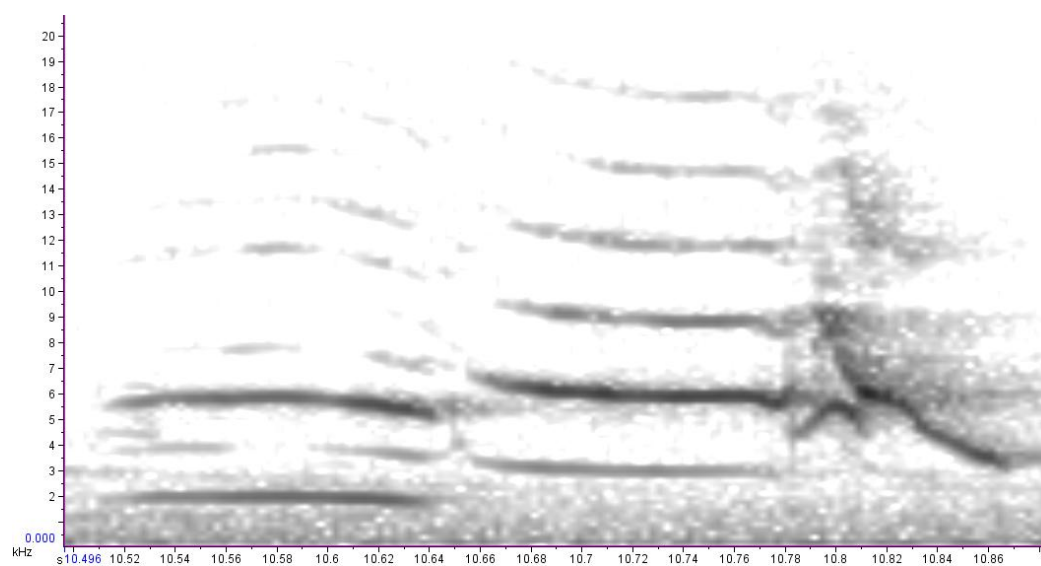
Repeated



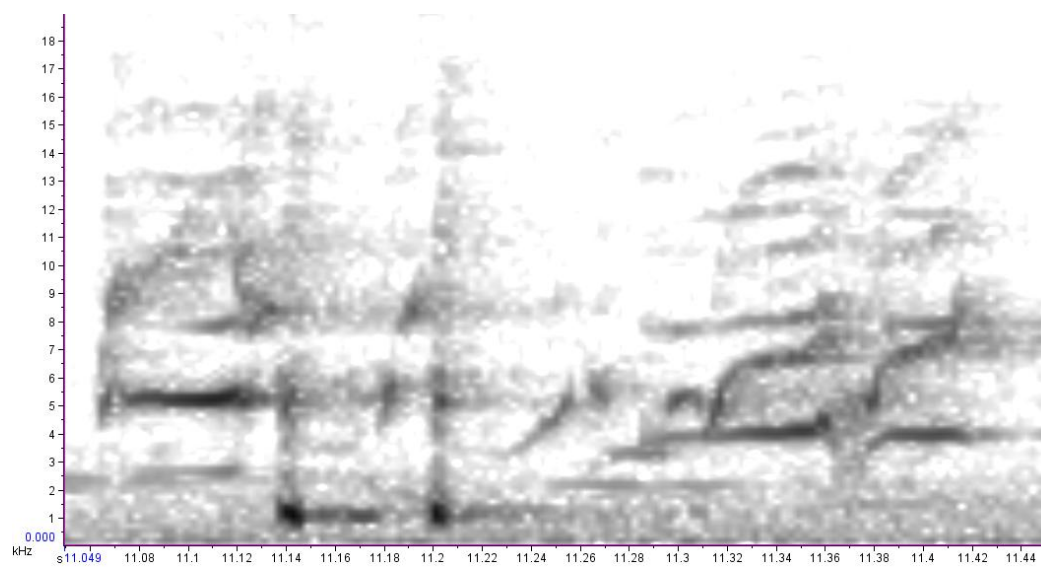
Syllable 117



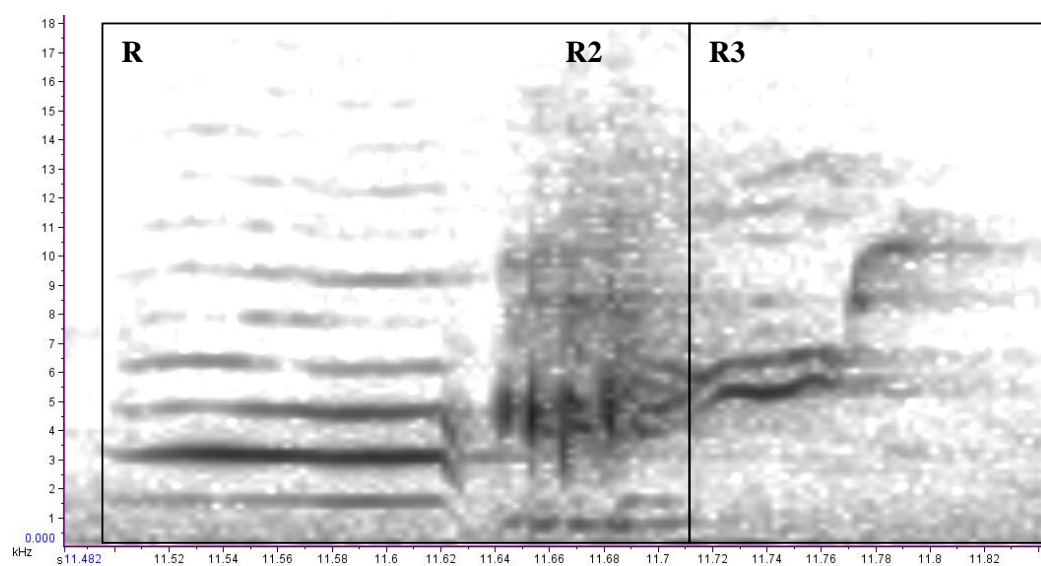
Syllable 118.



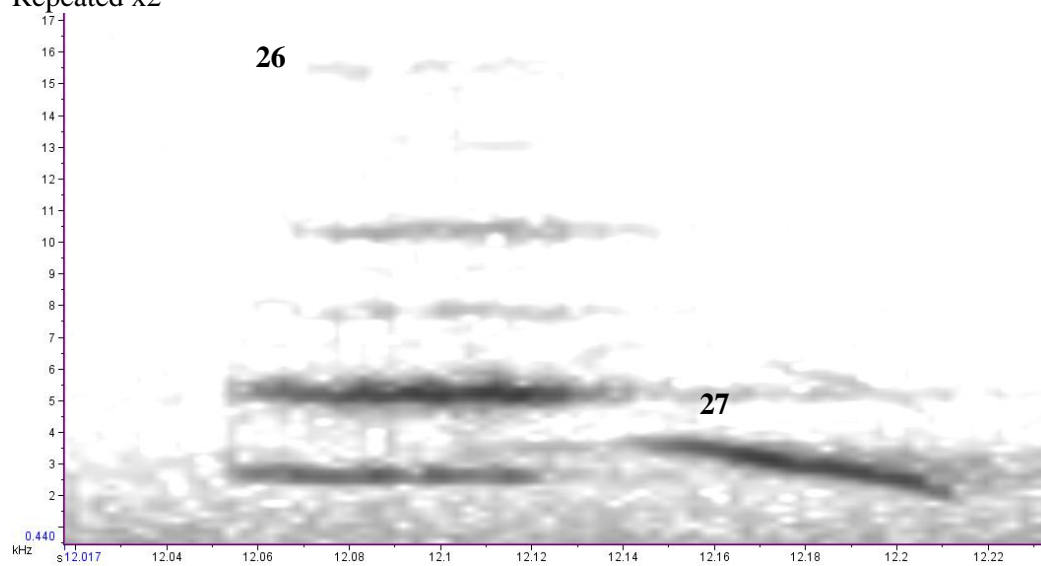
Repeated x3



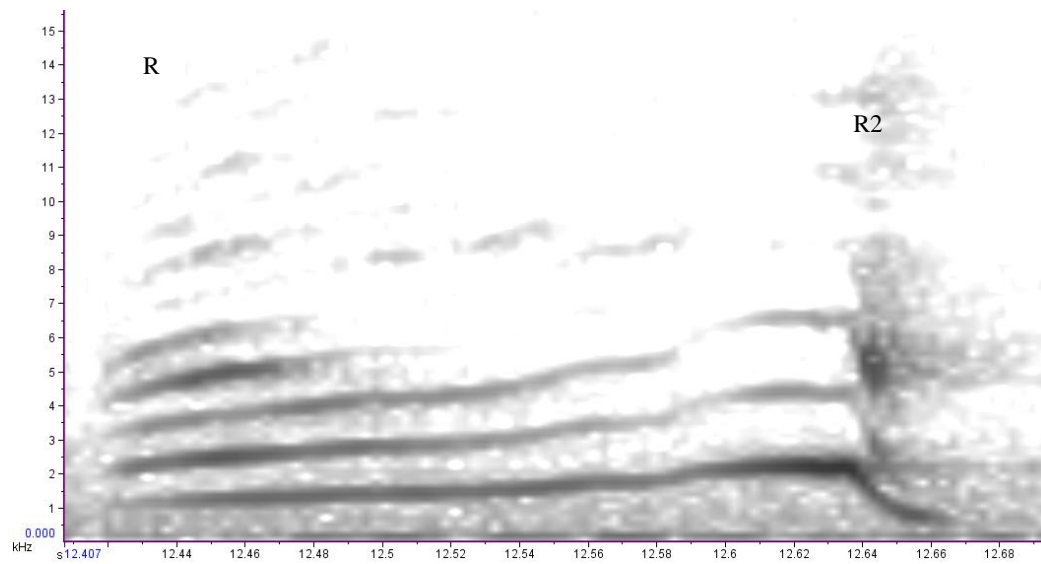
Repeated x3.



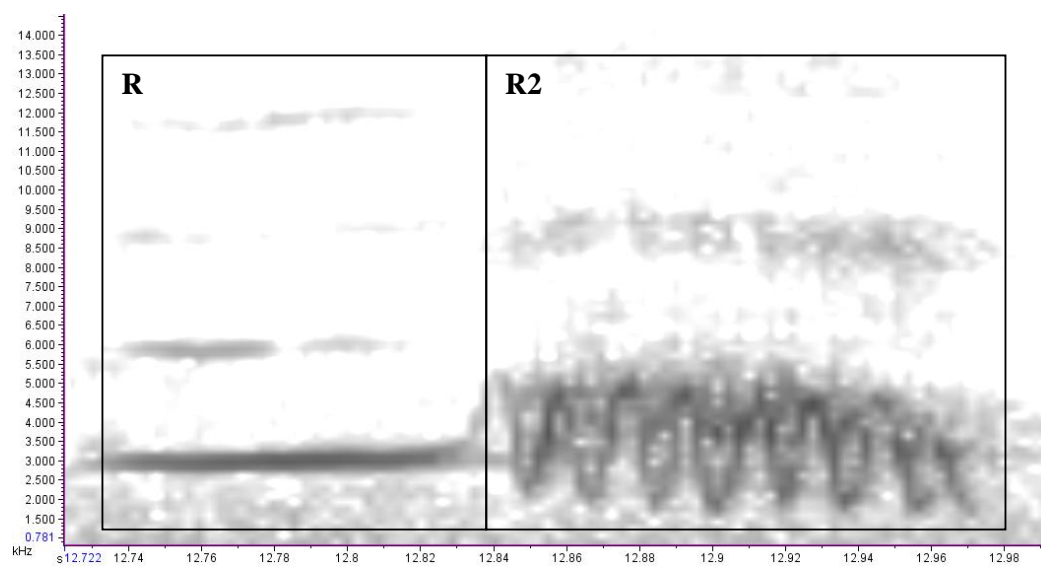
Repeated x2



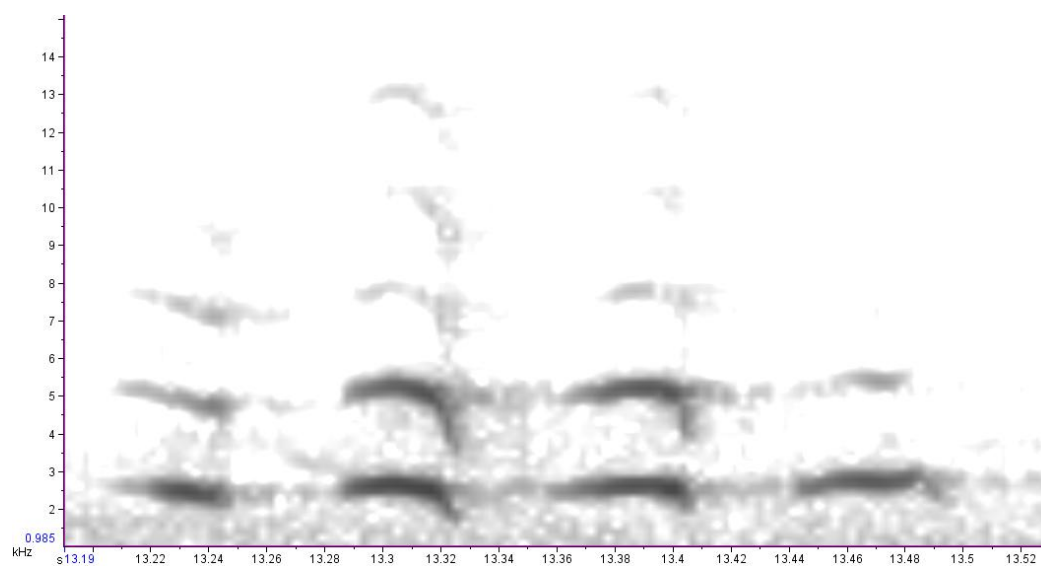
Repeated x2.



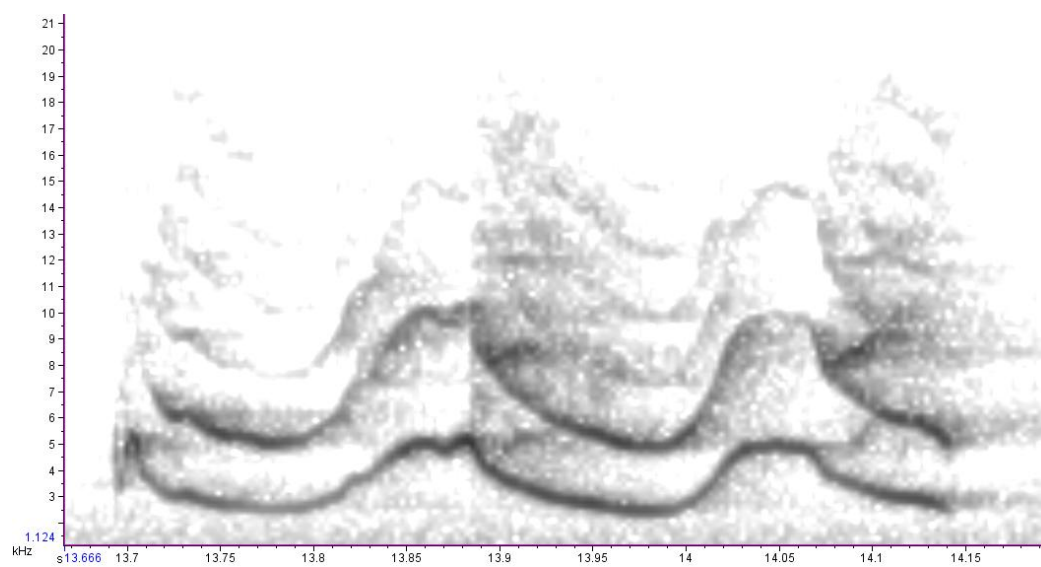
Repeated x2



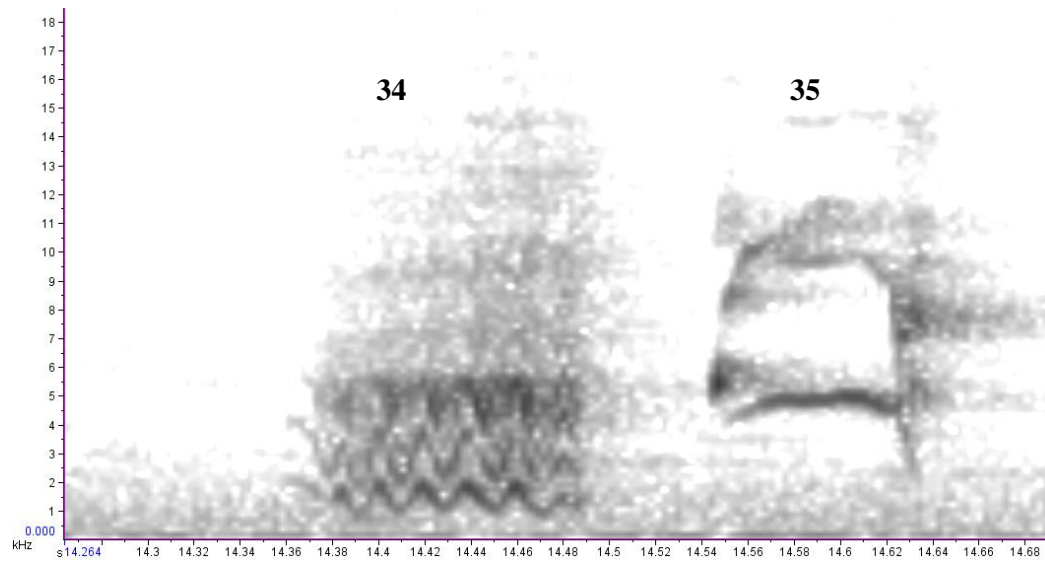
Repeated



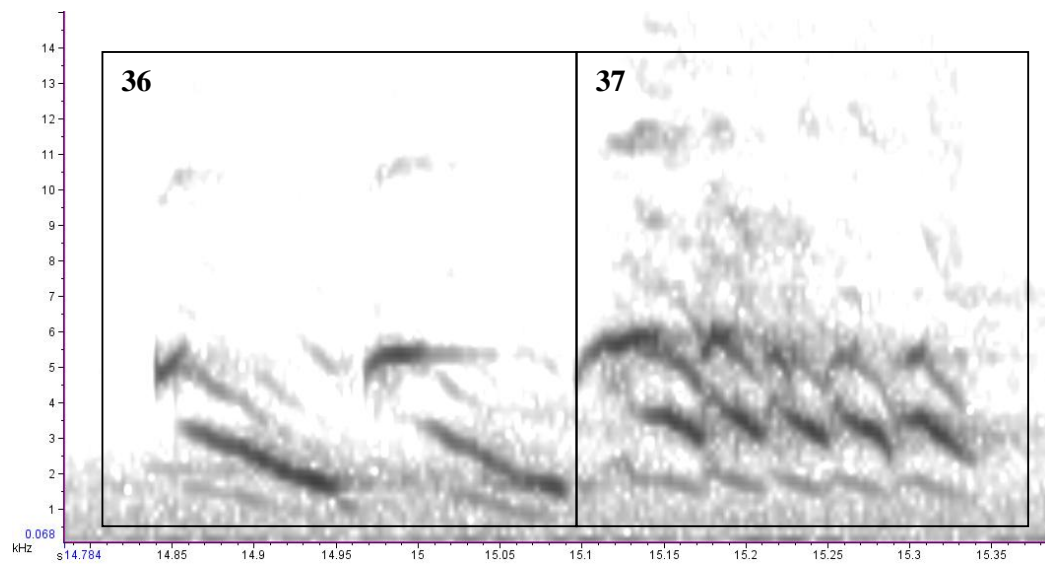
Repeated



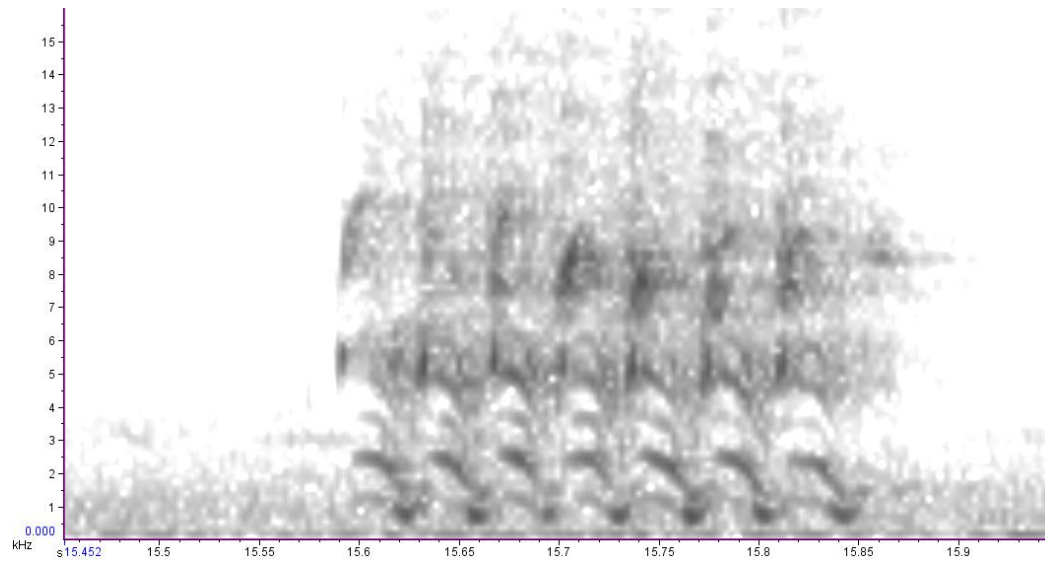
Repeated x2



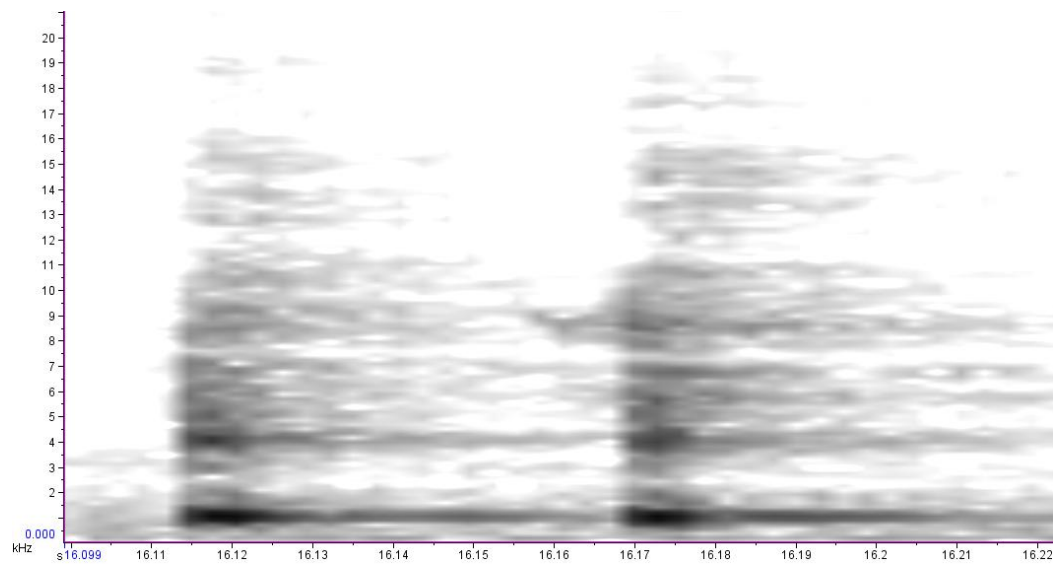
Syllables 119 and 120.



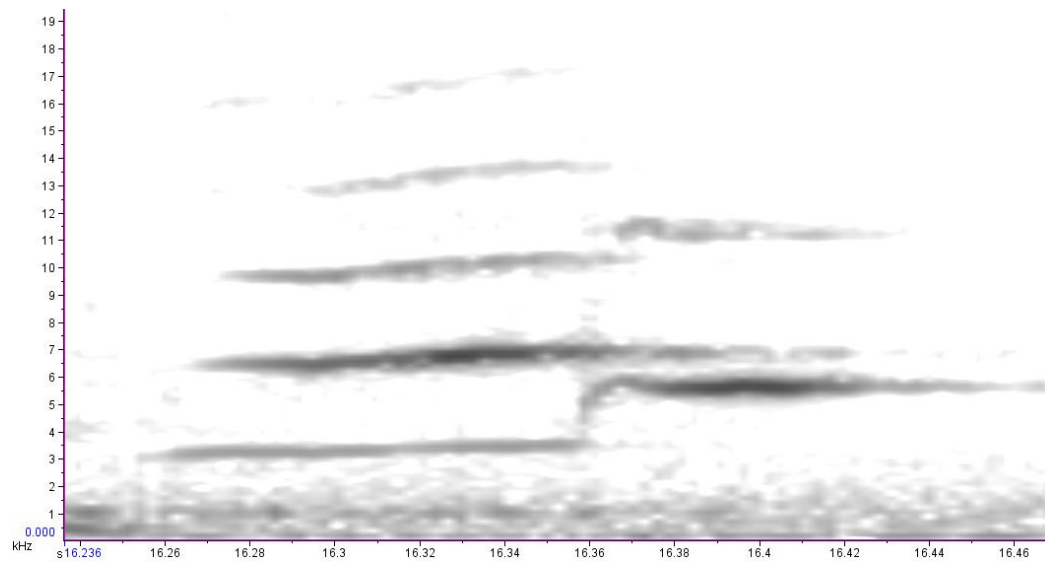
Repeated



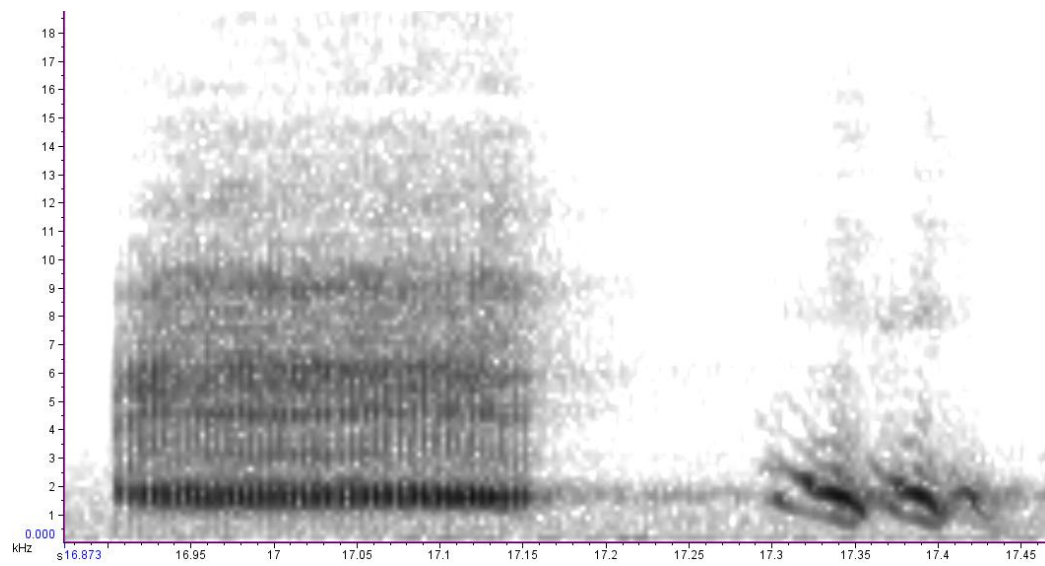
Syllable 121.



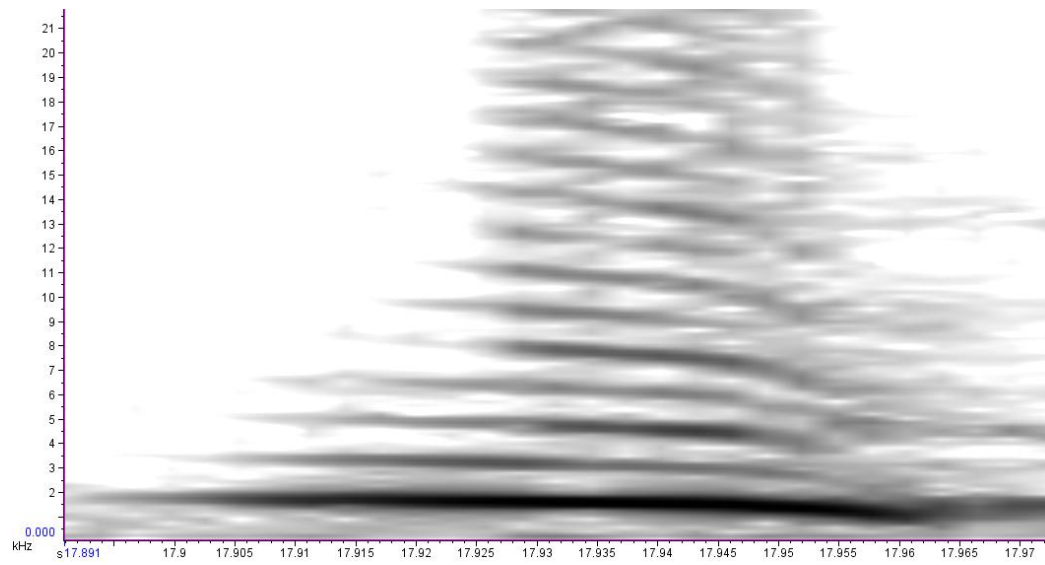
Repeated



Repeated x2.

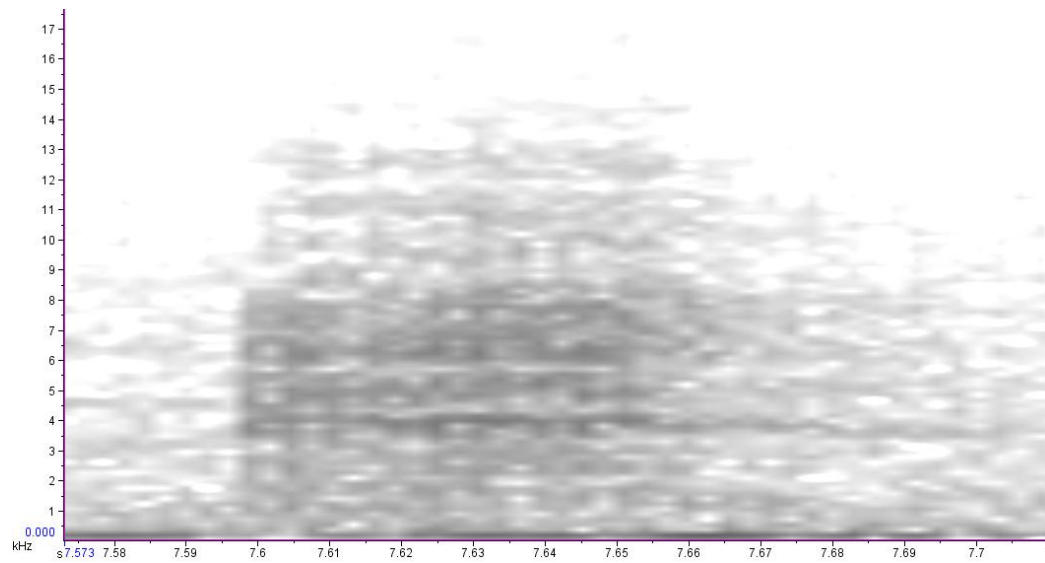


Repeated

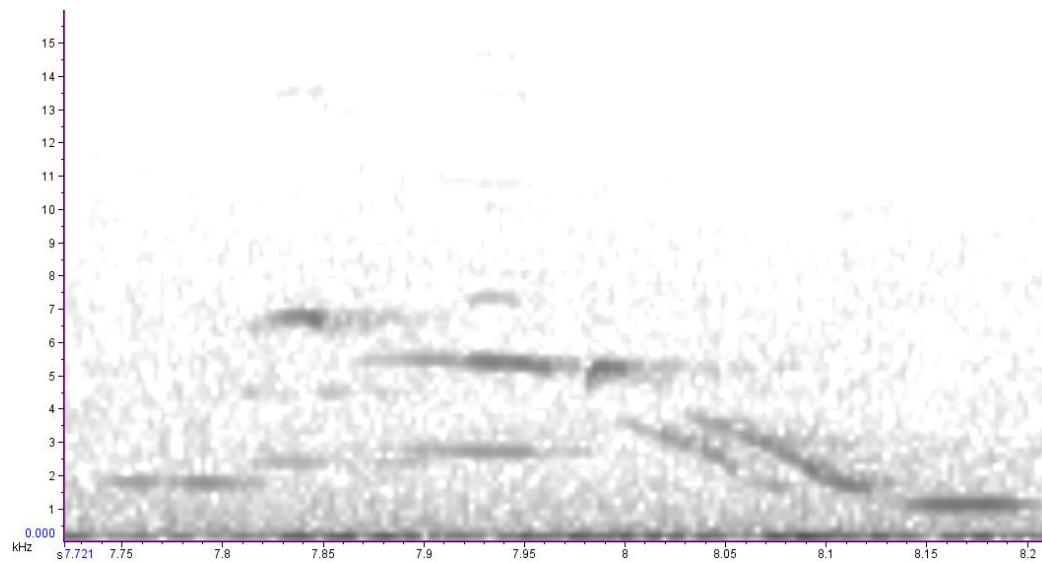


Song 12 - 003-2010-09-28 01_16_36 (WM-GR. Female).

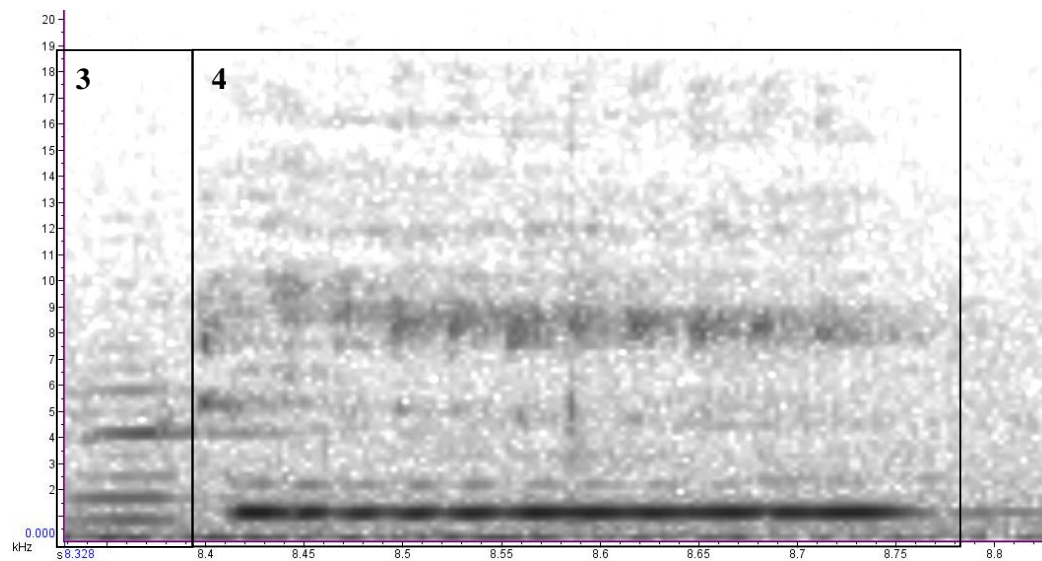
Repeated



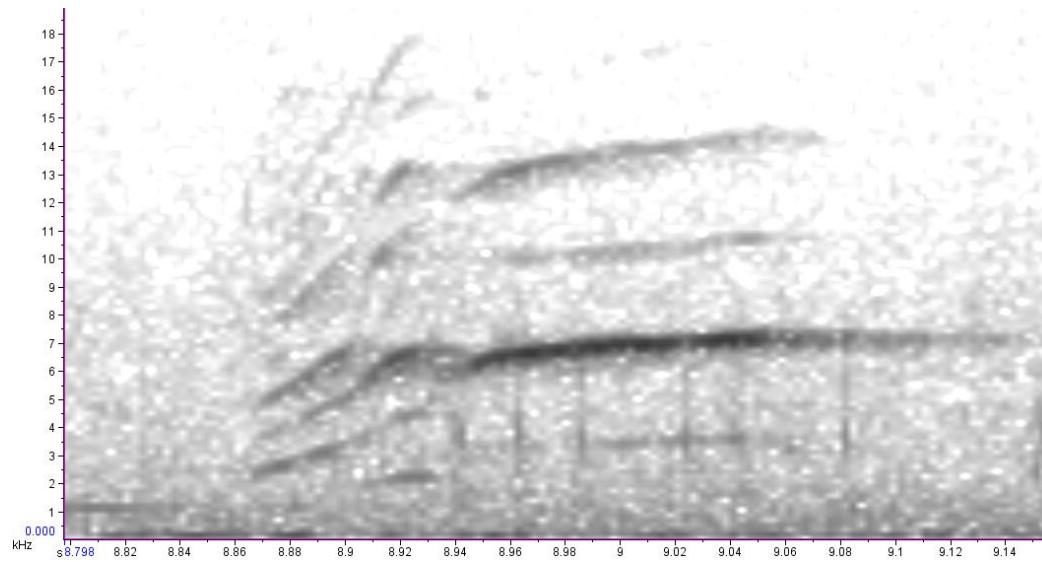
Syllable 122. Overlapping, conjoining. The last part of syllable 2 is considered part of the same syllable due to the continual nature of the sound i.e. the last syllable is a continuation of the previous constituents in terms of sound.



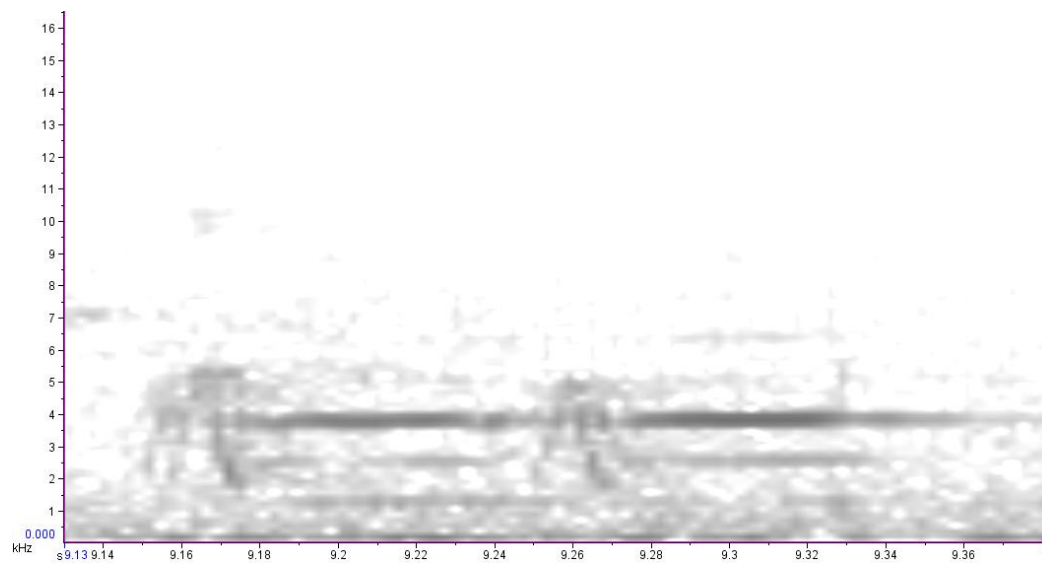
Syllables 123 and 124. A very common syllable at Jones Bay. Instantly recognisable as a 'Jones Bay' syllable (the syllable 4 part is the recognisable part).



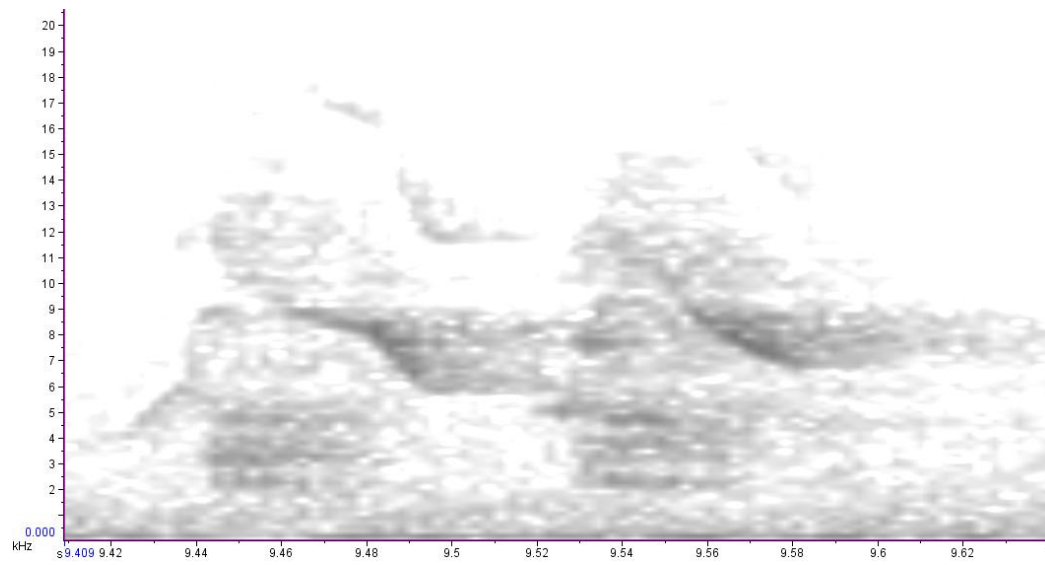
Syllable 125.



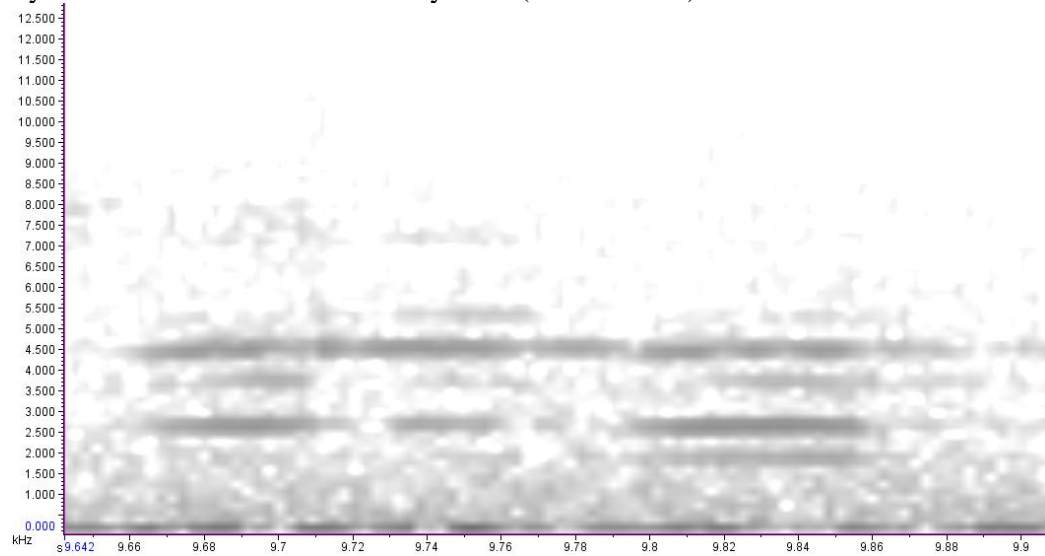
Repeated



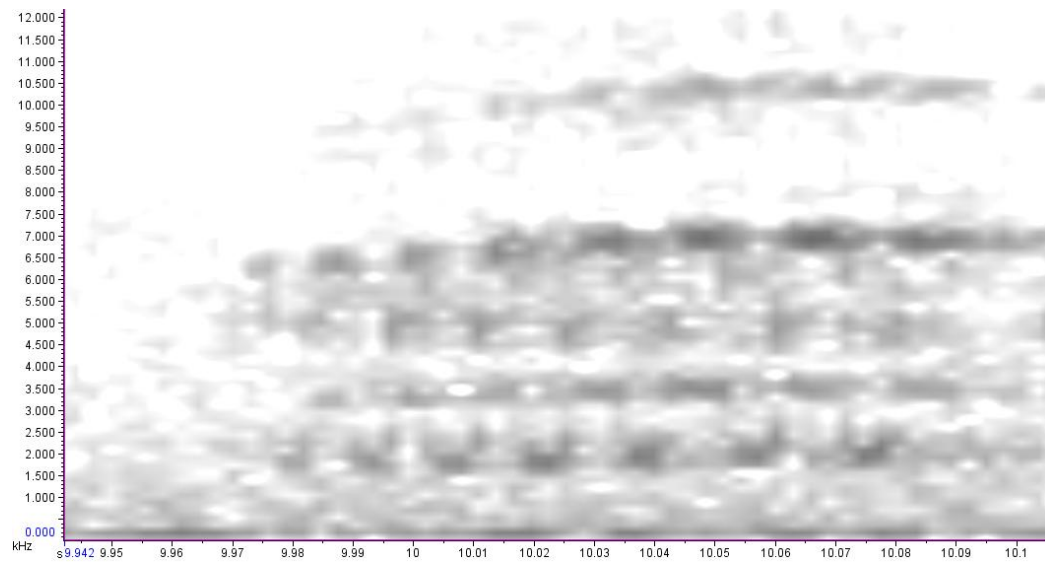
Repeated



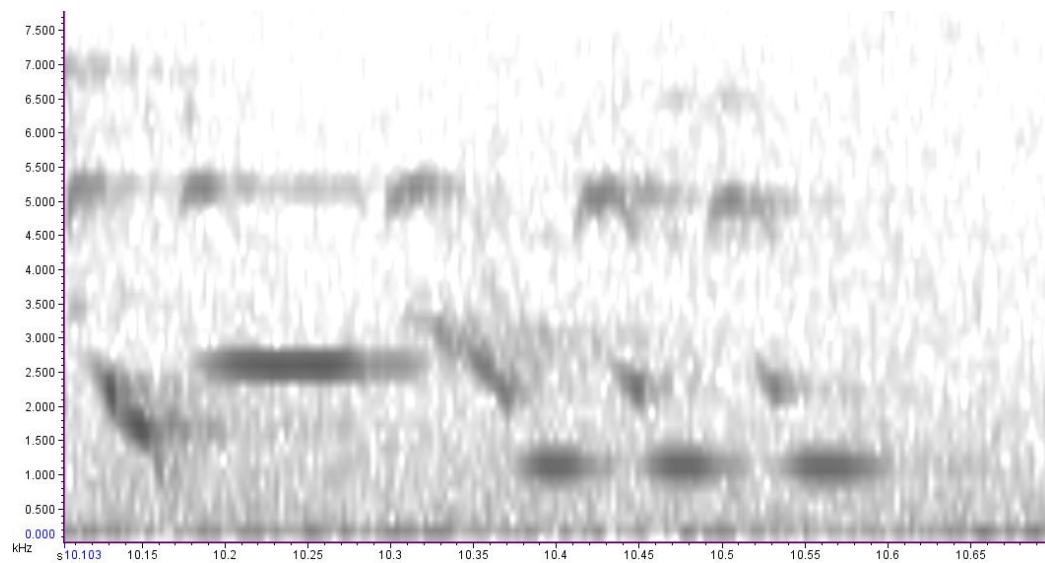
Syllable 126. 15th most common syllable (Section 3.3.3)



Repeated

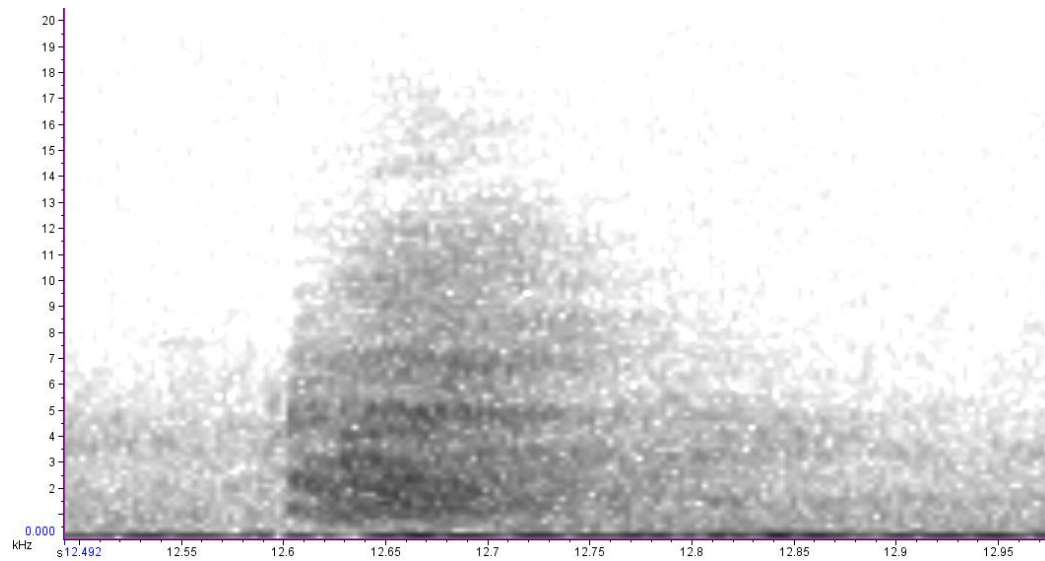


Syllable 127. All components are conjoined. Of the final three notes, the first note is conjoined with the preceding component and the final two notes are identical to the first note of that trio, hence considered all part of one syllable.s

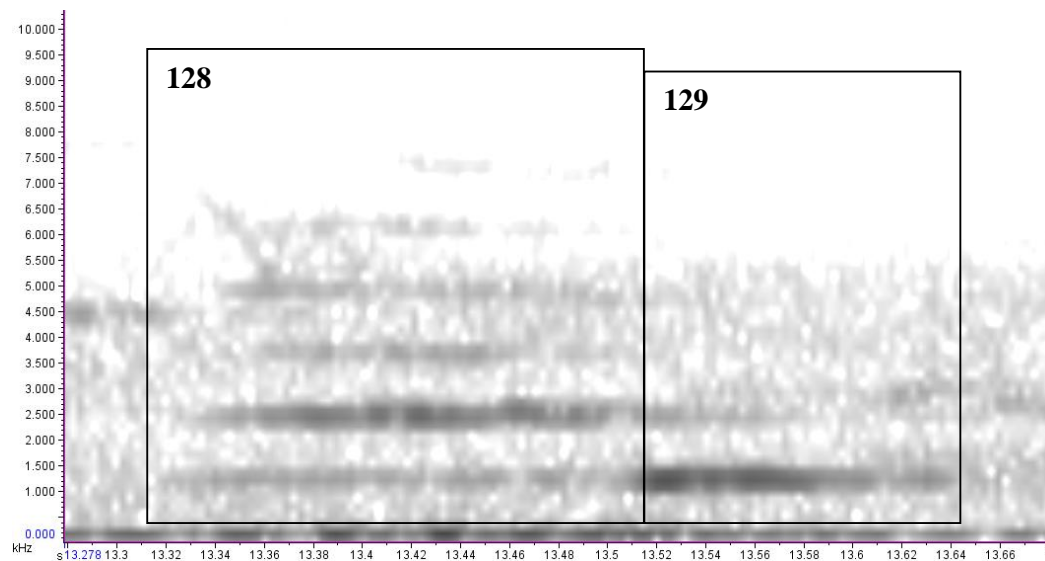


Song 13 - 013-2010-10-03 23_48_28.

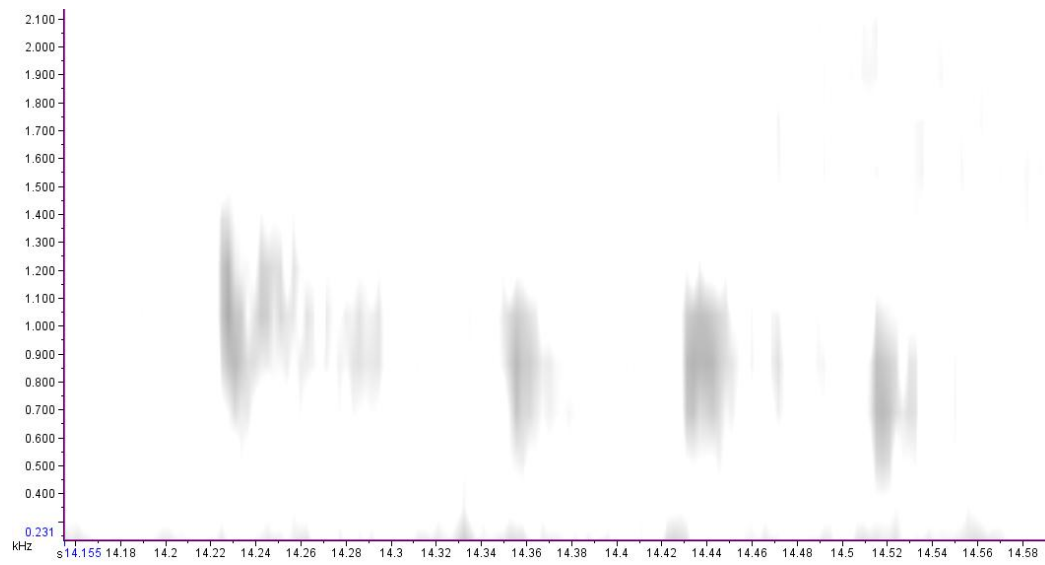
Repeated. The common throaty 'kkuh' syllable (produced by thrusting head back).



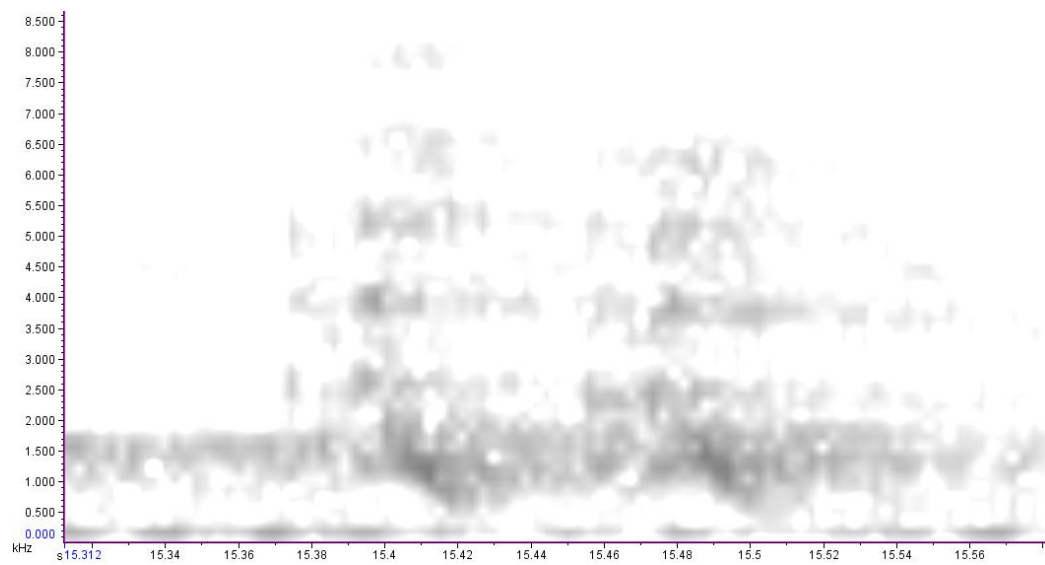
Syllables 128 and 129. The Anchor Bay 'syllables'. At Anchor Bay, these two syllables are usually repeated once (i.e. 2 copies of the pair of syllables), but in this instance, there is just one iteration.



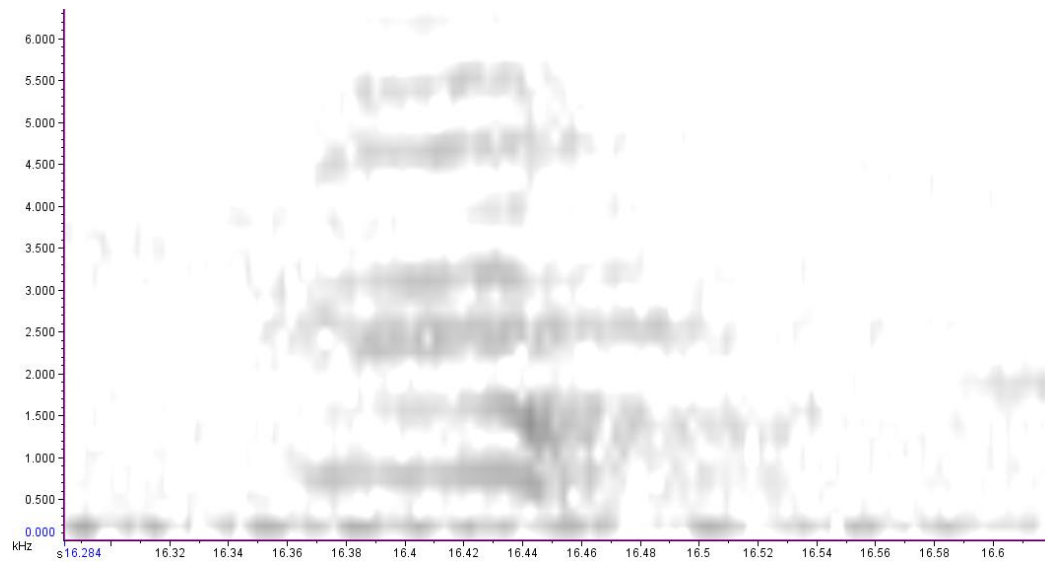
Repeated. The 'kok-kok-kok' syllable. This time this syllable only consists of 4 notes.



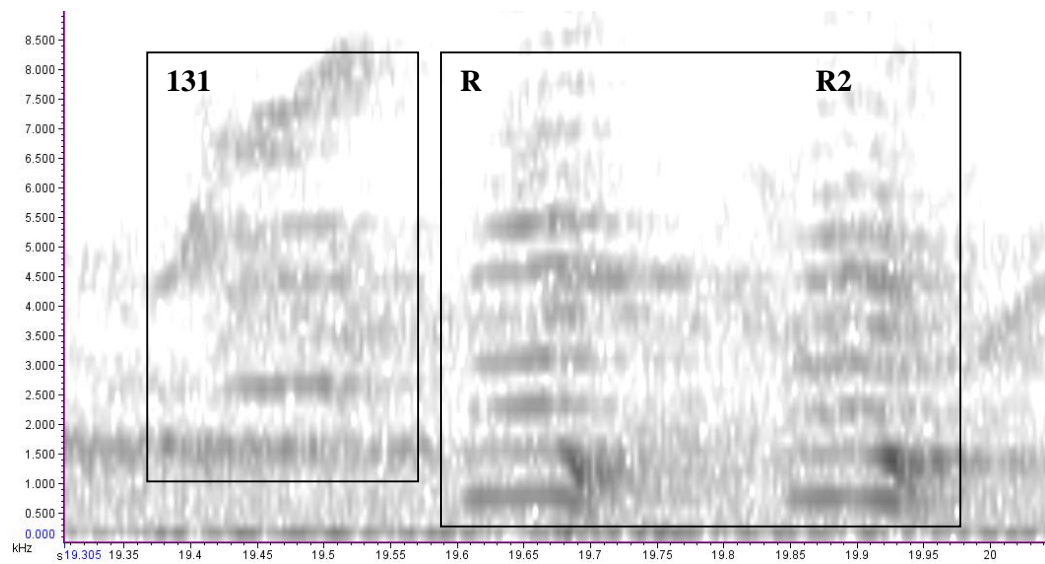
Syllable 130.



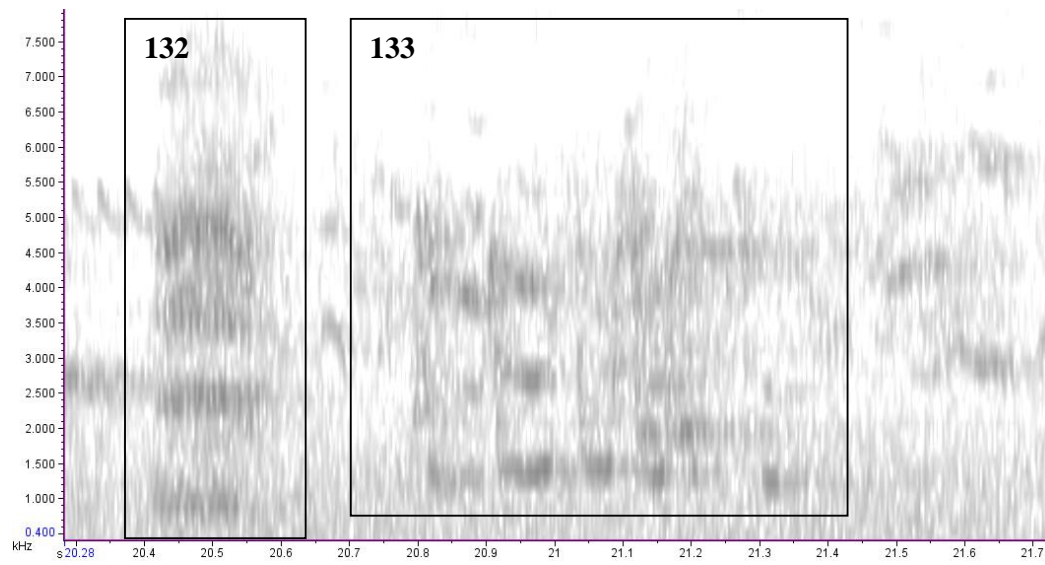
Repeated. Identical to 'syllable 6' from song 1 (North Coast Trail).



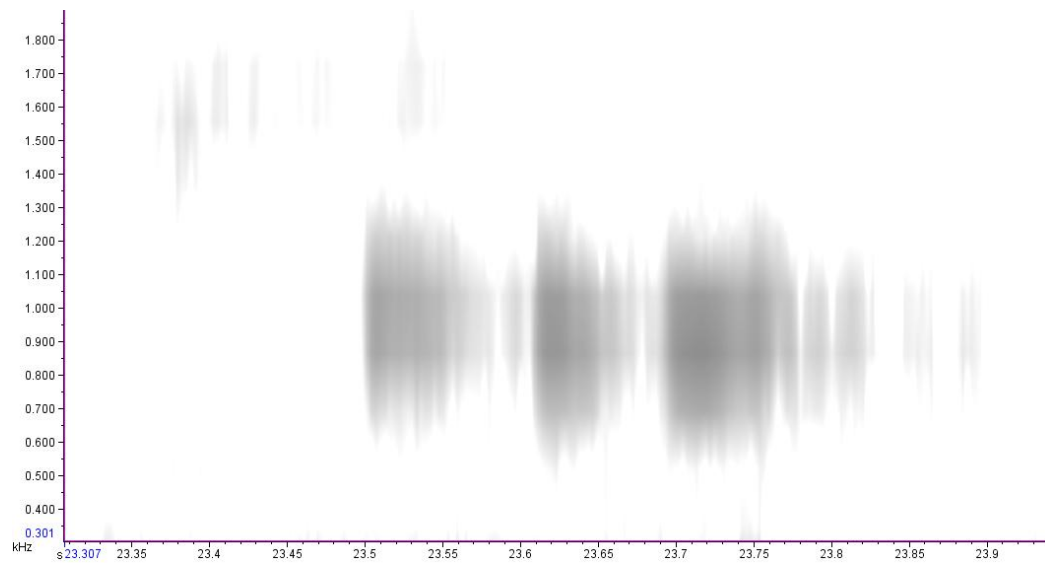
Syllables 131 and Repeated. wo syllable 8s.s



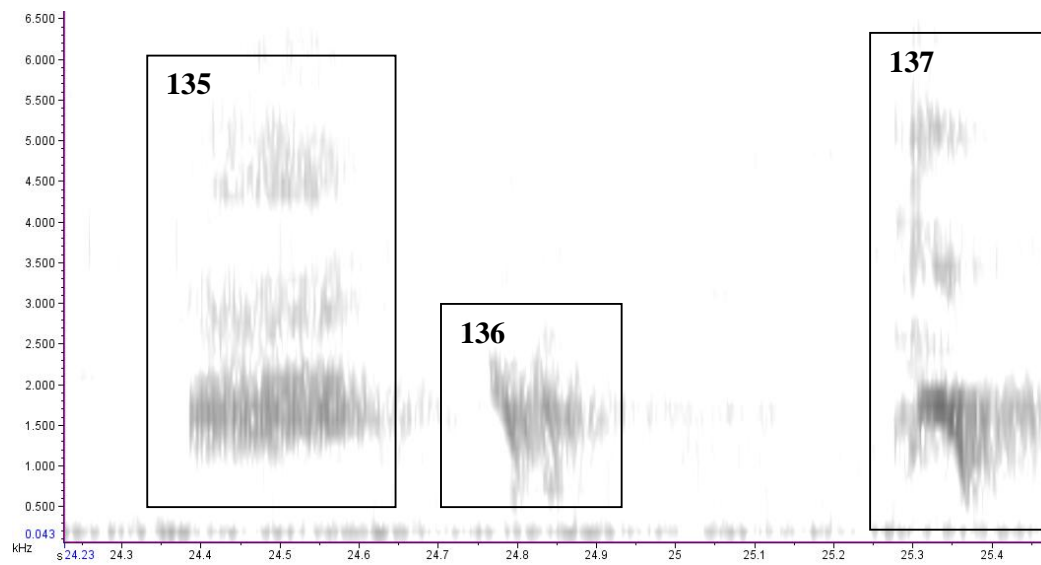
Syllables 132 and 133. Syllable 132 is a ‘bluurgh’ sound.



Syllable 134.

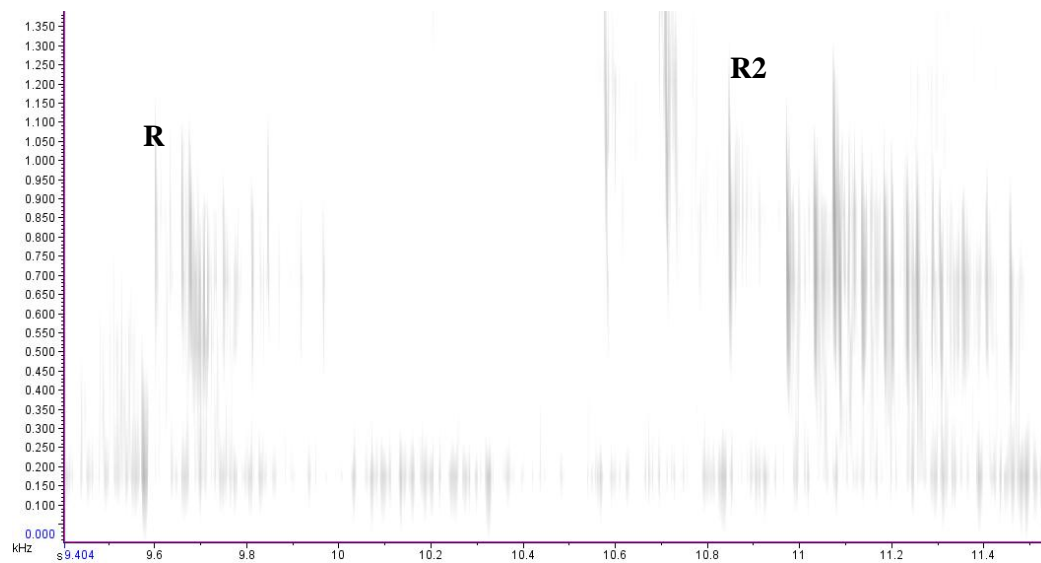


Syllables 135-137.

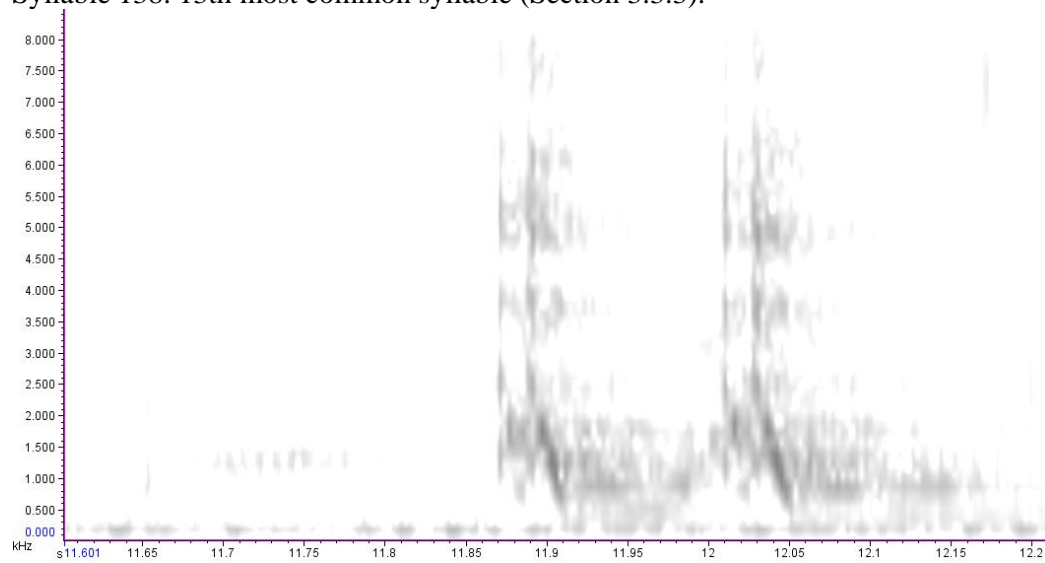


Song 14 - 002-2010-09-09 01_52_37 (BW-YM). Non-breeding season.

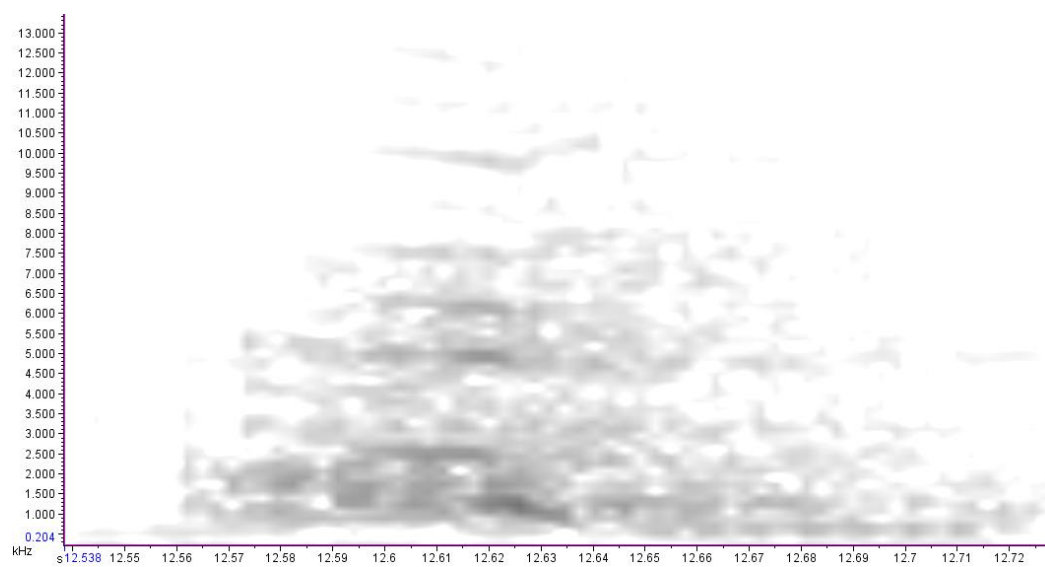
Repeated. Syllable 2 is the common 'kok-kok-kok' syllable. This particular one containing 11 notes.



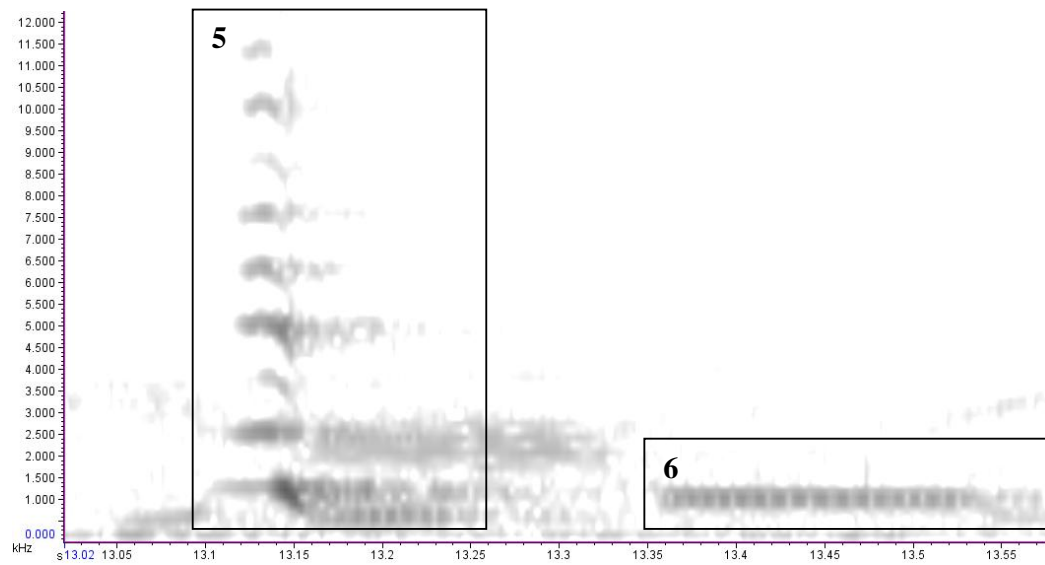
Syllable 138. 13th most common syllable (Section 3.3.3).



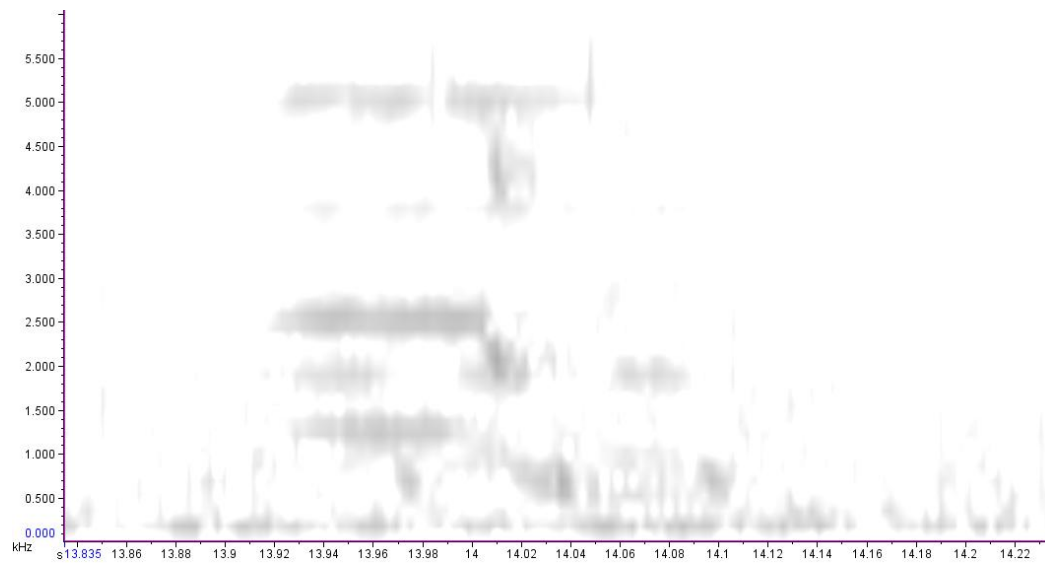
Repeated. A 'kkuh'-sounding syllable.



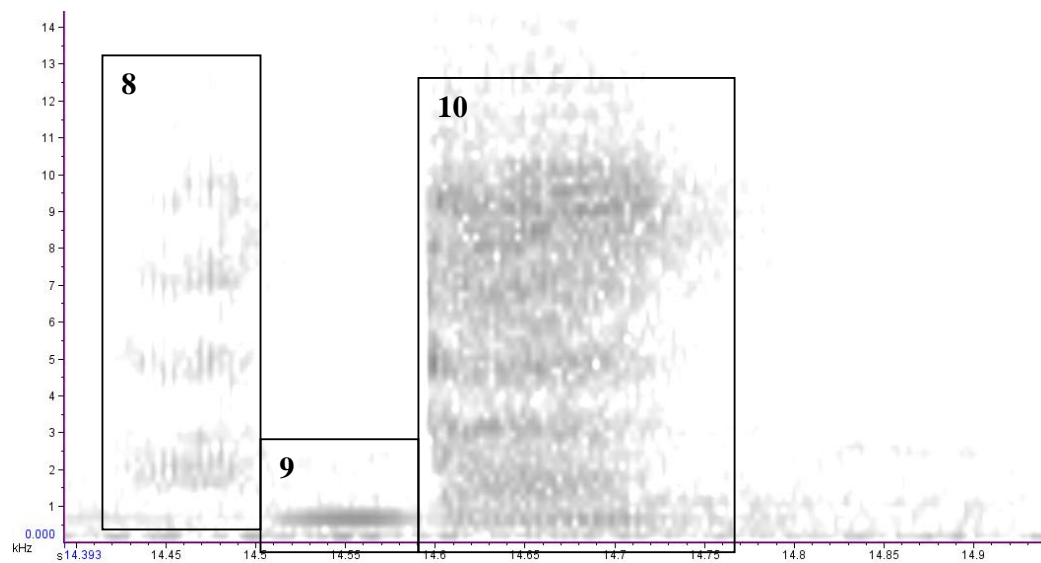
Syllable 139 and 140.



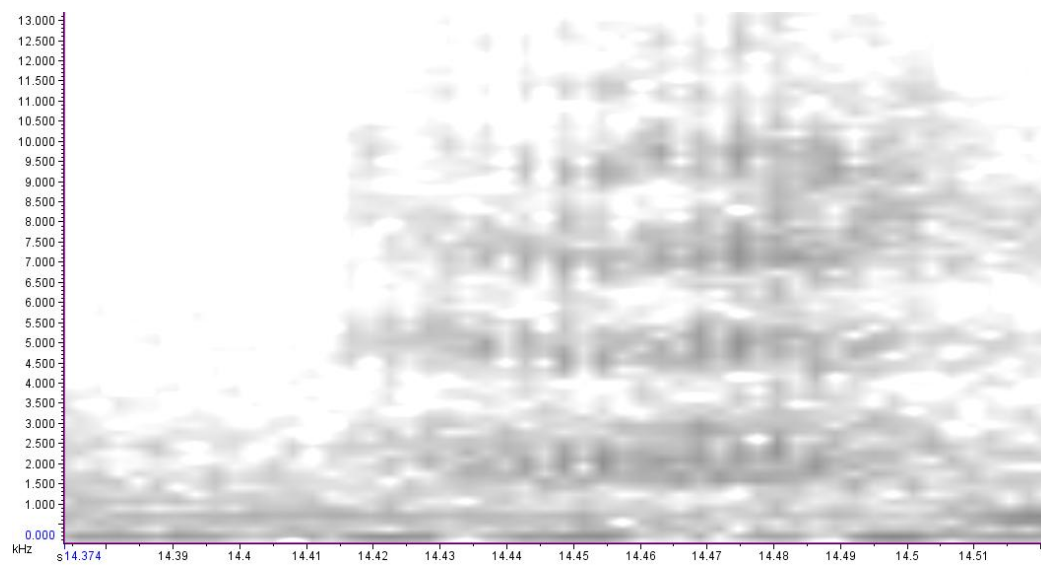
Syllable 141.



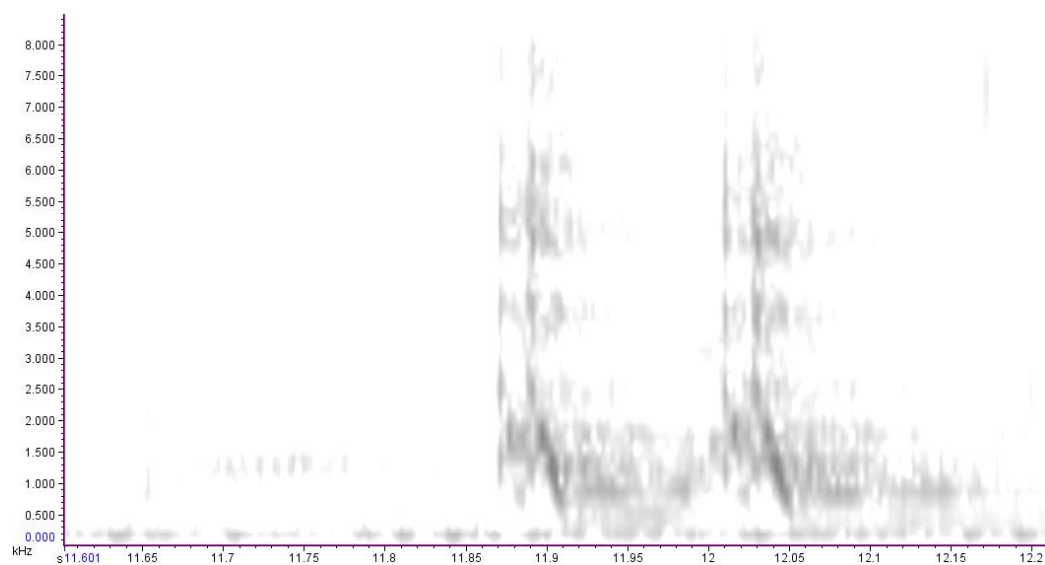
Repeated x3



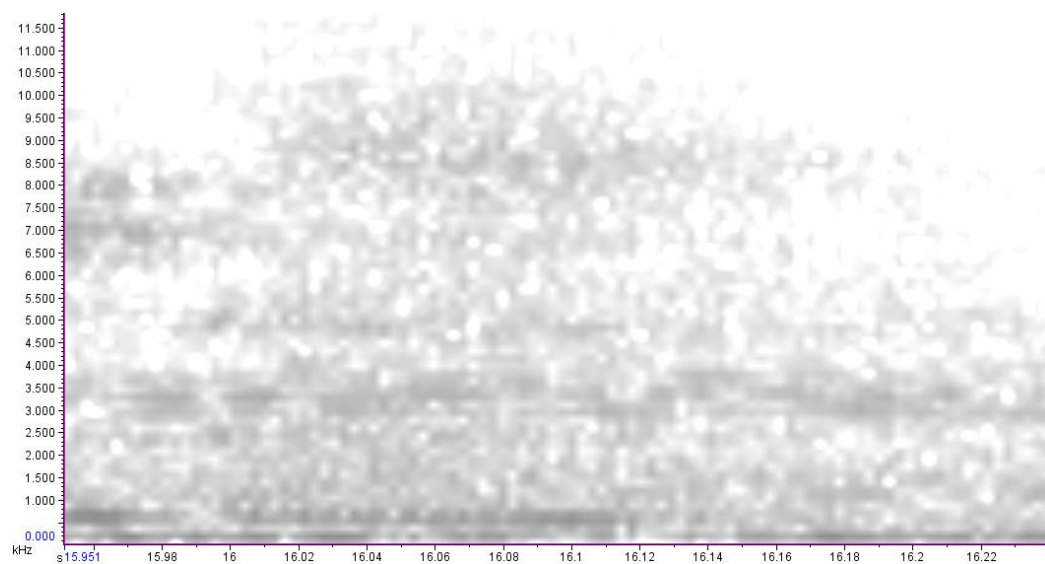
A zoom-up of syllable 8.



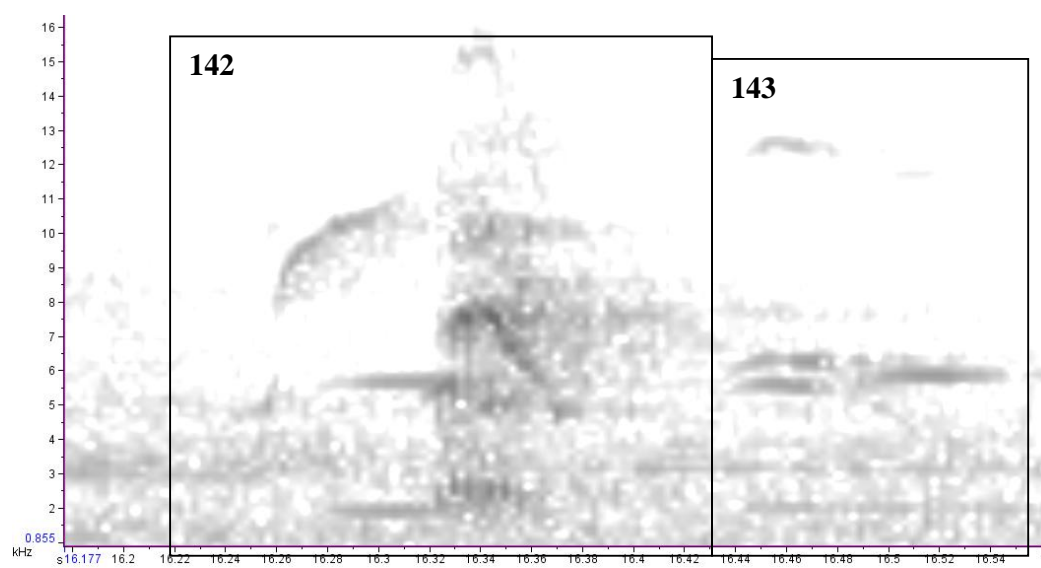
Repeated



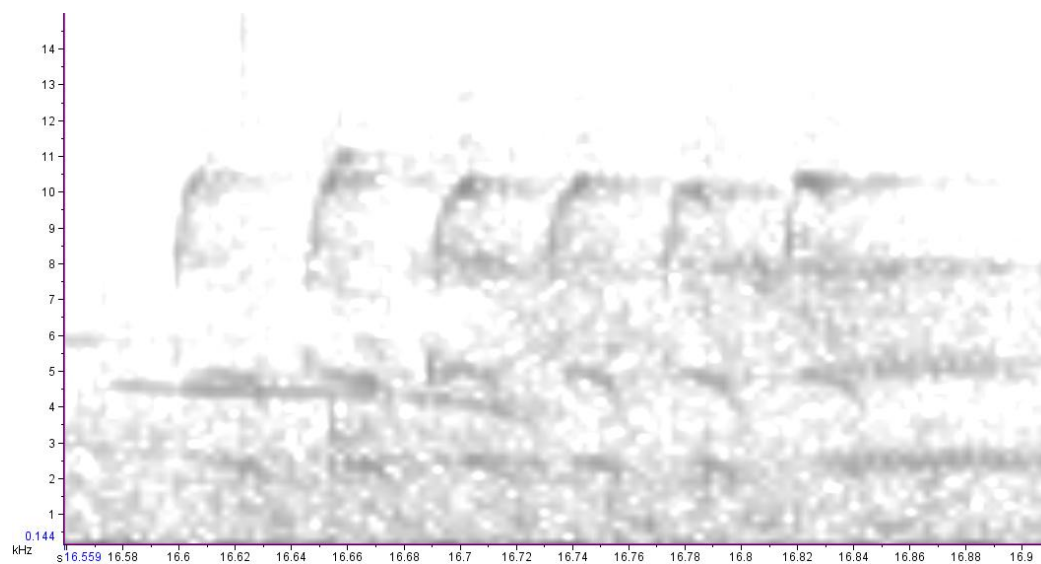
Repeated



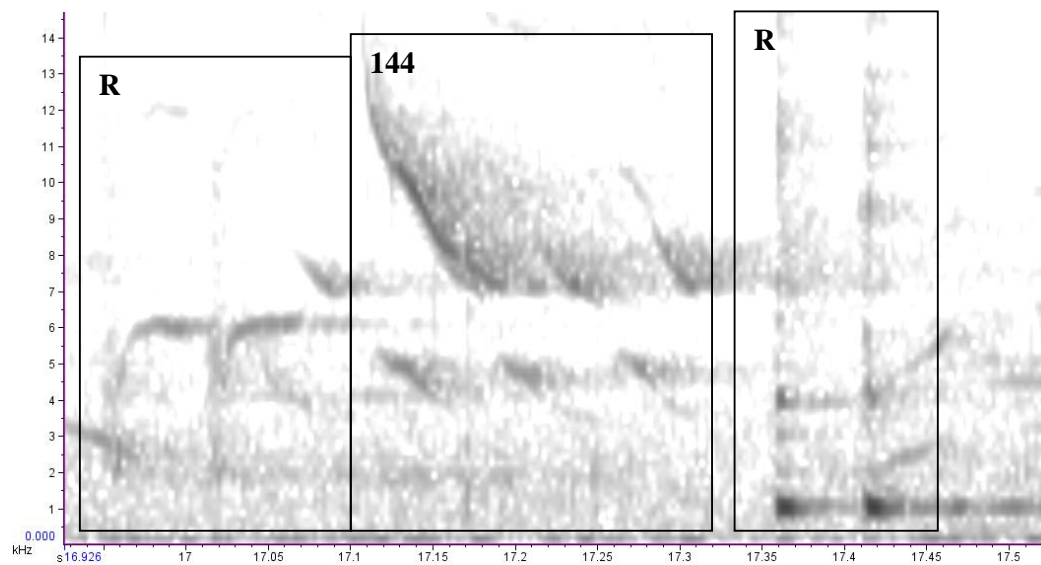
Syllables 142 and 143.



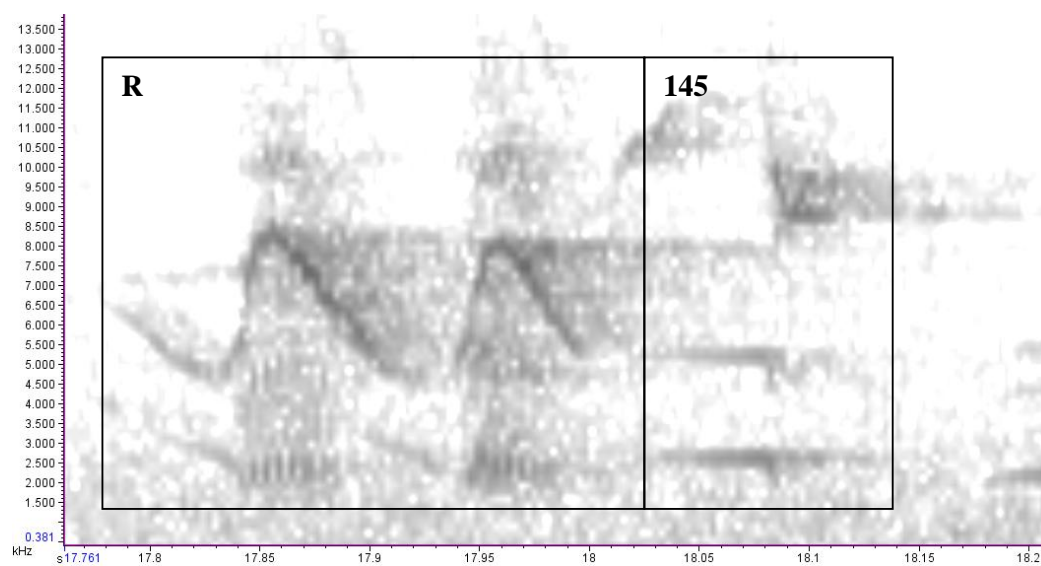
Repeated



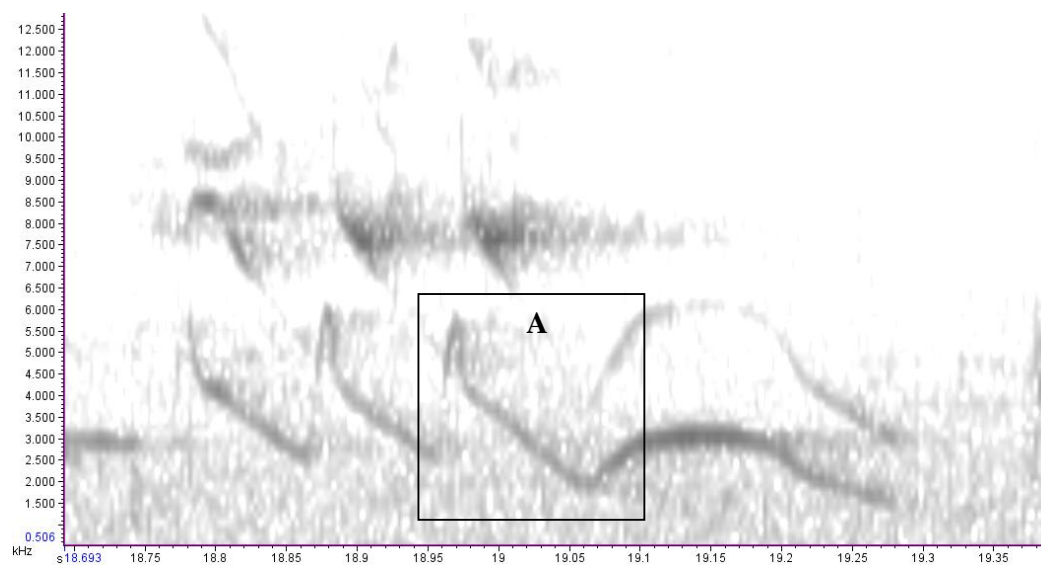
Repeated x2 and Syllable 144.



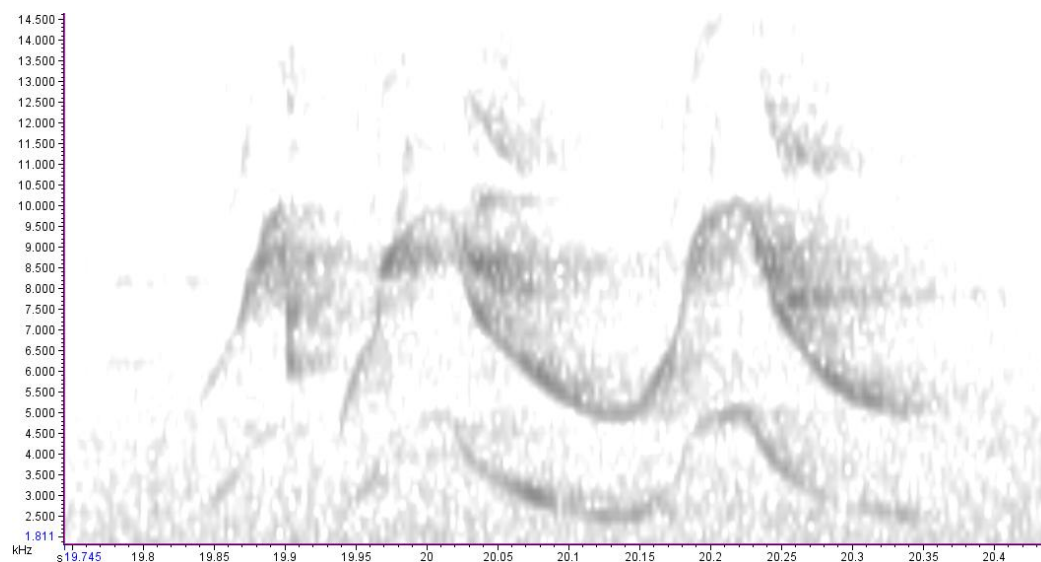
Repeated and Syllable 145.



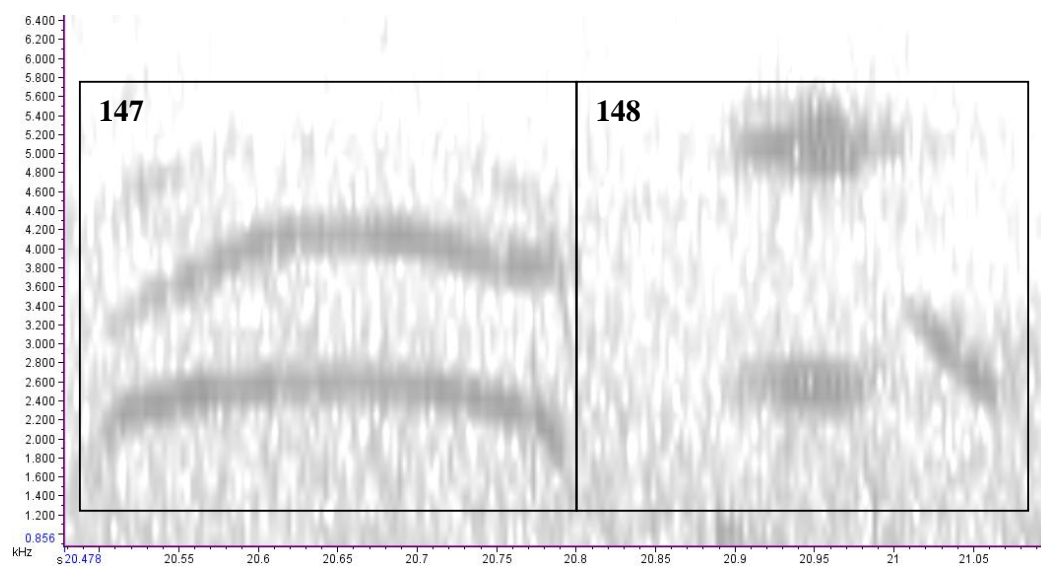
Syllable 146. Conjoined so considered one syllable. Conjoining component marked 'A'.



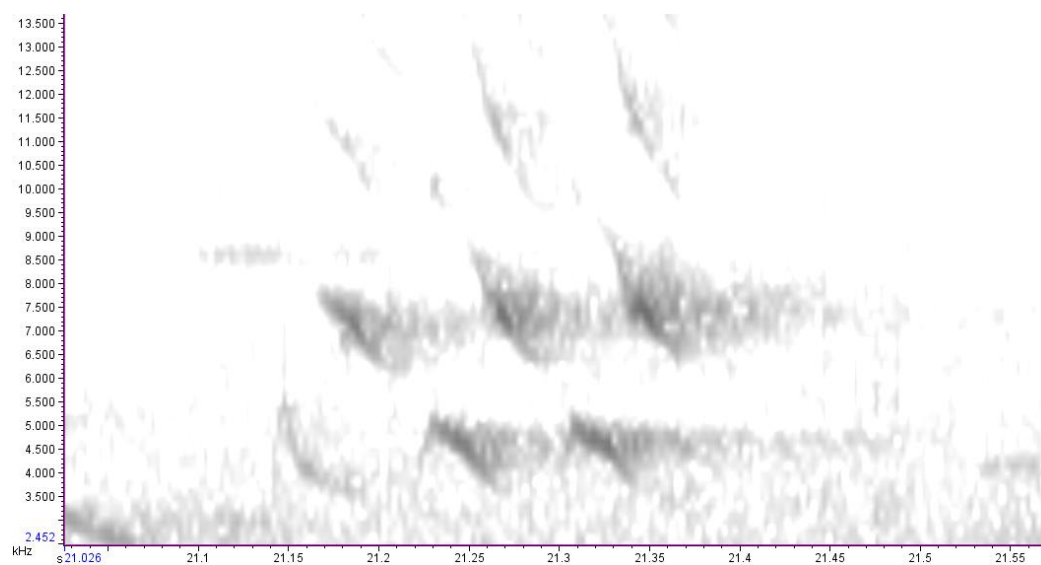
Repeated. The 'M' syllable, which is relatively a common trill syllable at Jones Bay but also observed at Ecology Bush.



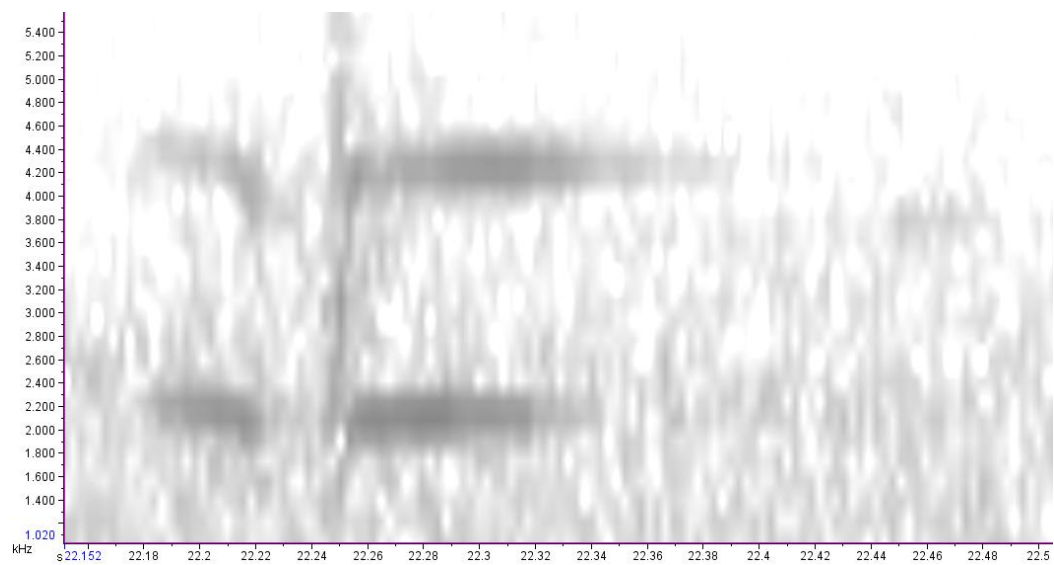
Syllables 147 and 148.



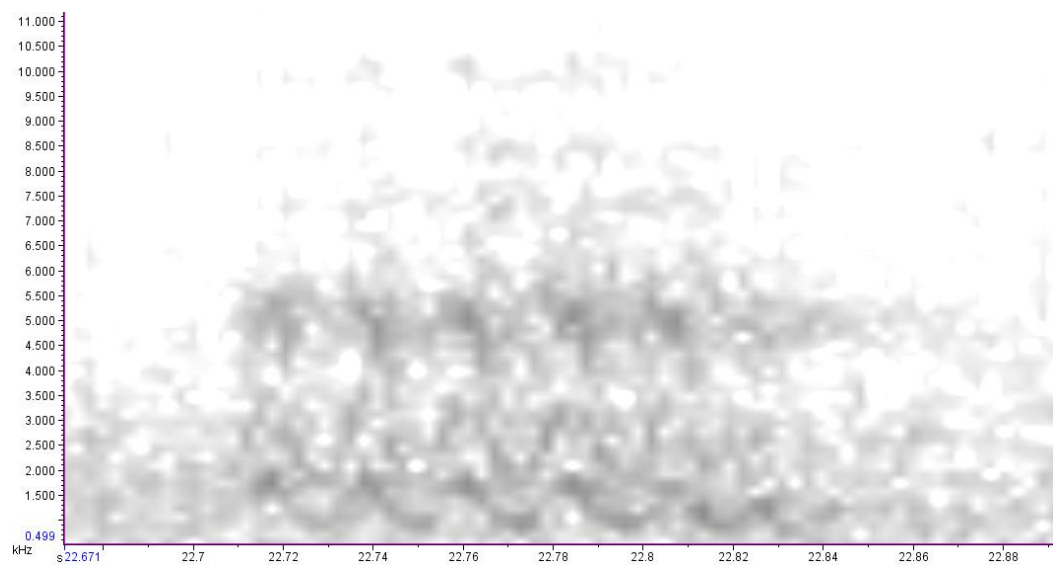
Syllable 149



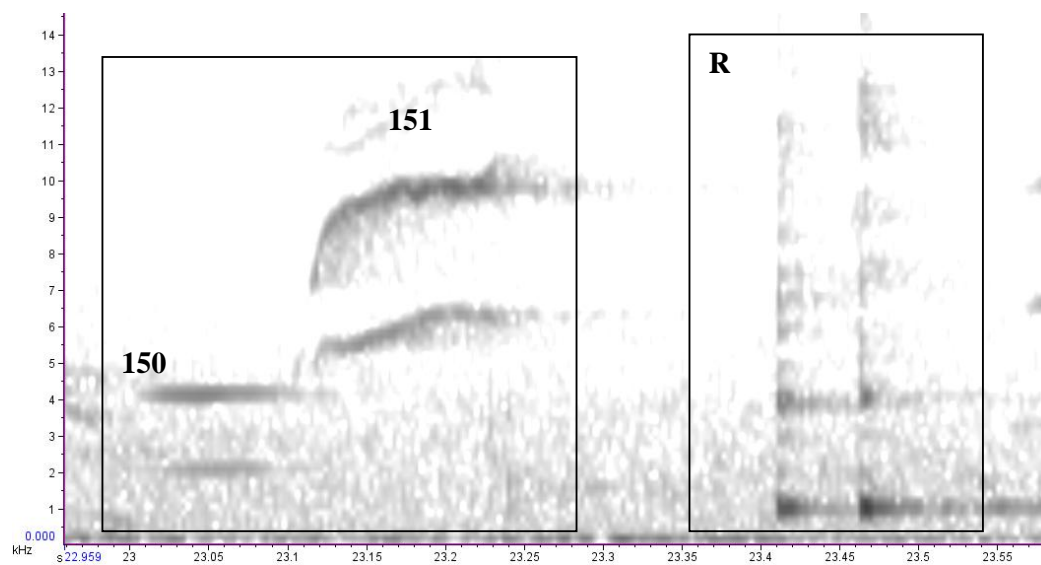
Repeated



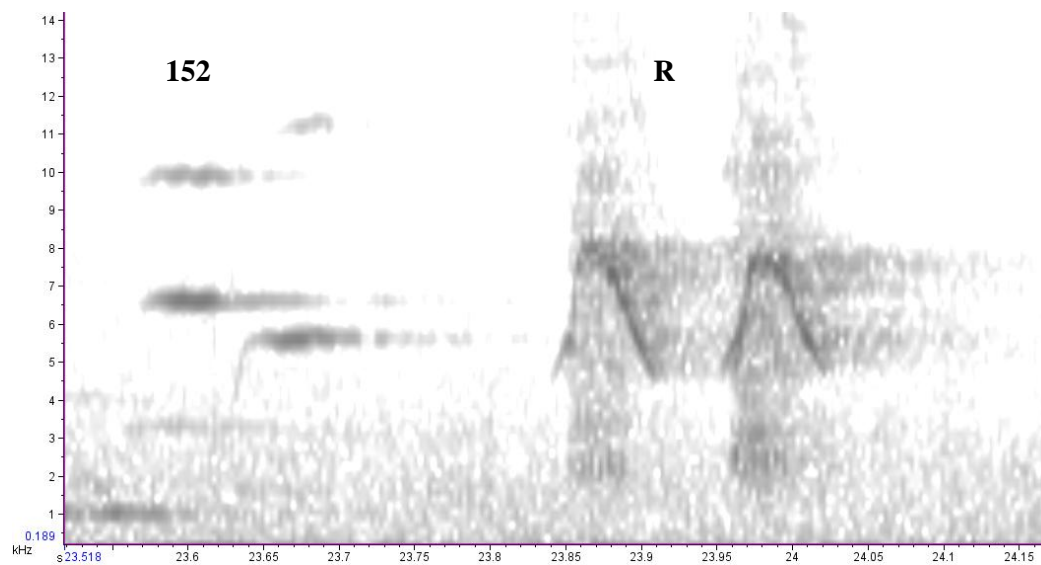
Repeated



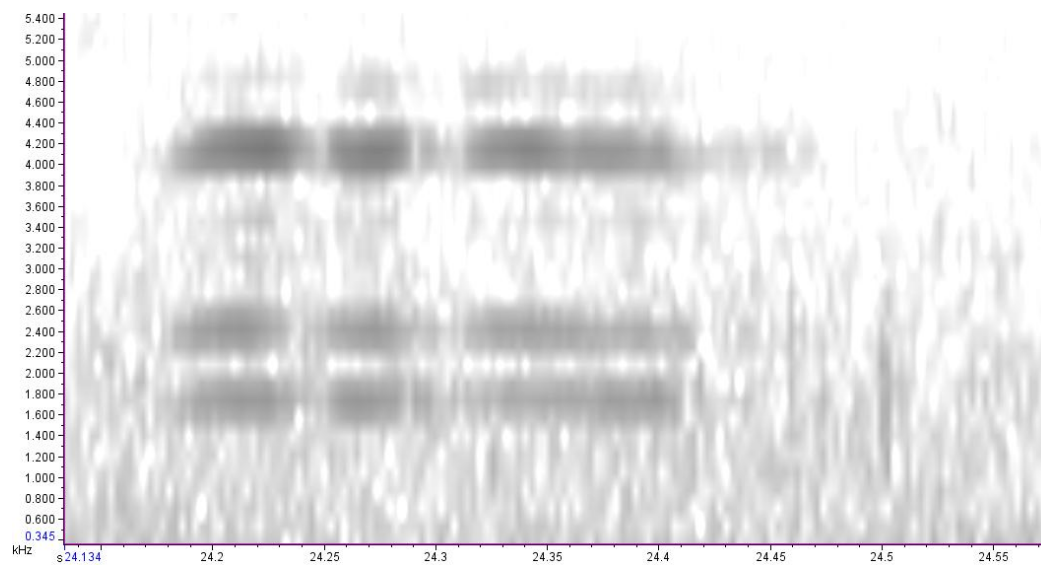
Syllables 150 and 151.



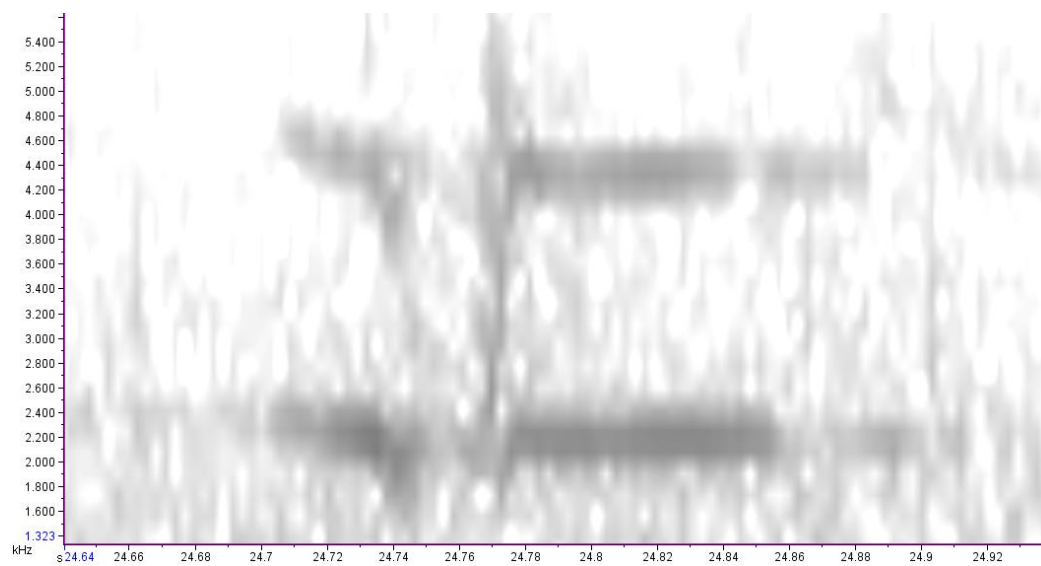
Syllable 152 and a Repeat.



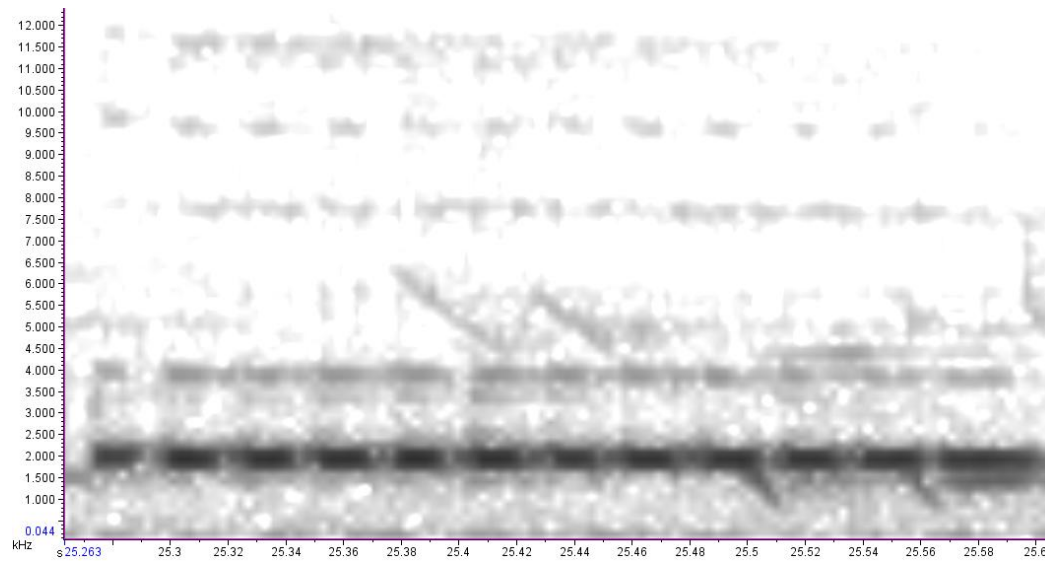
Repeated



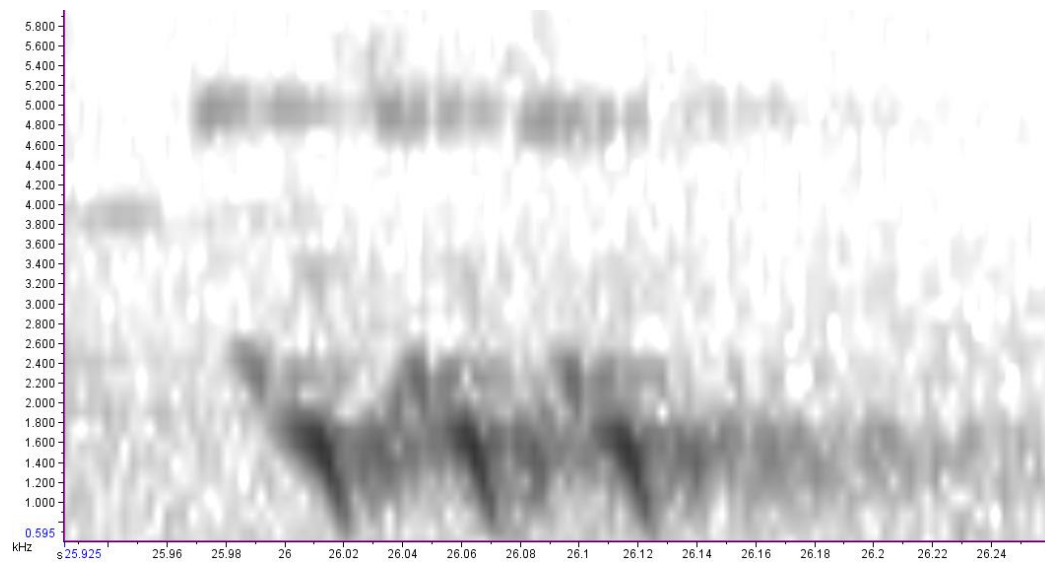
Repeated (common Jones Bay syllable).



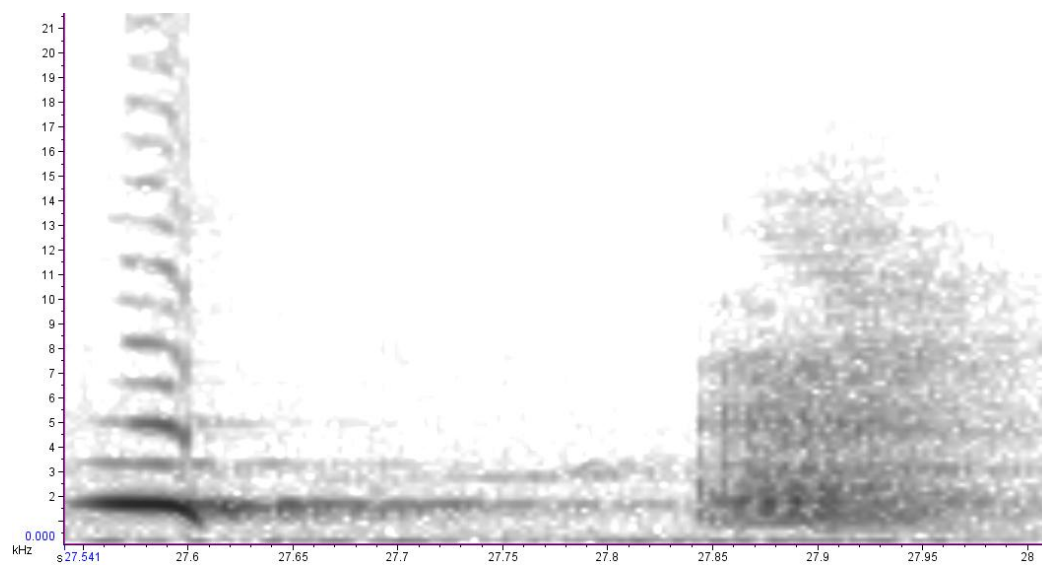
Repeated



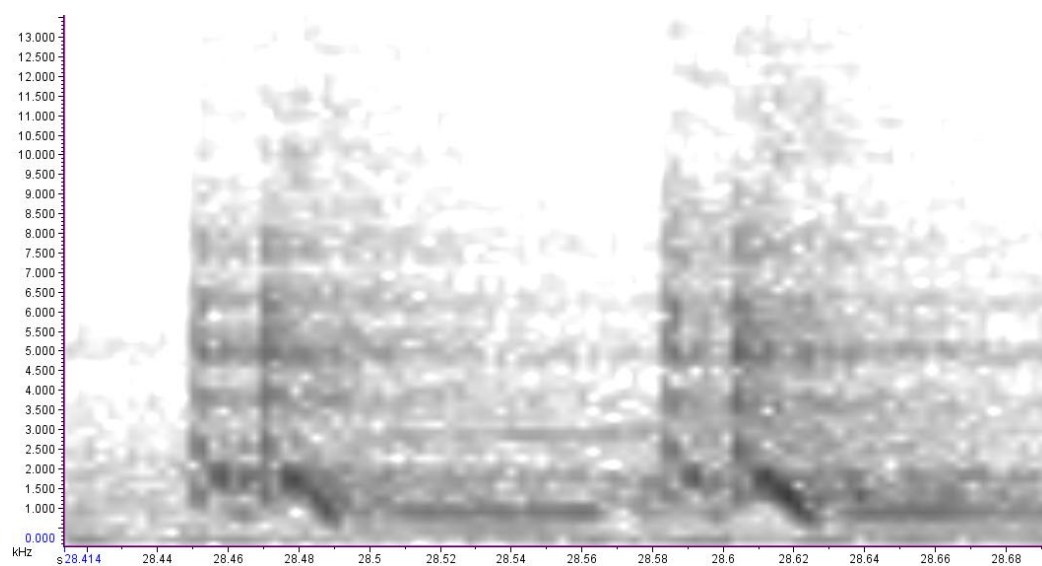
Repeated



Repeated x2

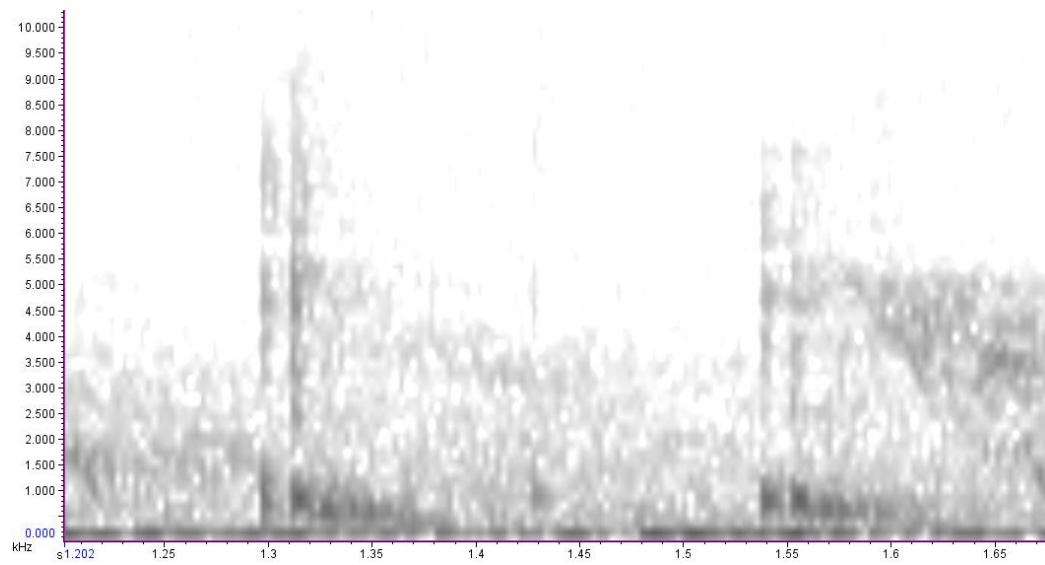


Repeated

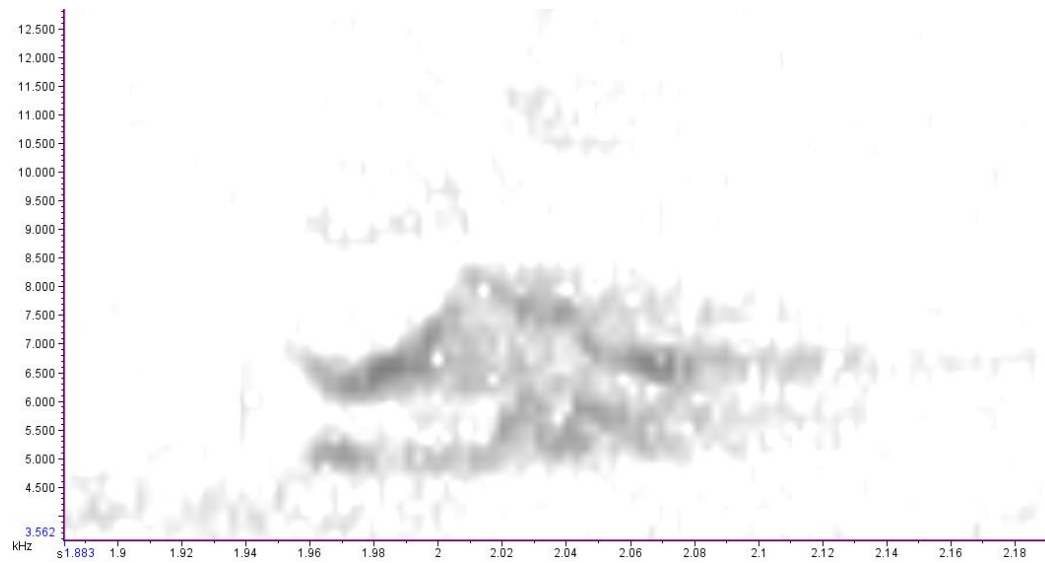


Song 15 - 002-2010-09-09 02_51_32. Non-breeding season.

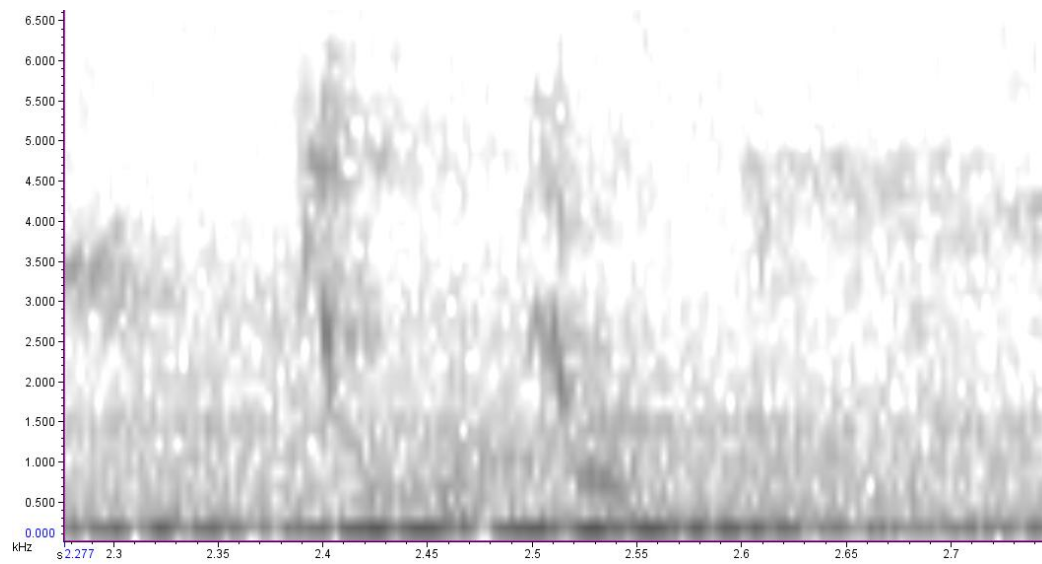
Repeated (2 syllables)



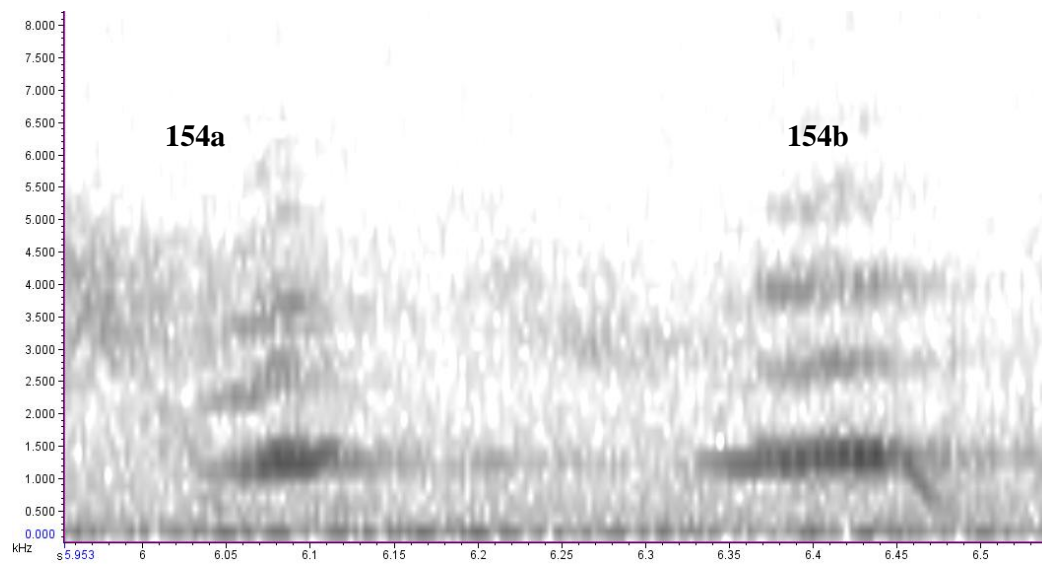
Syllable 153.



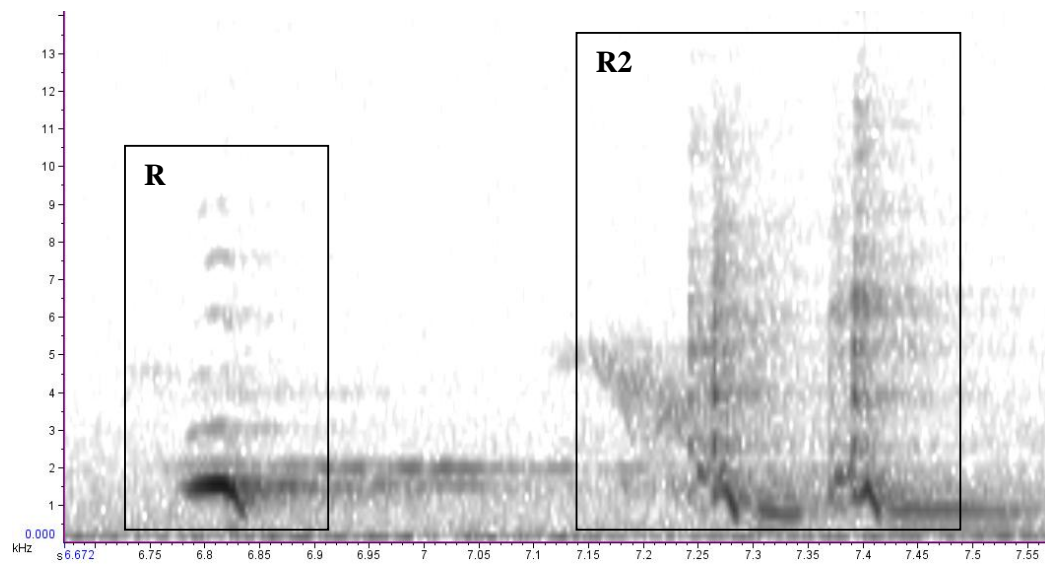
Repeated



Syllable 154.

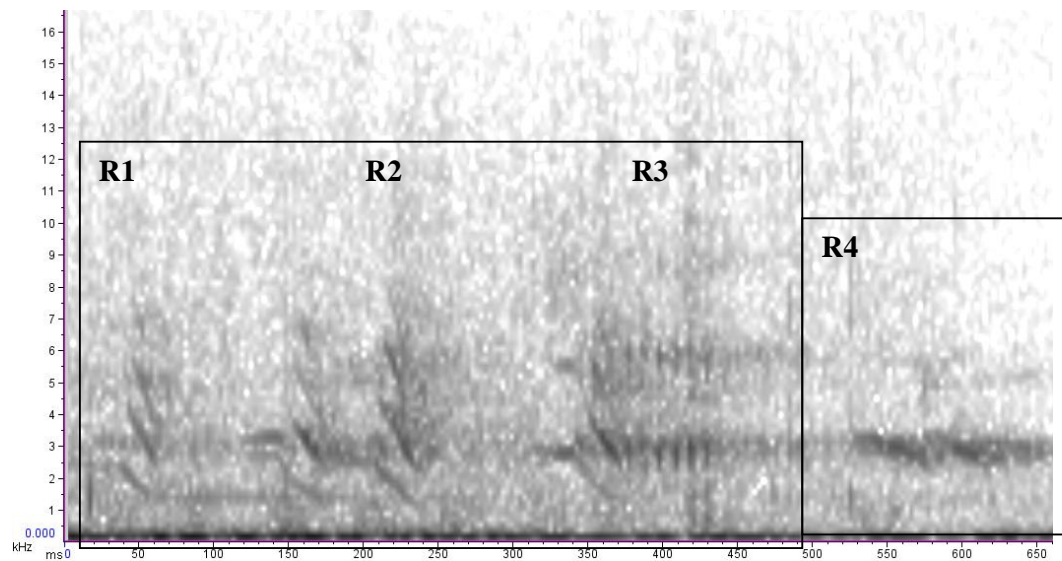


Repeated x2

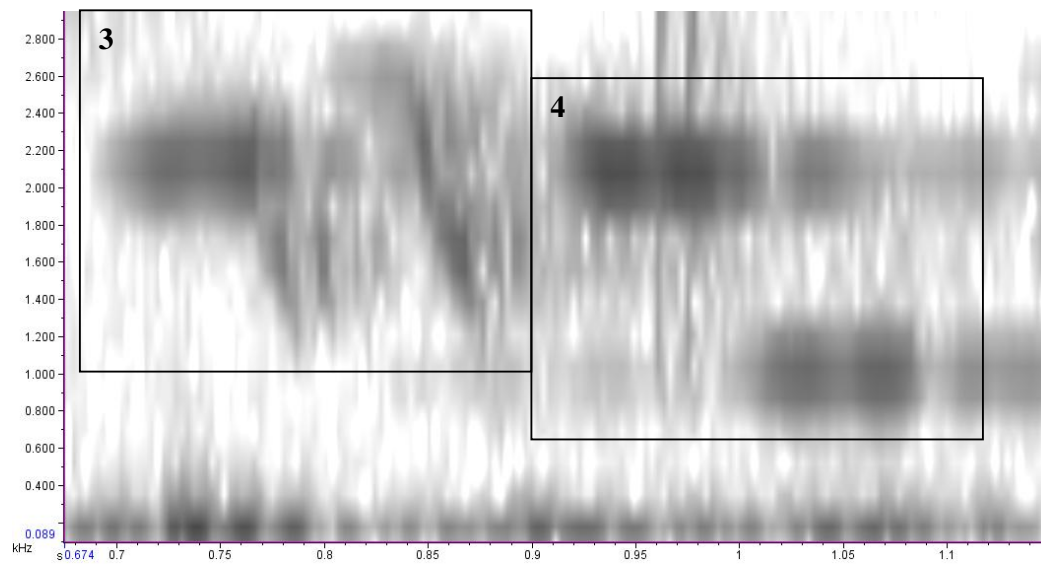


Song 16 - 011-2010-09-30 01_06_40 (Maori Bay).

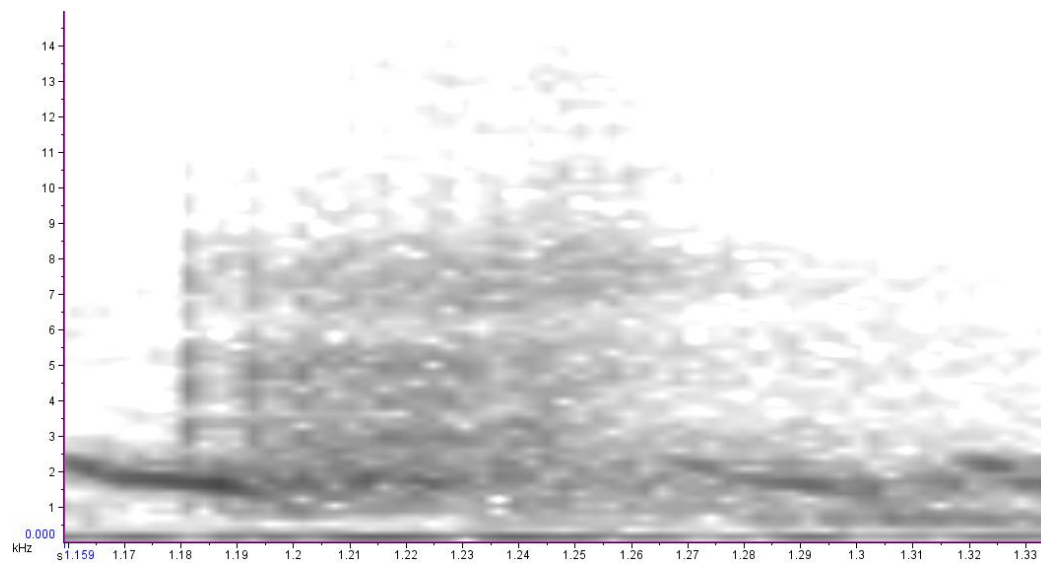
Repeated x2. The third syllable 1 here is very similar in sound and structure, so is considered the same syllable type (1). Syllable 2 is the culminating note within the ascending crescendo before the main part of the song begins.



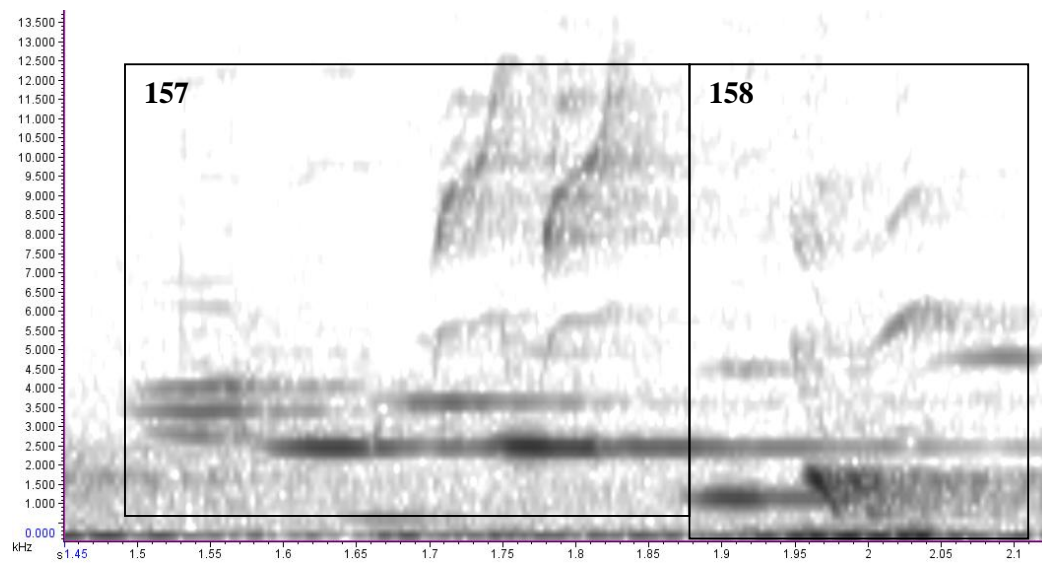
Syllables 155 and 156.



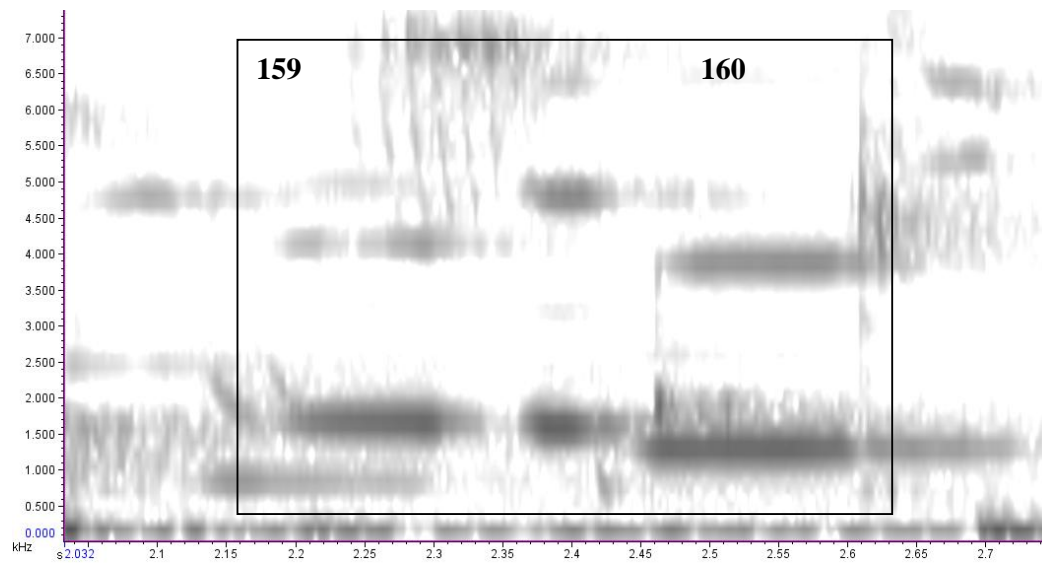
Repeated



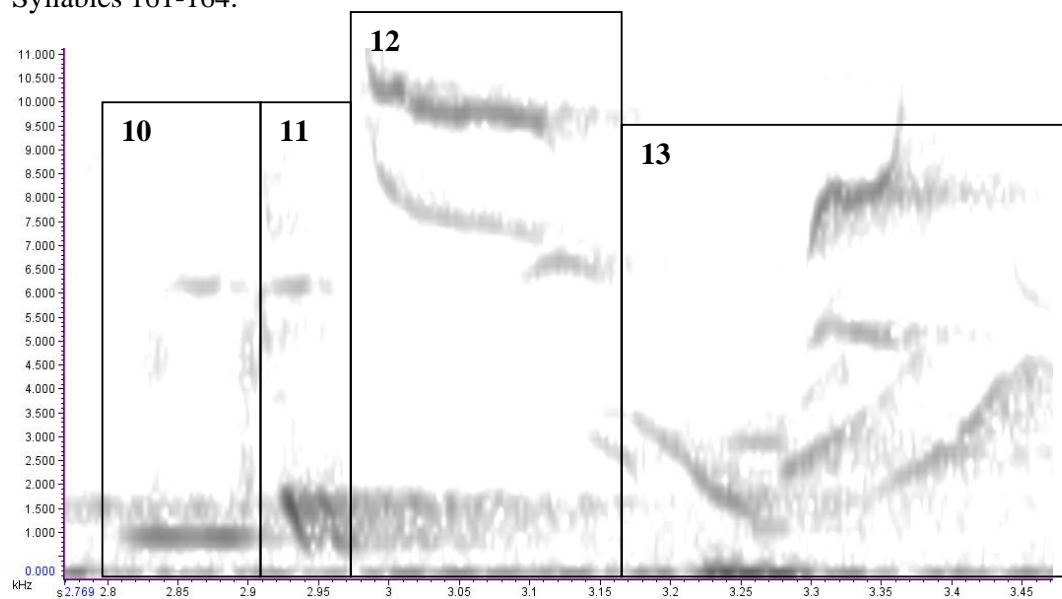
Syllables 157 and 158. Syllable 158, although conjoined, is considered a different syllable due to its very different sound and structure to syllable 157.



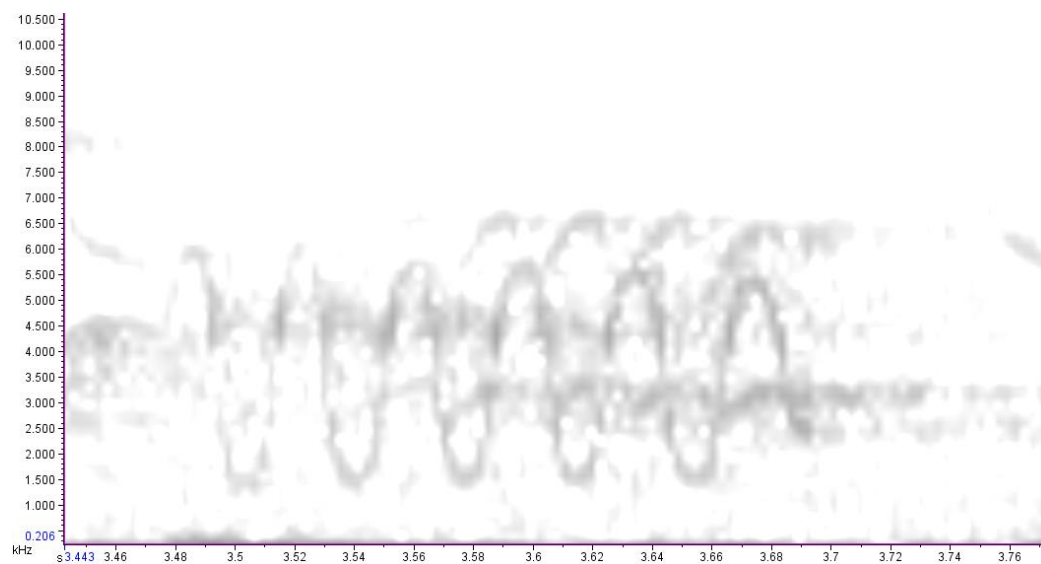
Syllables 159 and 160. Syllables commonly heard at Maori Bay.



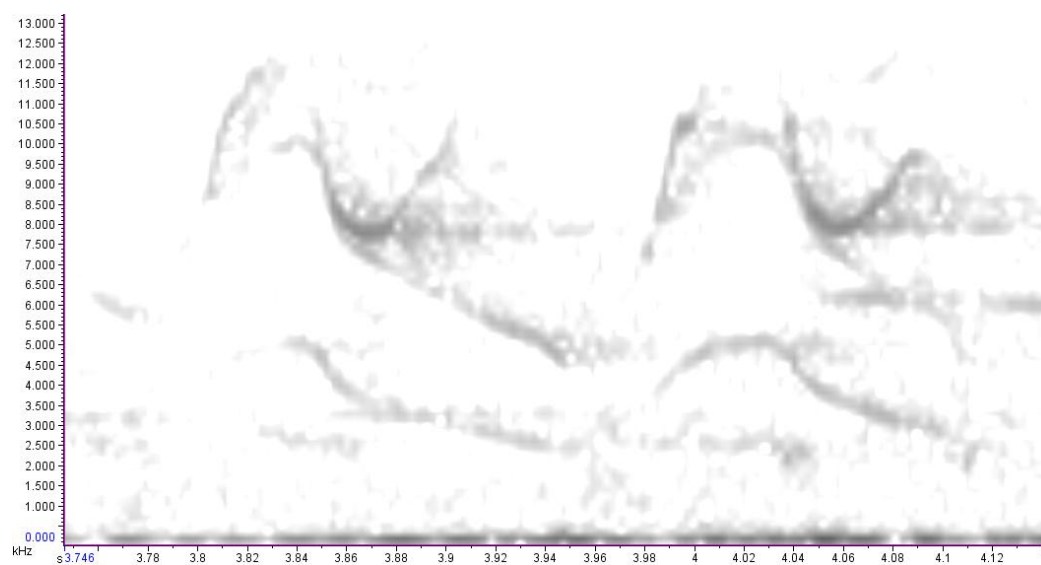
Syllables 161-164.



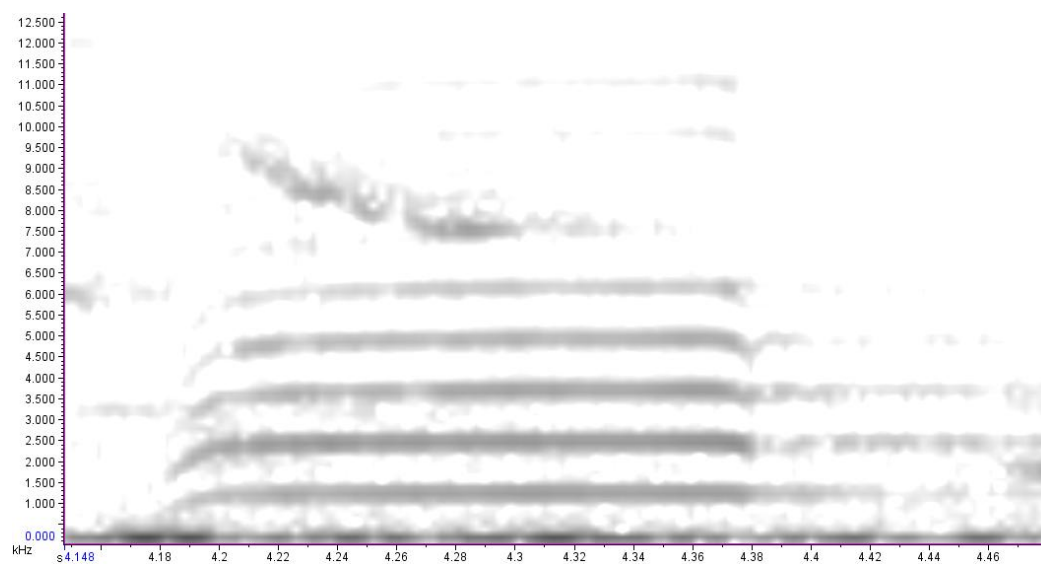
Repeated



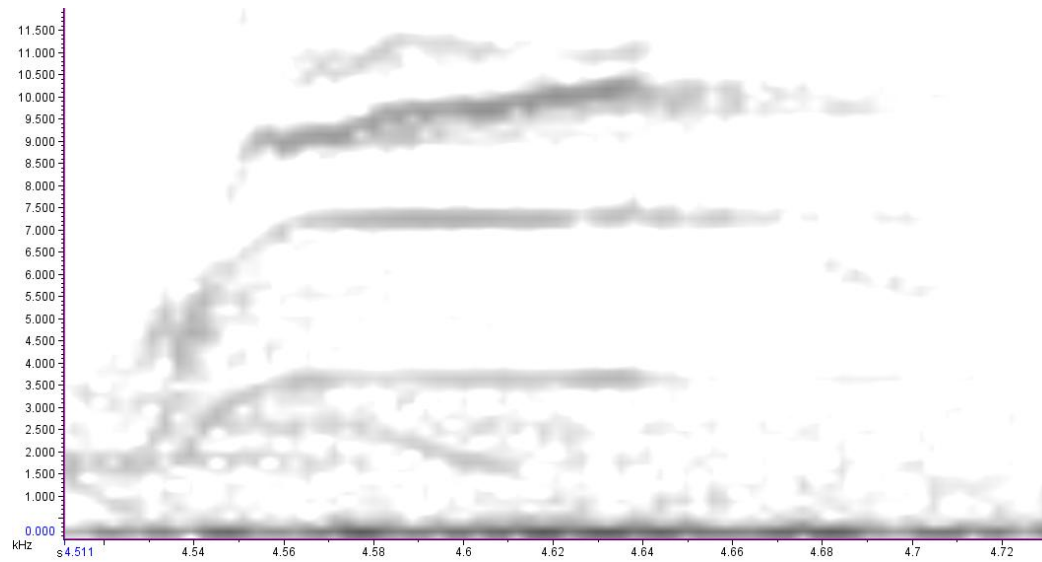
Repeated



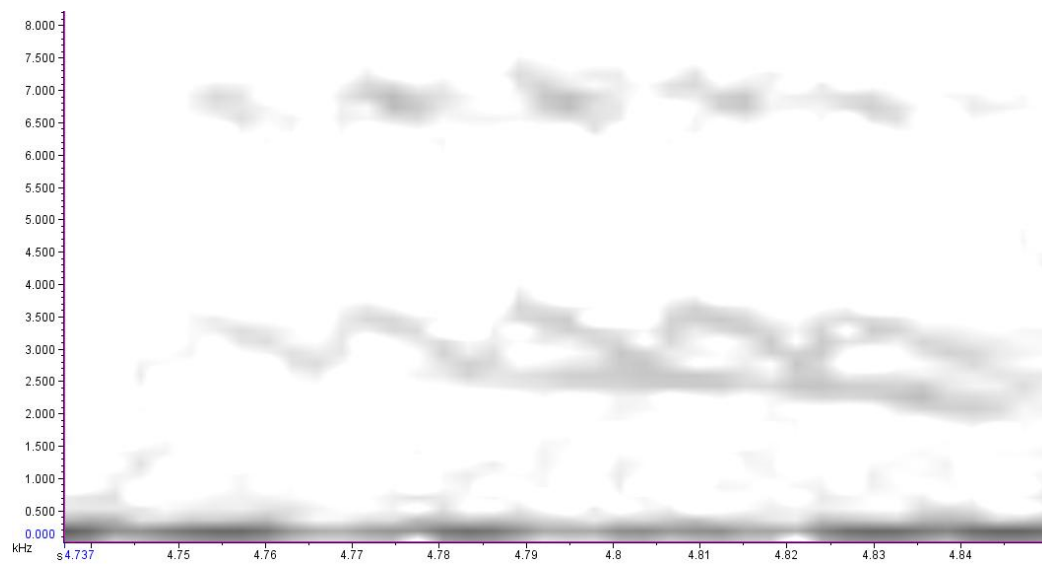
Repeated



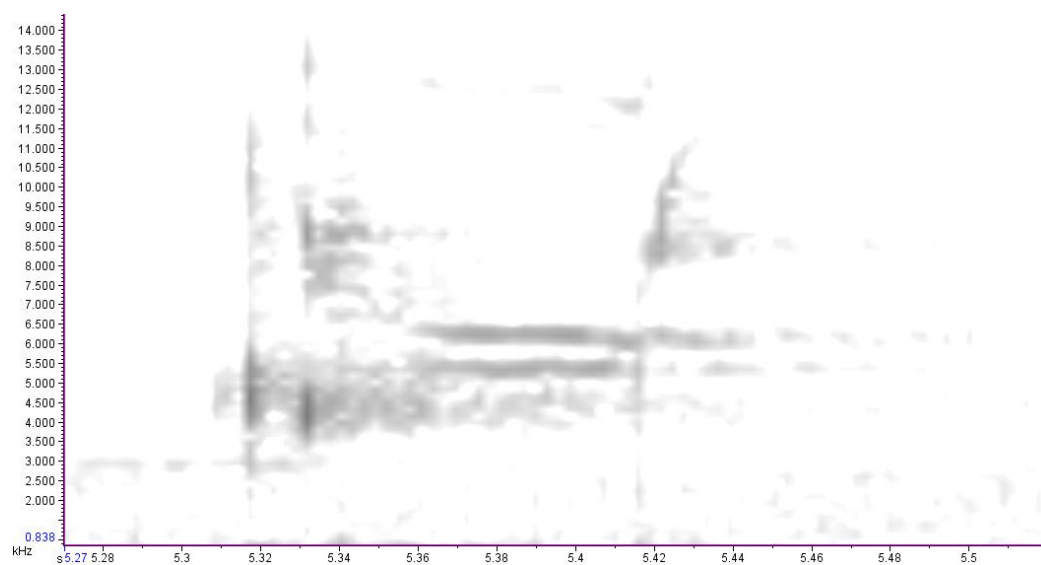
Repeated



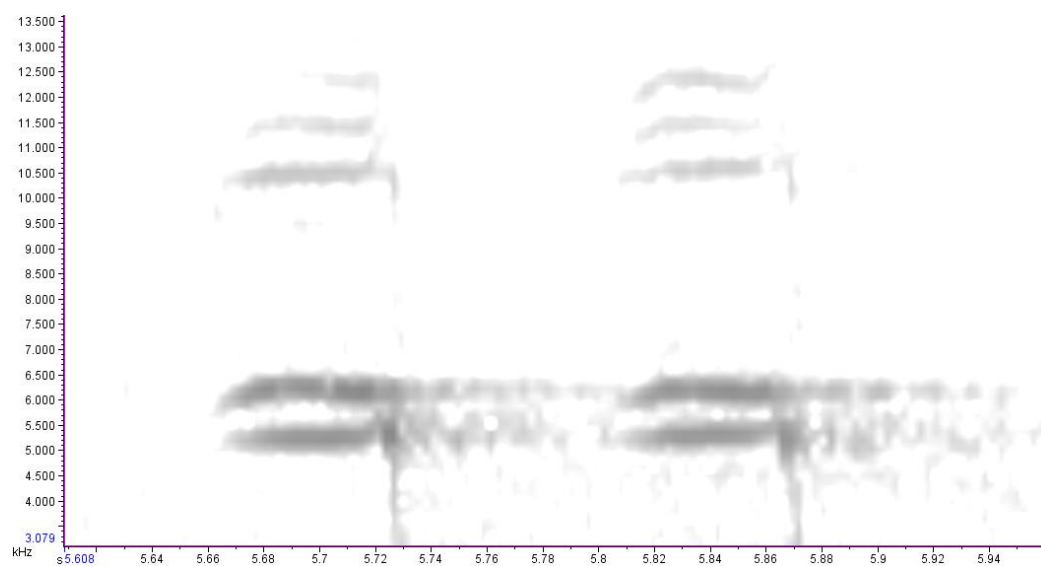
Syllable 165.



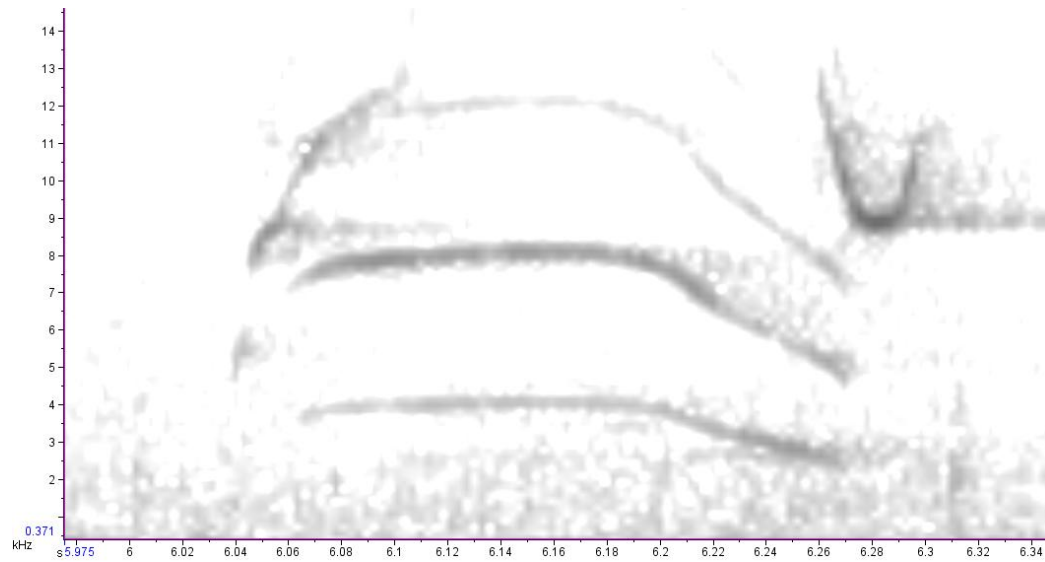
Repeated



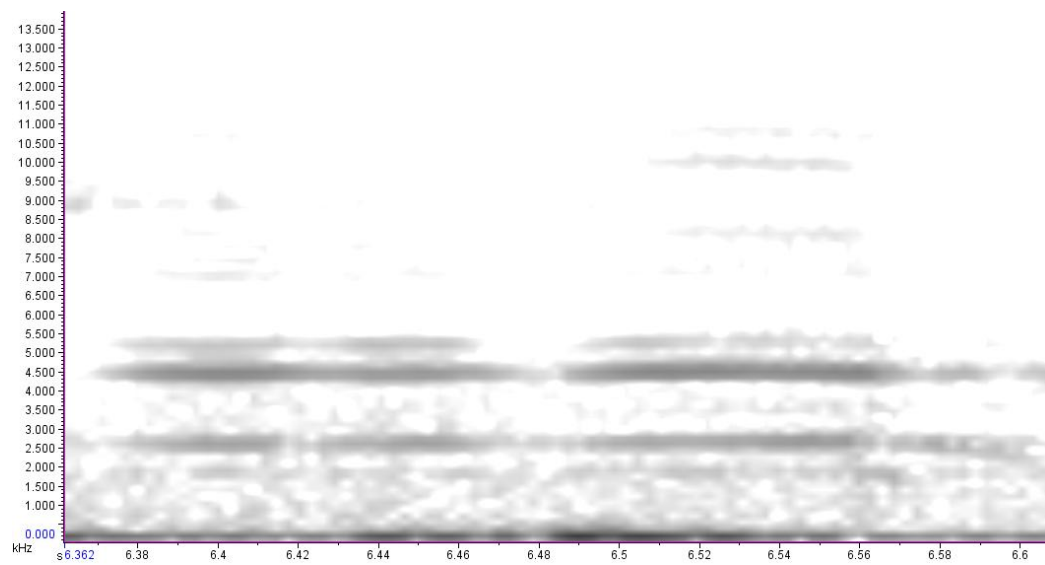
Syllable 166.



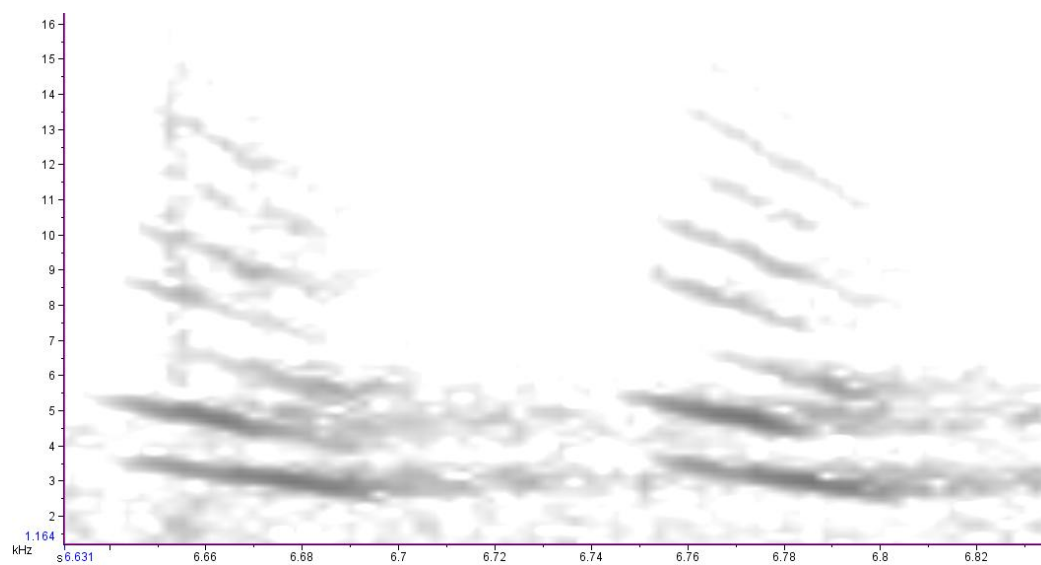
Syllable 167.



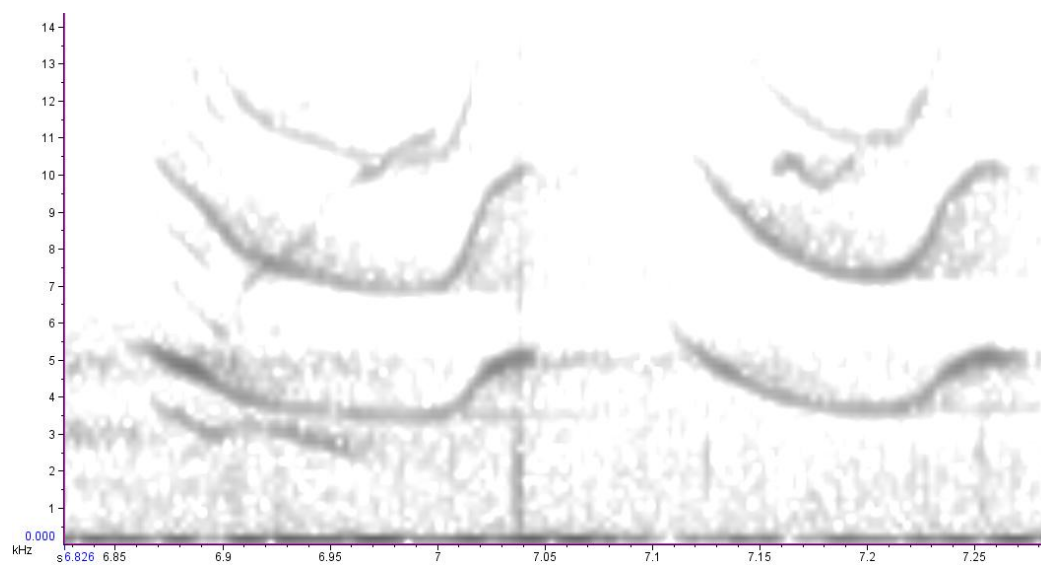
Repeated



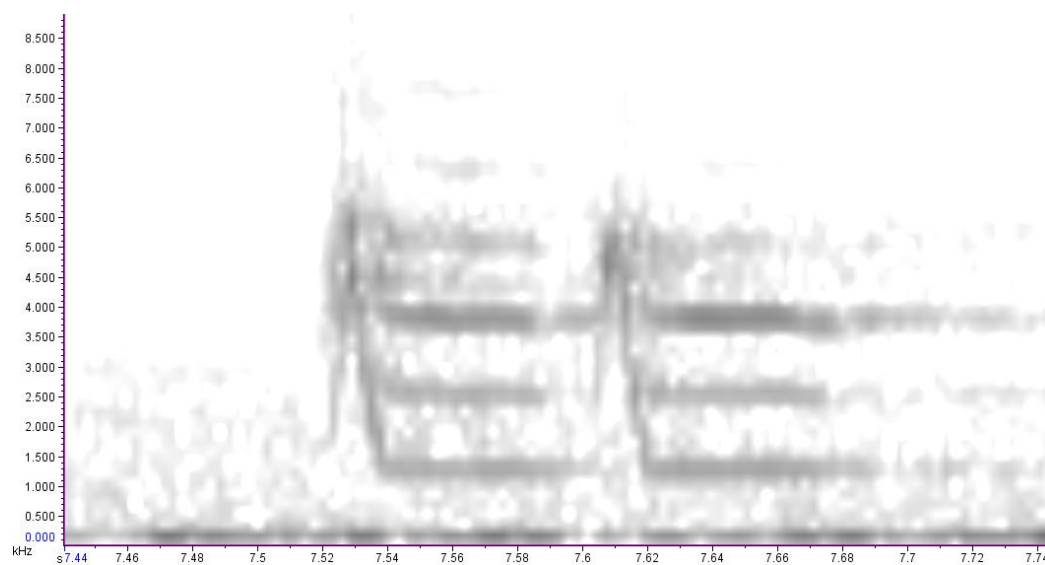
Syllable 168.



Syllable 169.

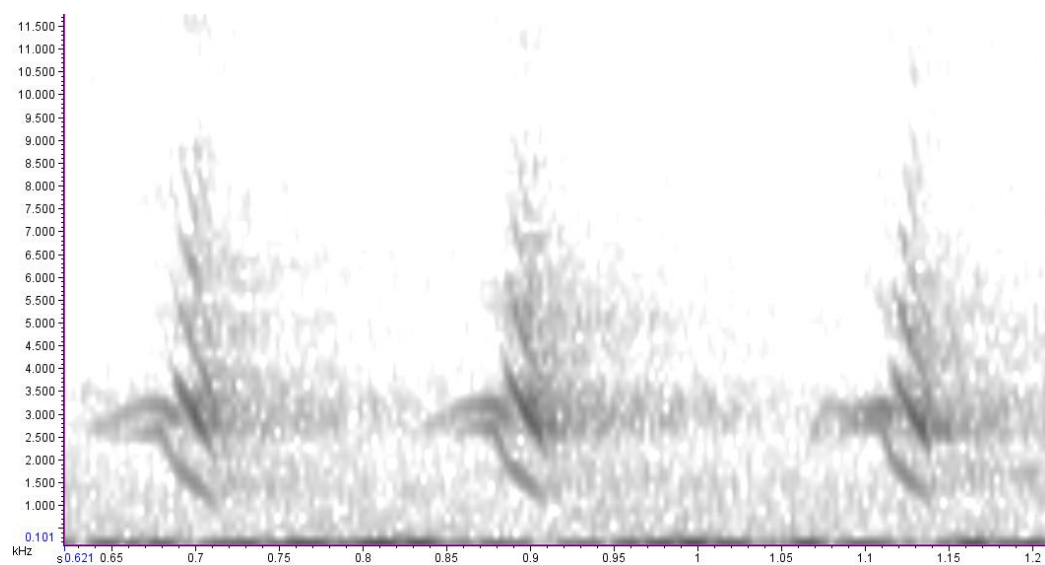


Repeated

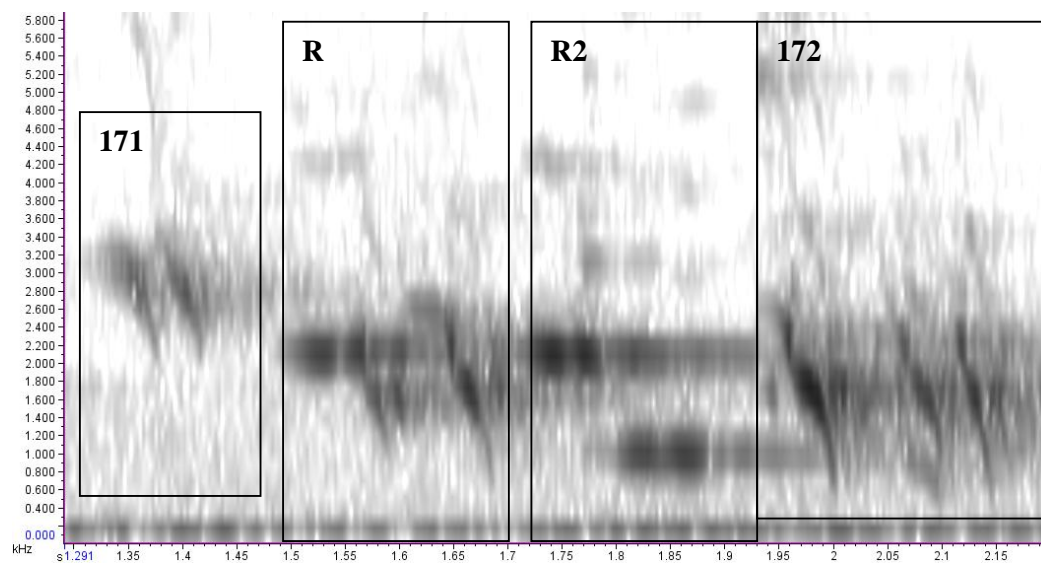


Song 17 - 012-2010-09-30 01_06_40.

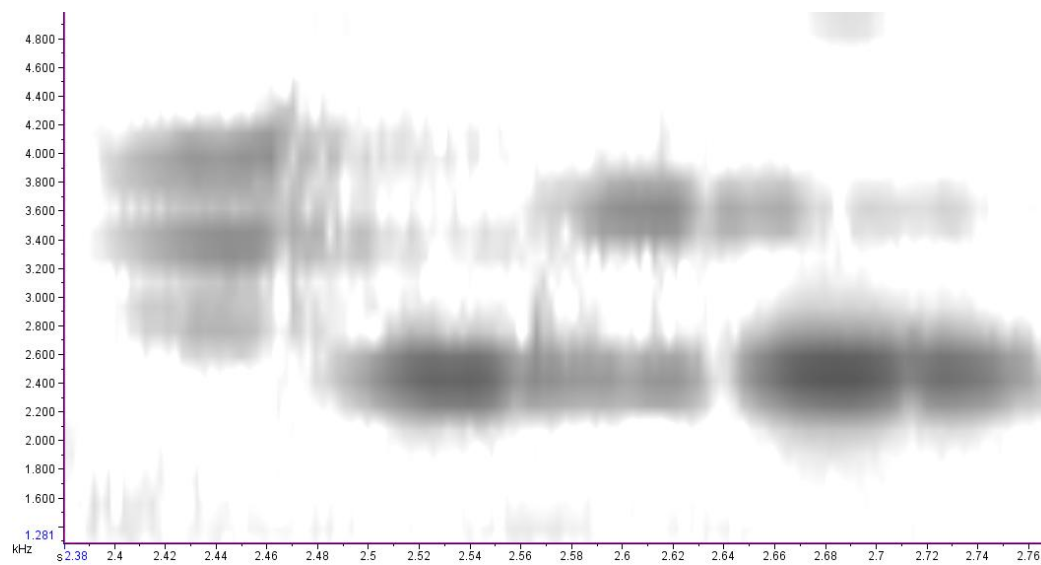
Syllable 170.



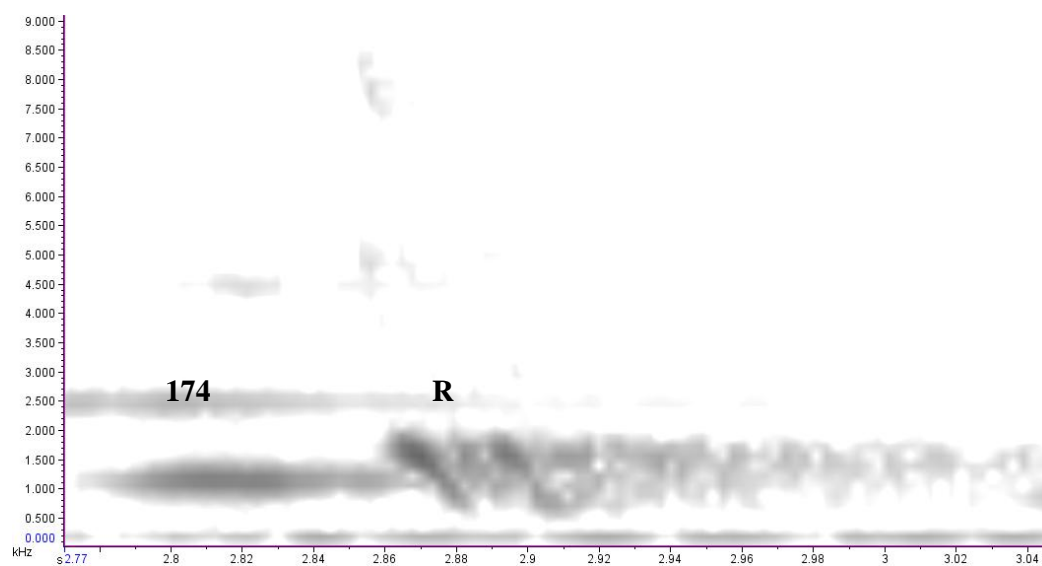
Syllable 171 and 172 with 2 repeated Syllables.



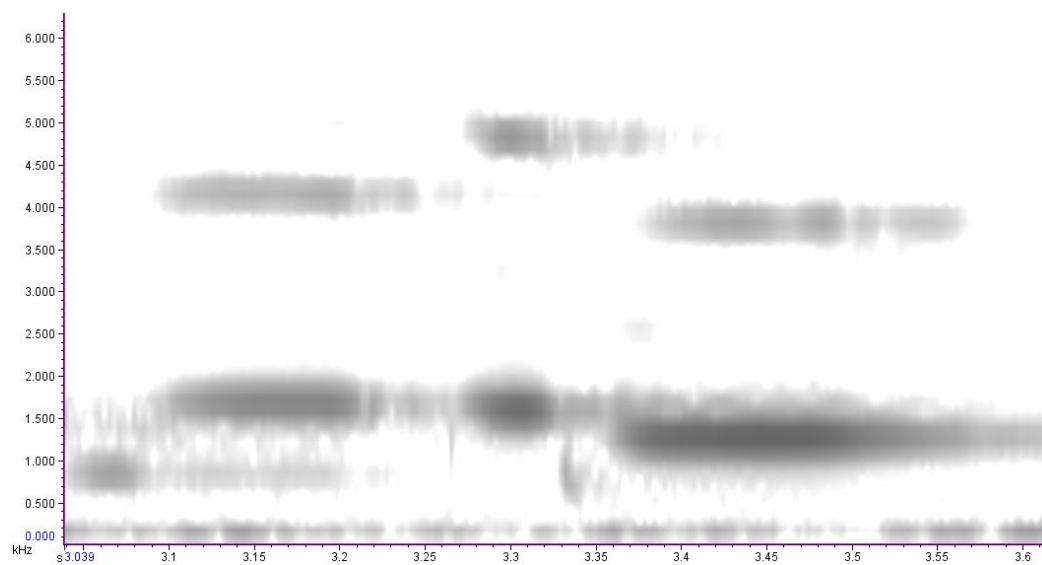
Syllable 173



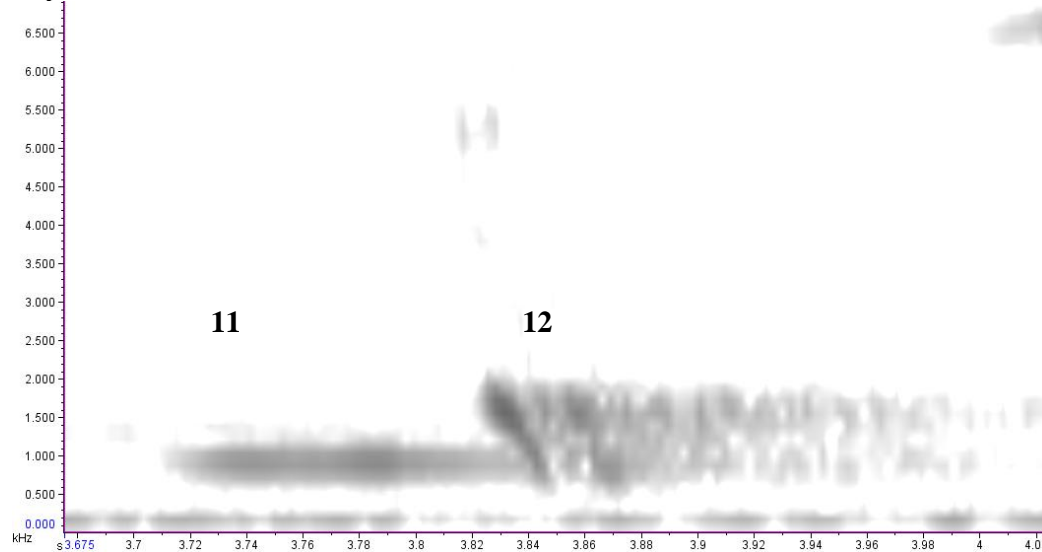
Repeated x2



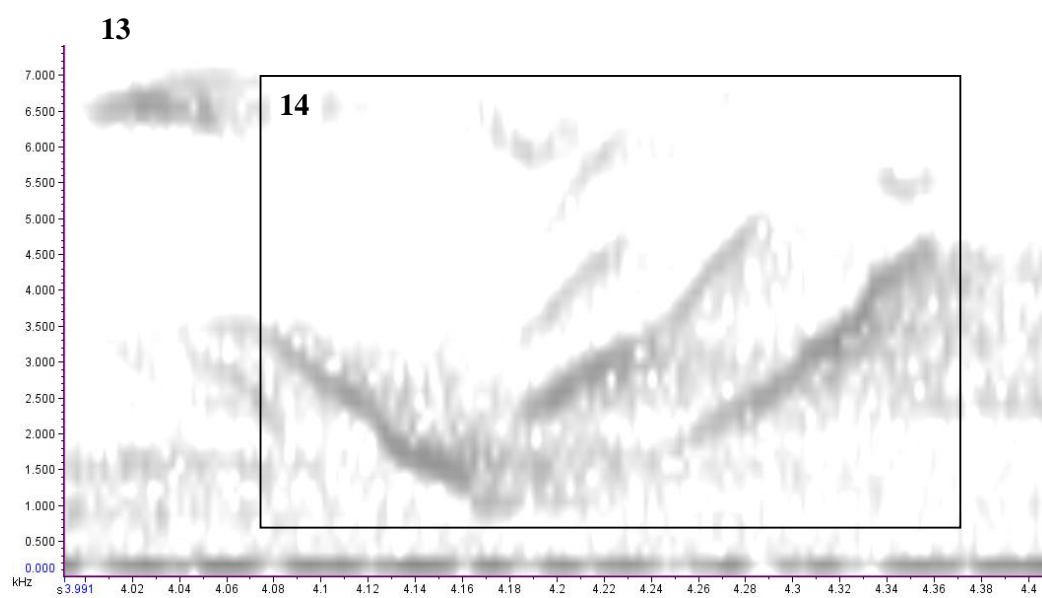
Repeated x2 . The common Maori Bay syllables



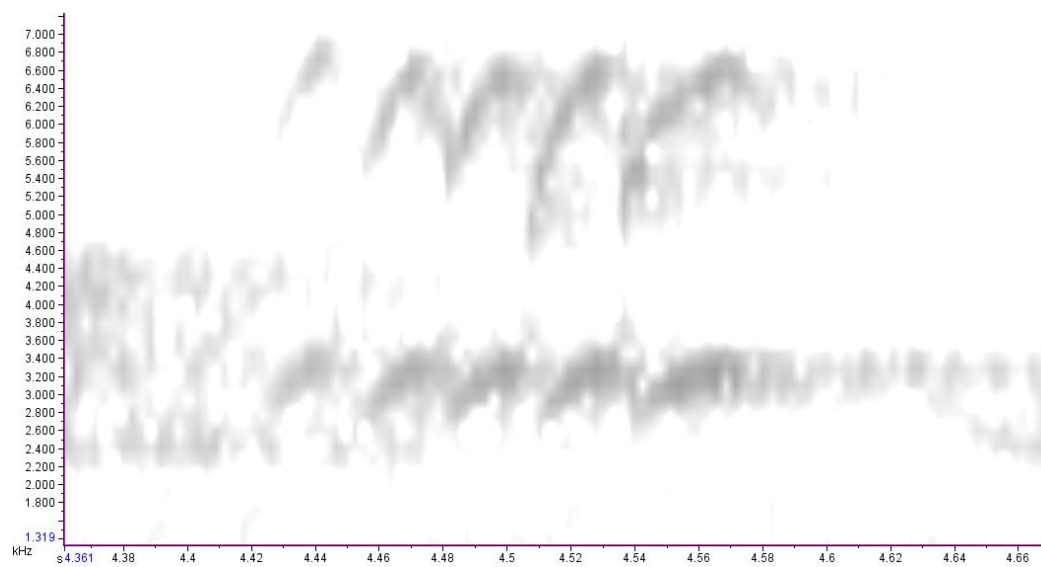
Repeated x2



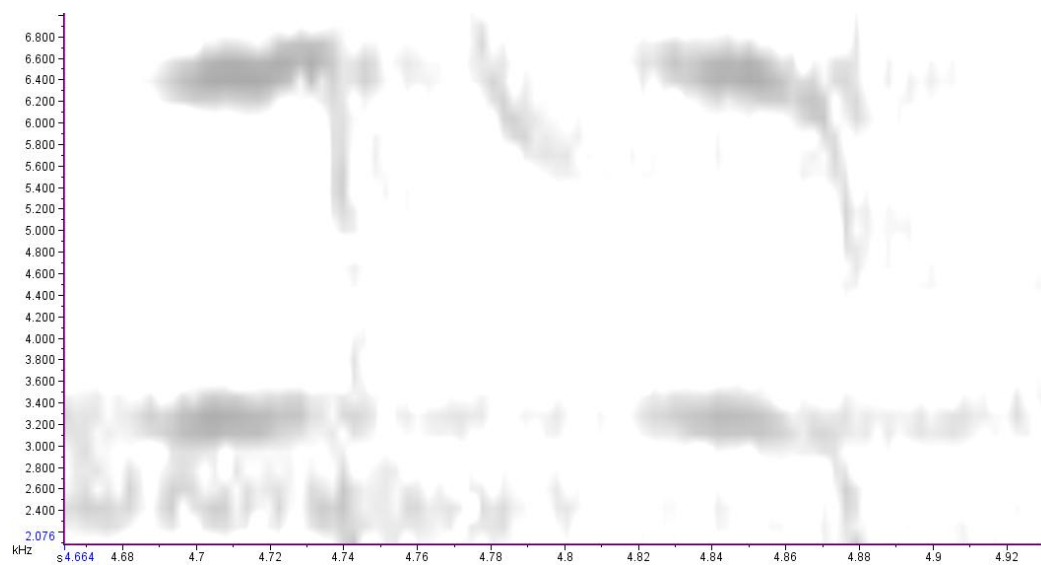
Repeated x2.



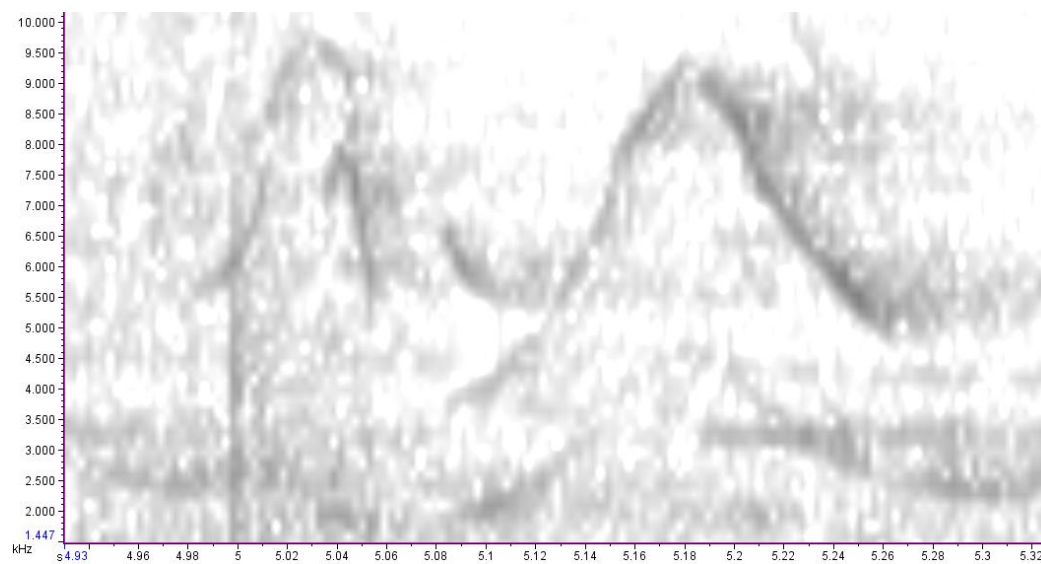
Repeated



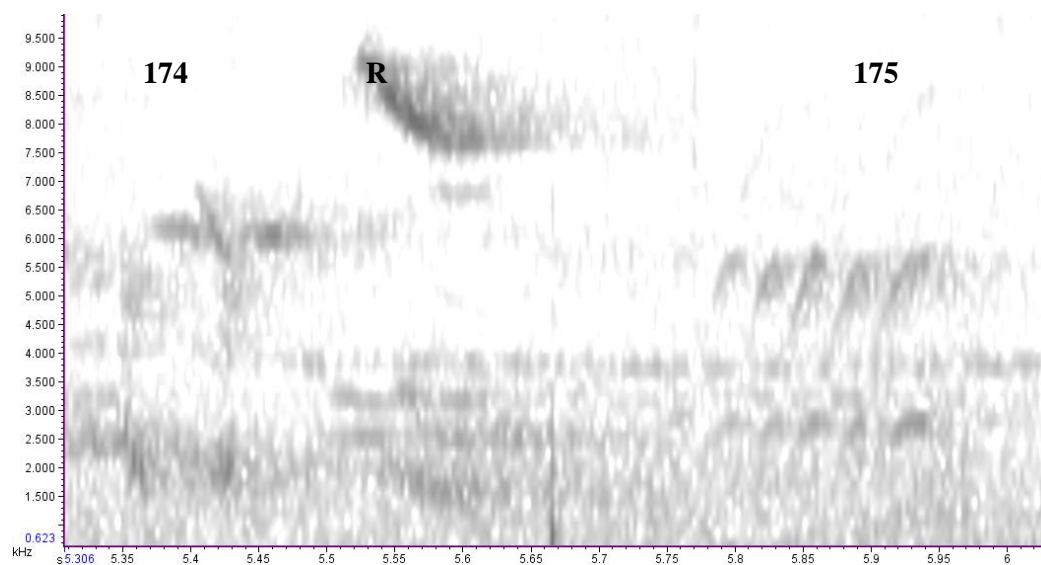
Repeated



Repeated

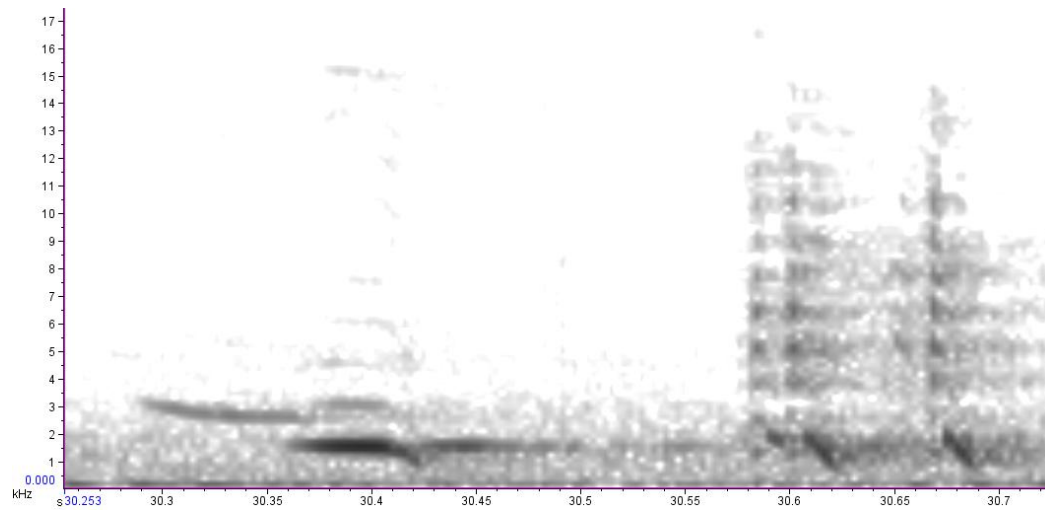


Syllables 174 and 175.

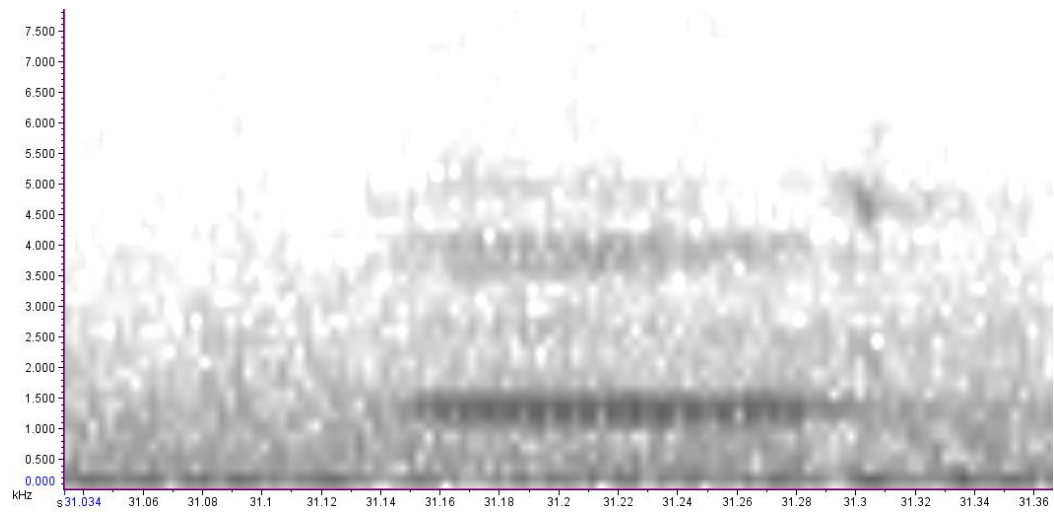


Song 18 – 1024.

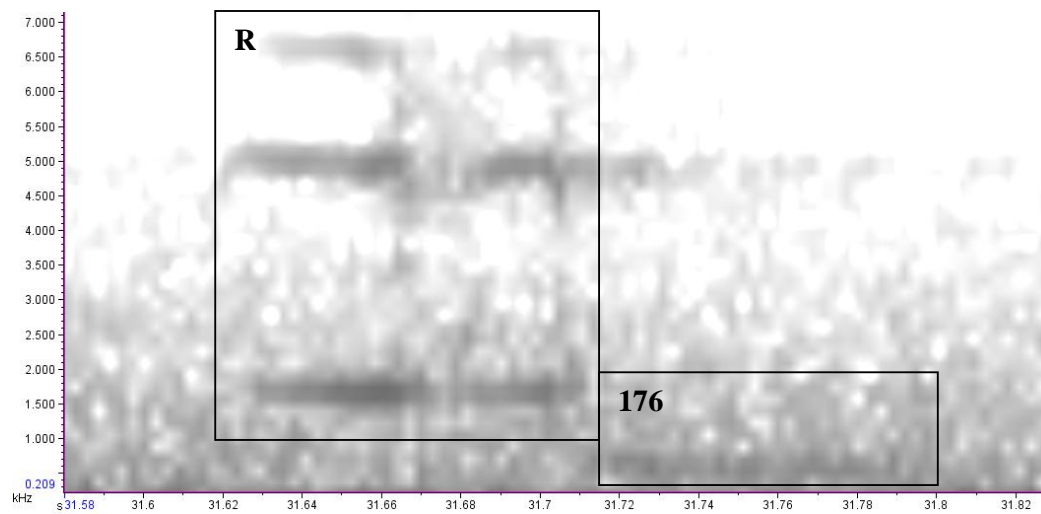
Repeated x2



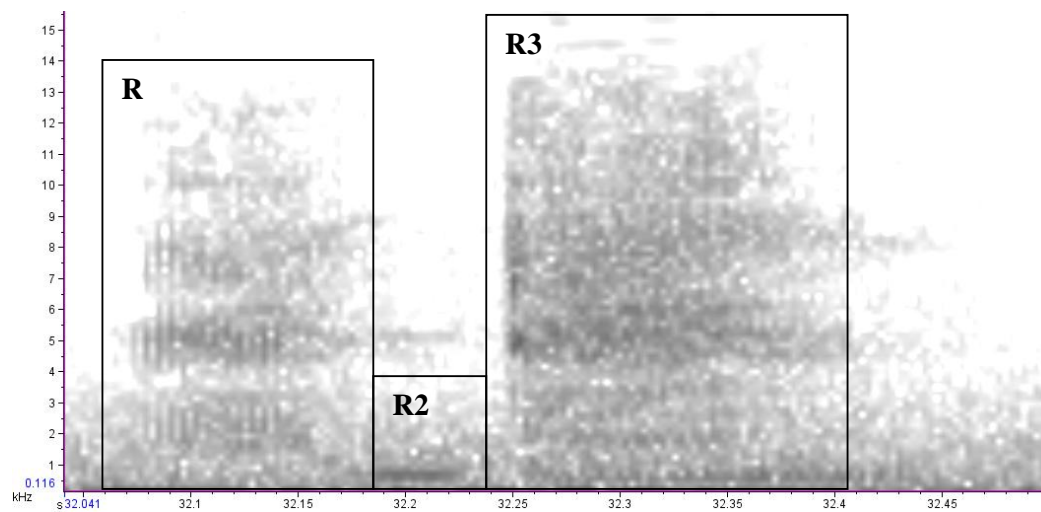
Repeated



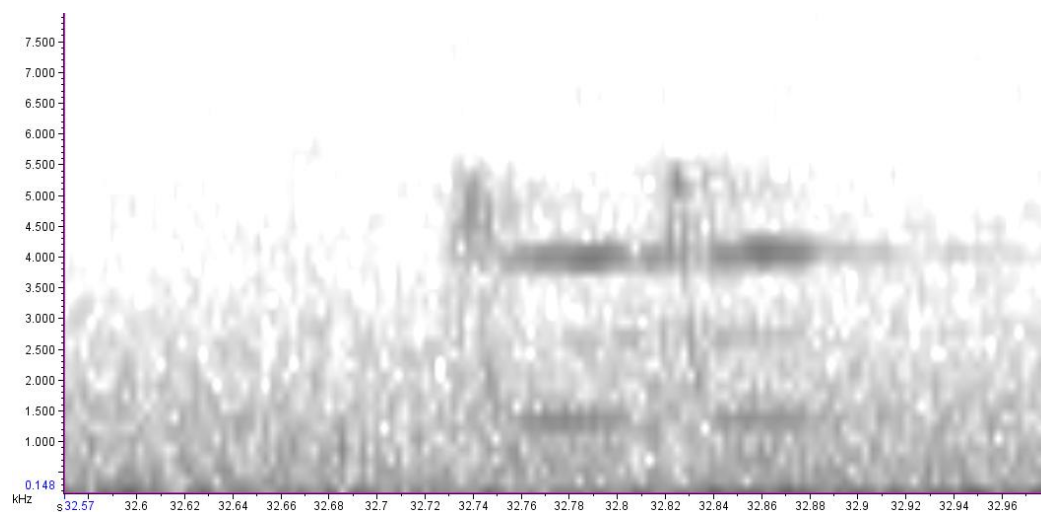
Repeated and Syllable 176. Syllable 176 is a very low-frequency subtle syllable.



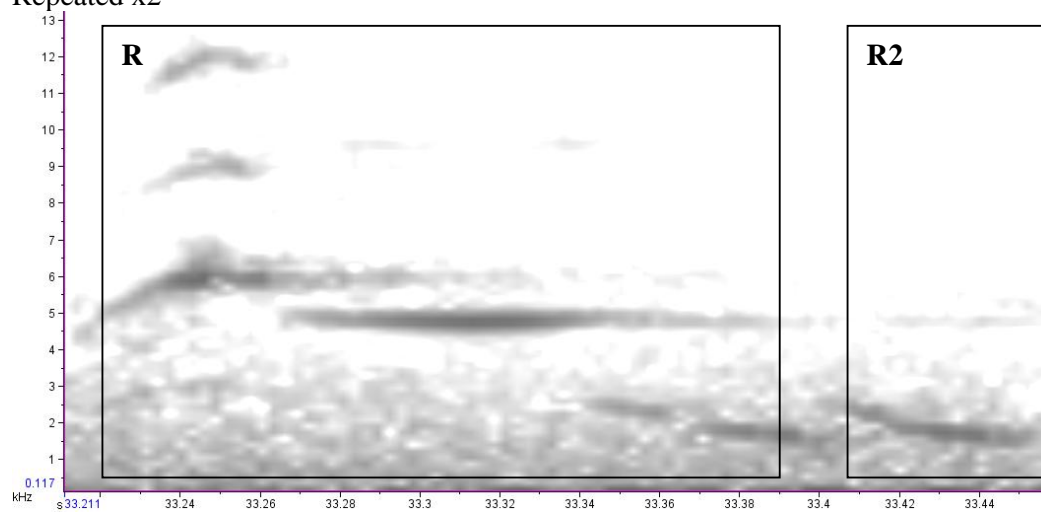
Repeated x3



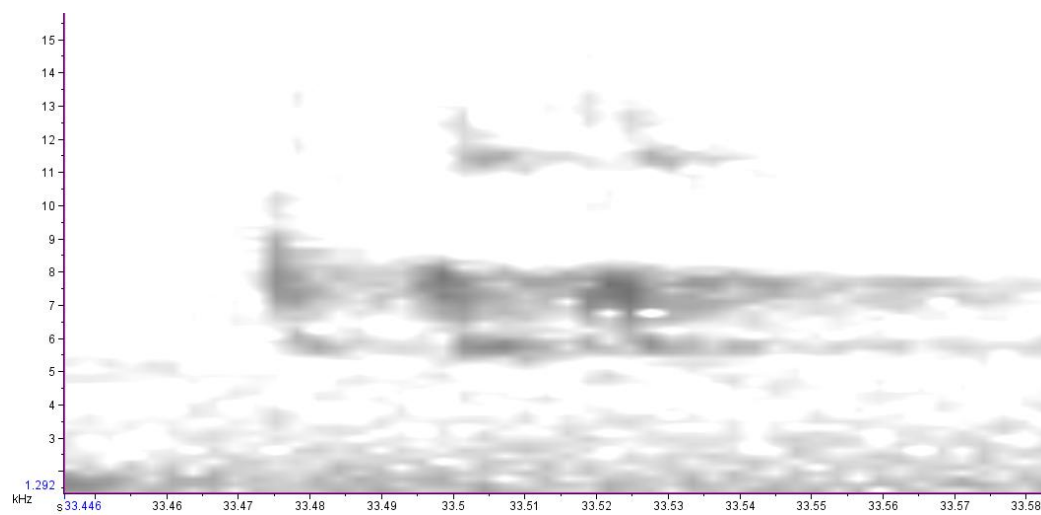
Repeated



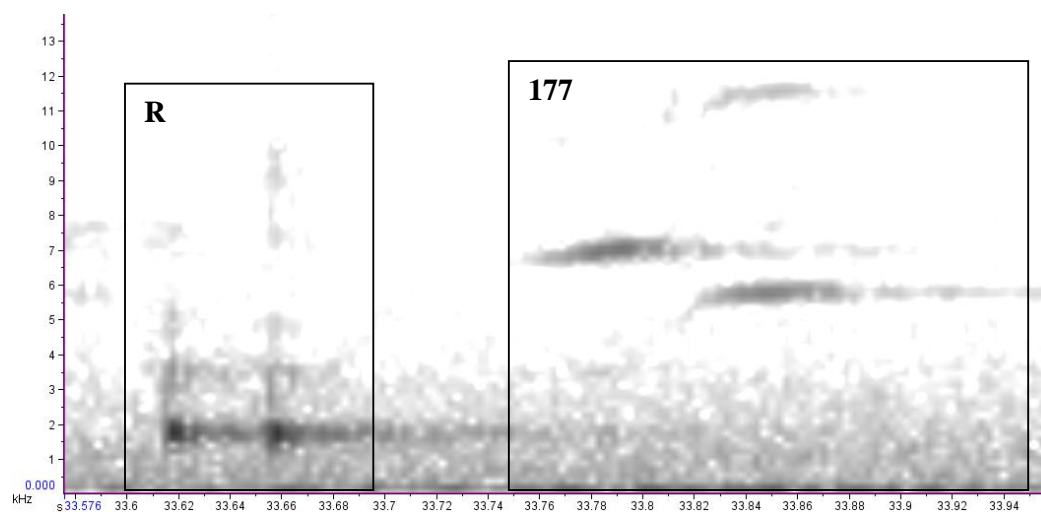
Repeated x2



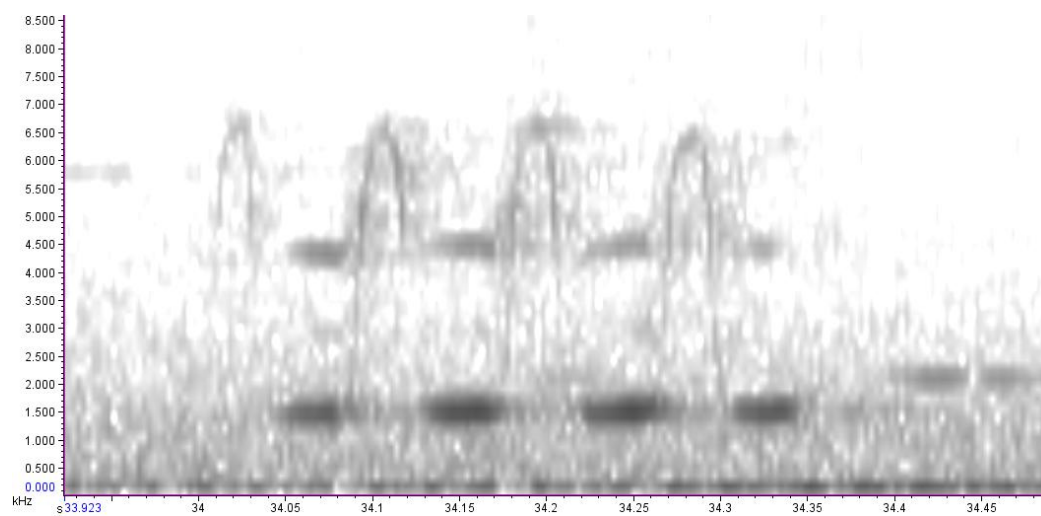
Repeated



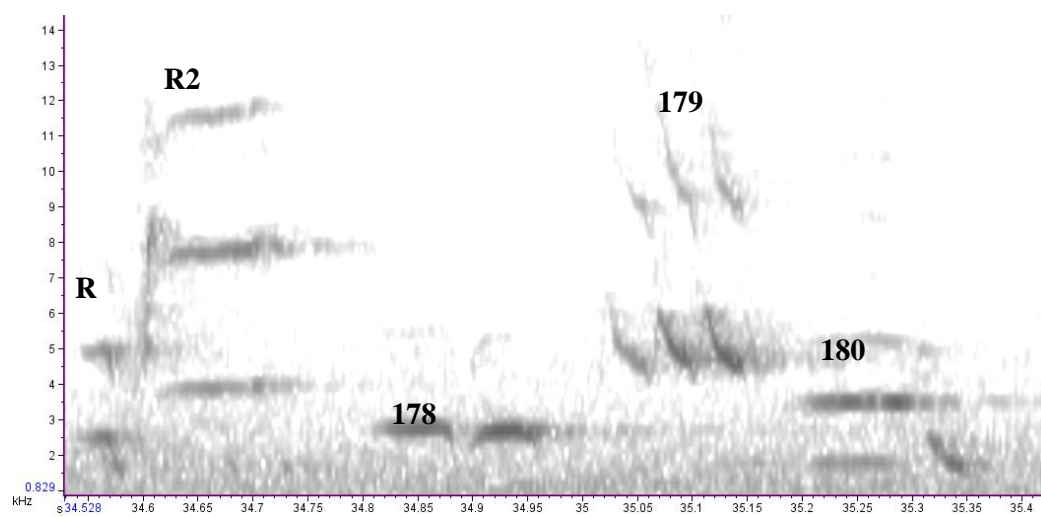
Repeated and 177.



Repeated

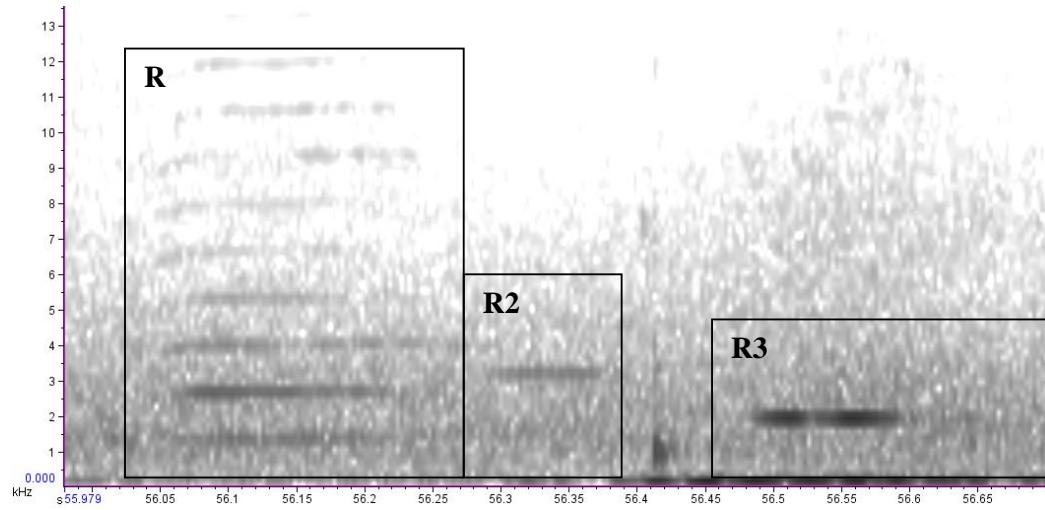


Syllables 178-180

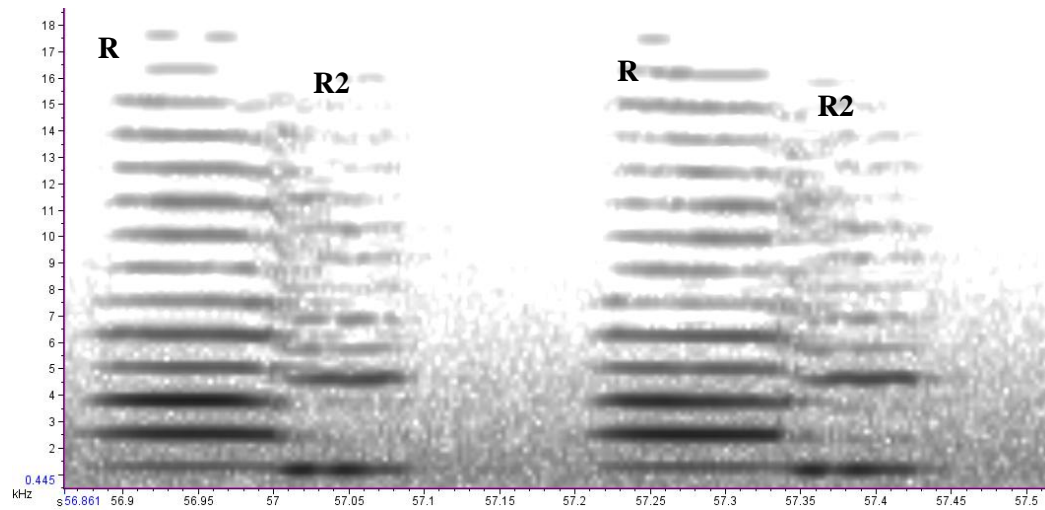


Song 19 – 1025. Anchor Bay. Common Anchor Bay syllables.

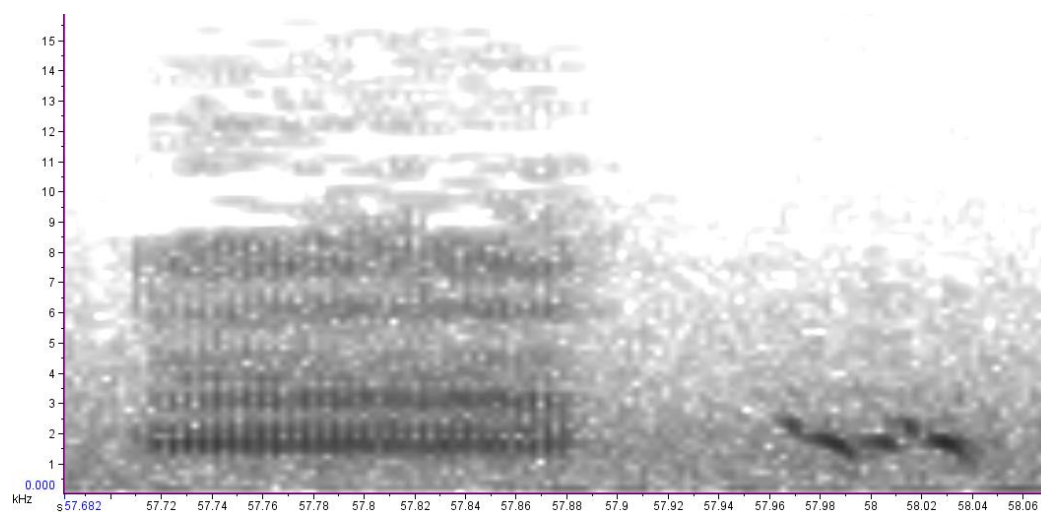
Repeated x3



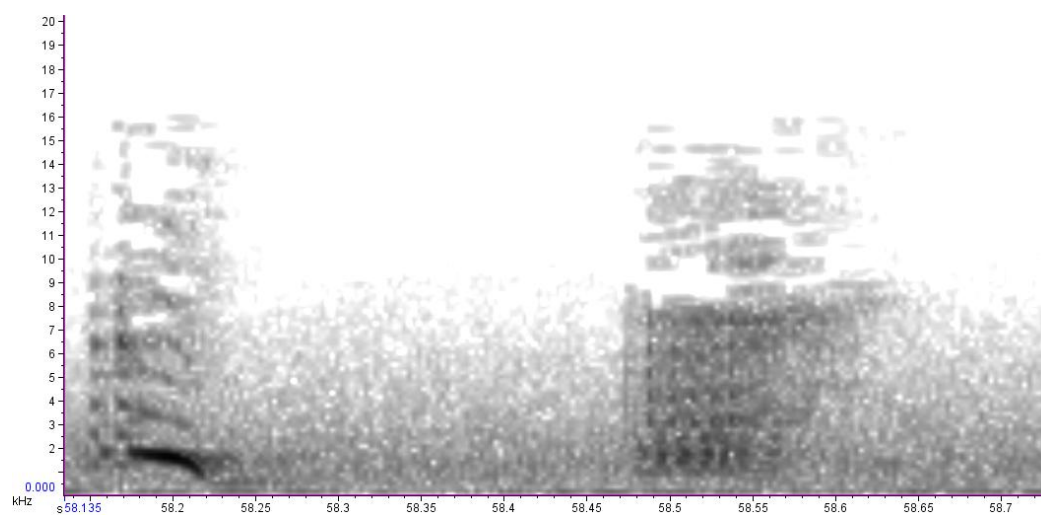
Repeated x2. Common and prominent Anchor Bay syllables. Usually heard in duplicates. Sometimes heard with just one iteration of syllable 4 and 5.



Repeated and Syllable 181.

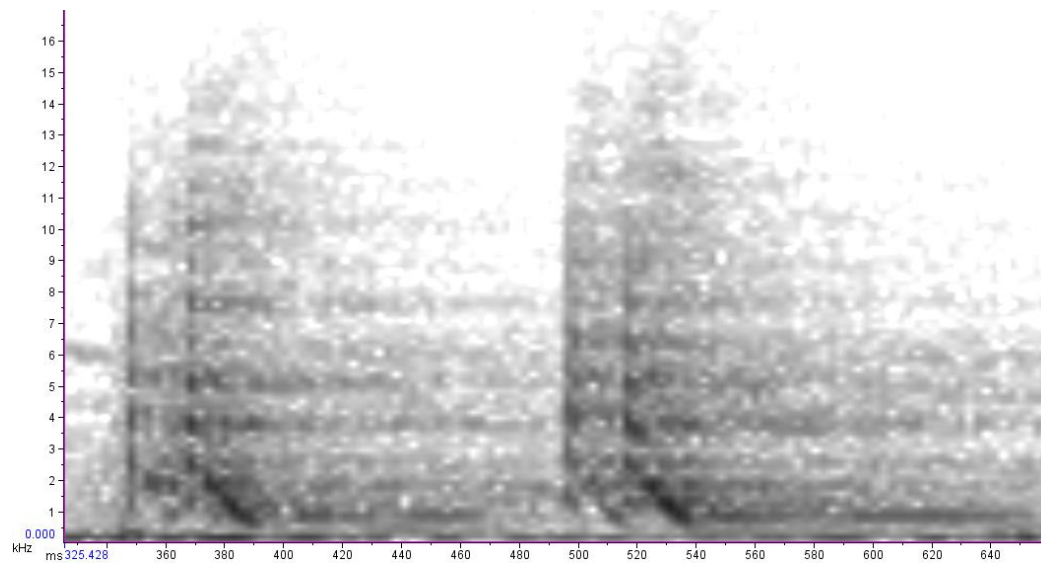


Repeated x2

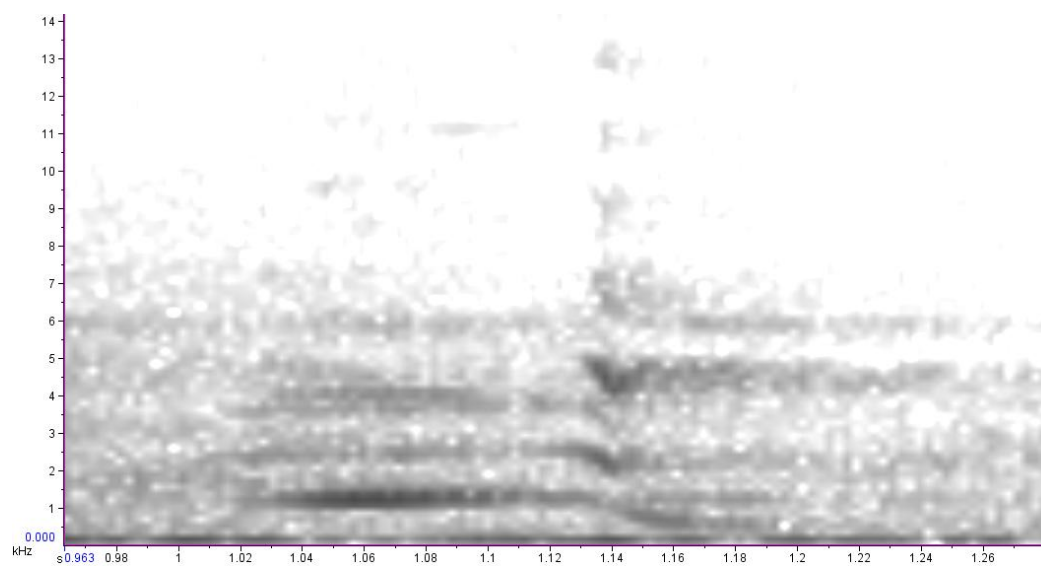


Song 20 - 010-2010-09-09 01_57_36 (Female). Non-breeding season.

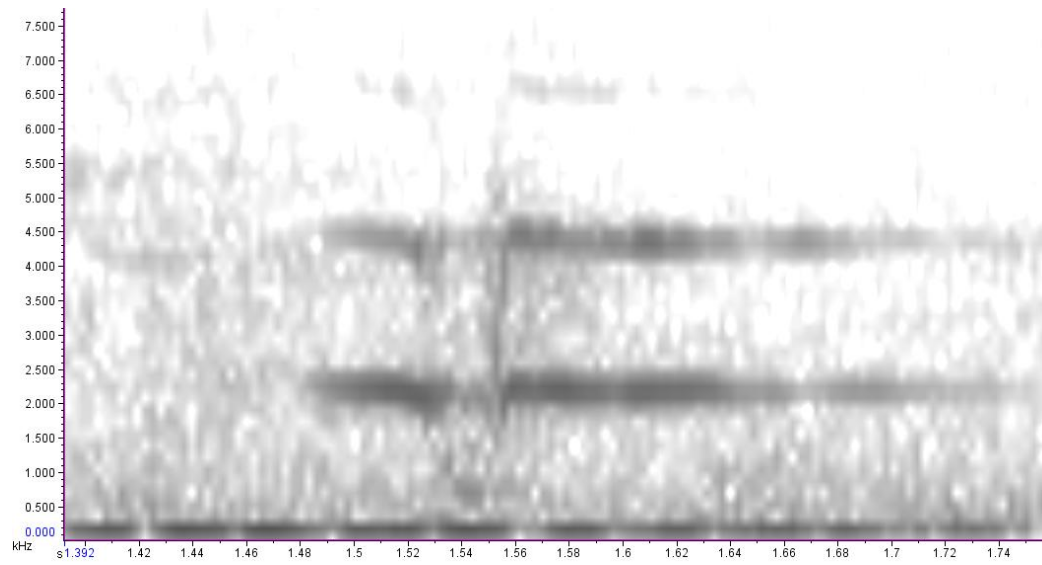
Repeated



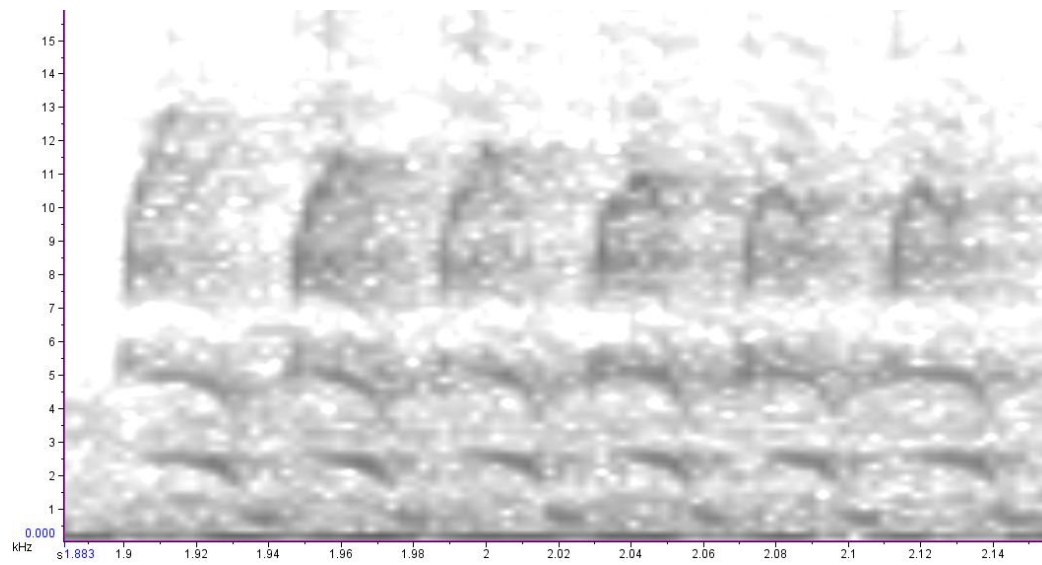
Syllable 182.



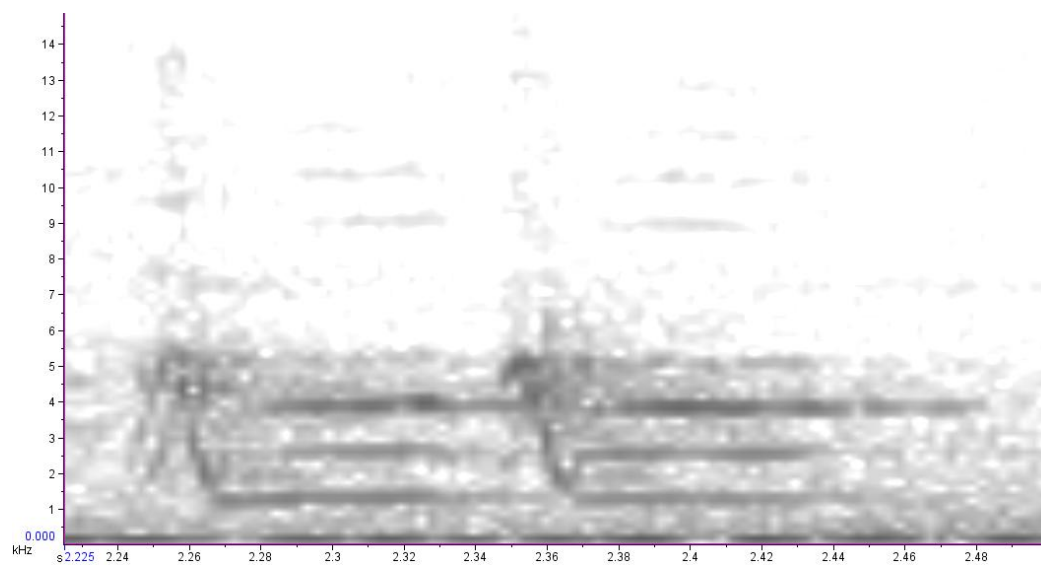
Repeated. Common Jones Bay syllable.



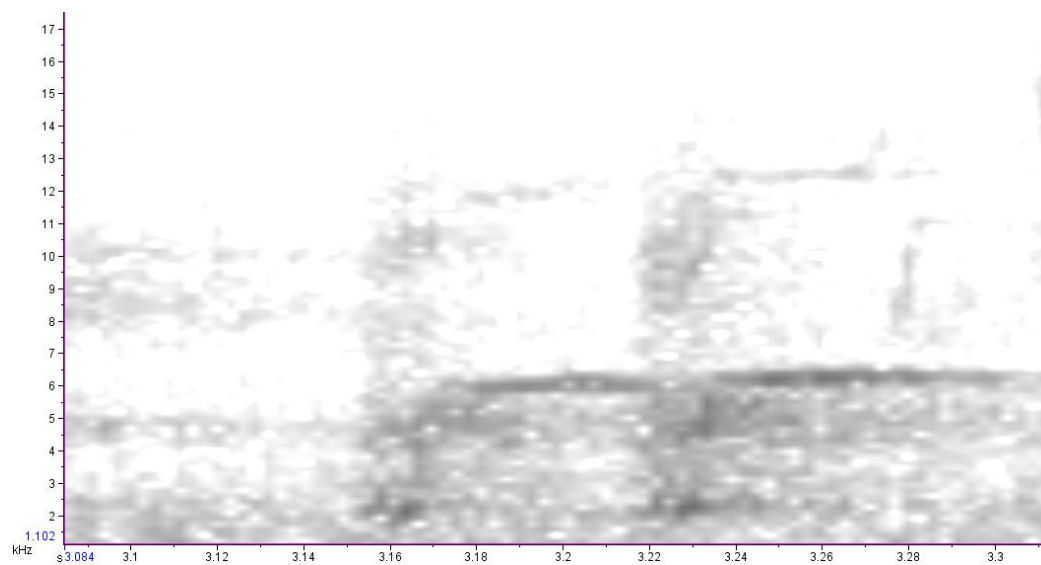
Repeated



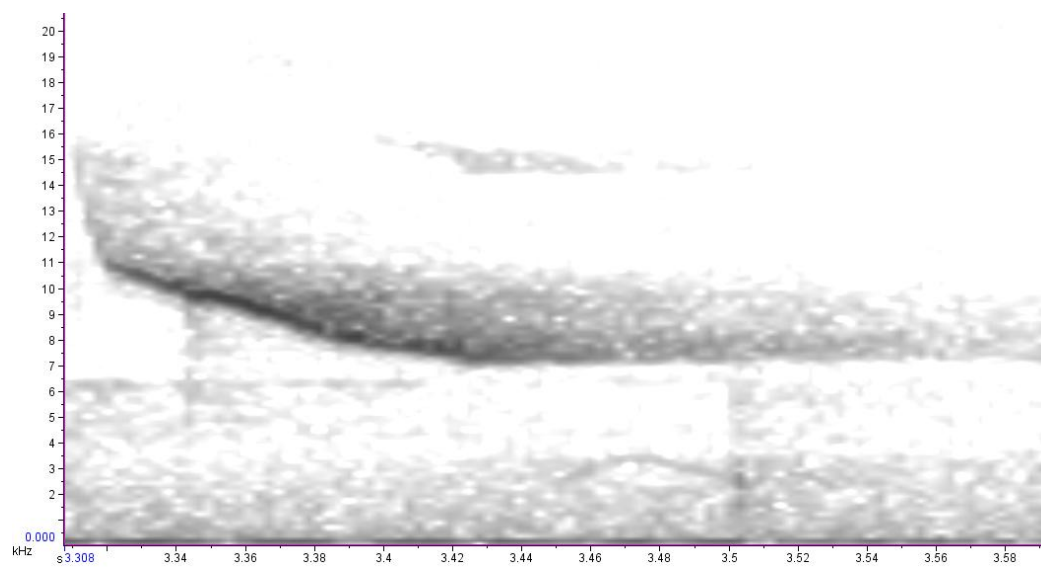
Repeated



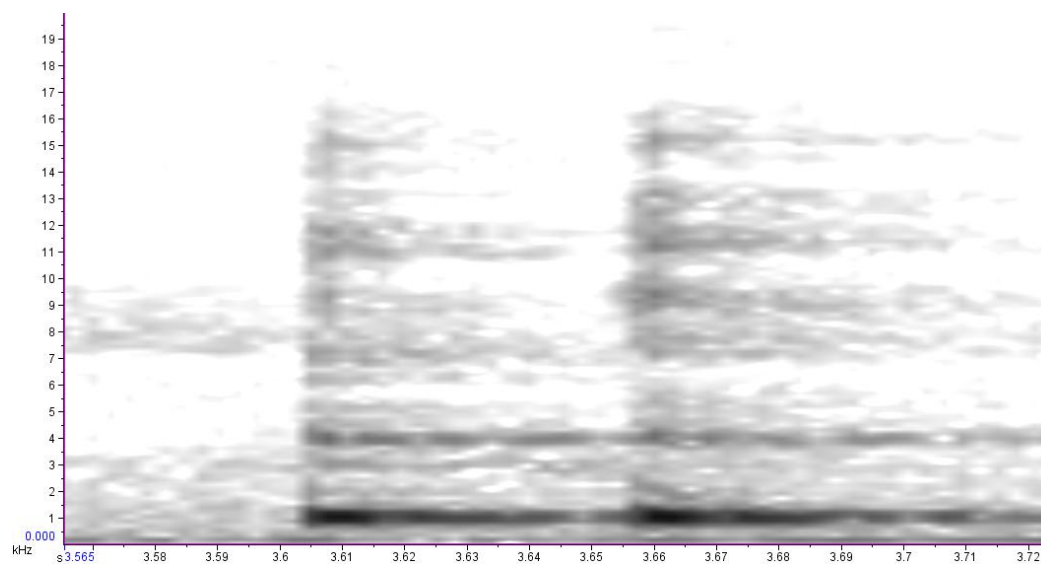
Syllable 183.



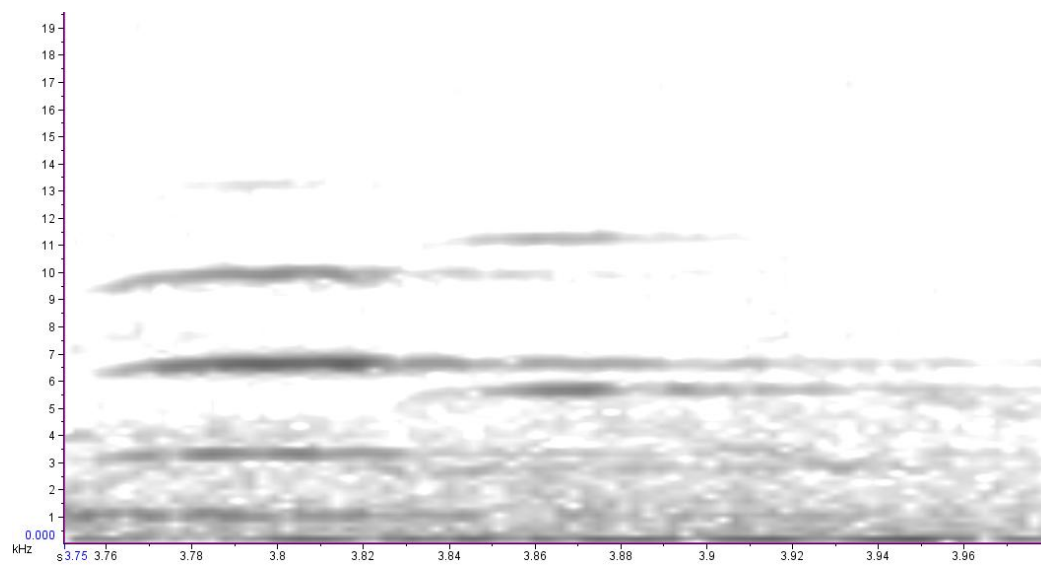
Syllable 184.



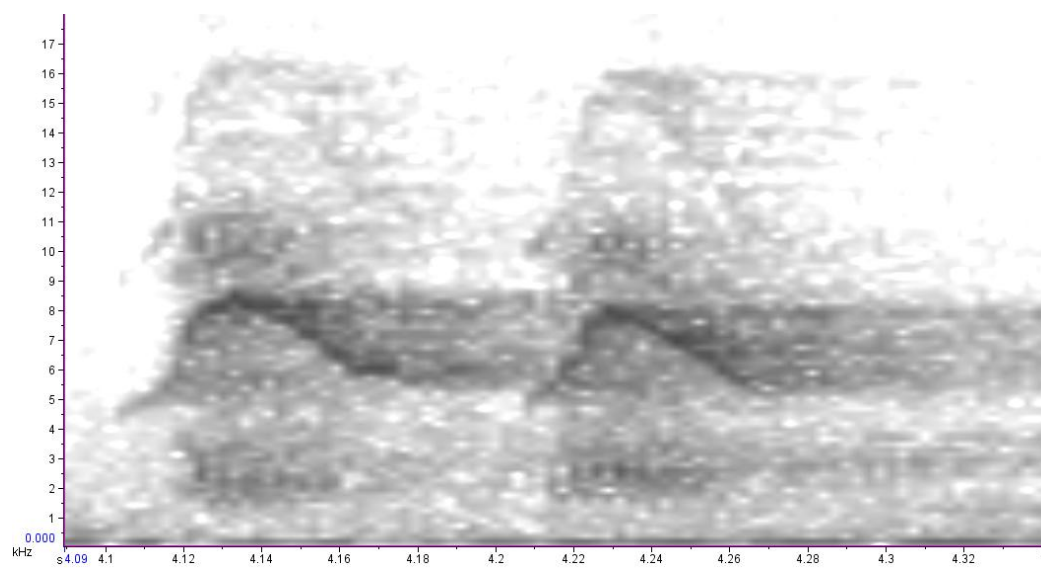
Repeated



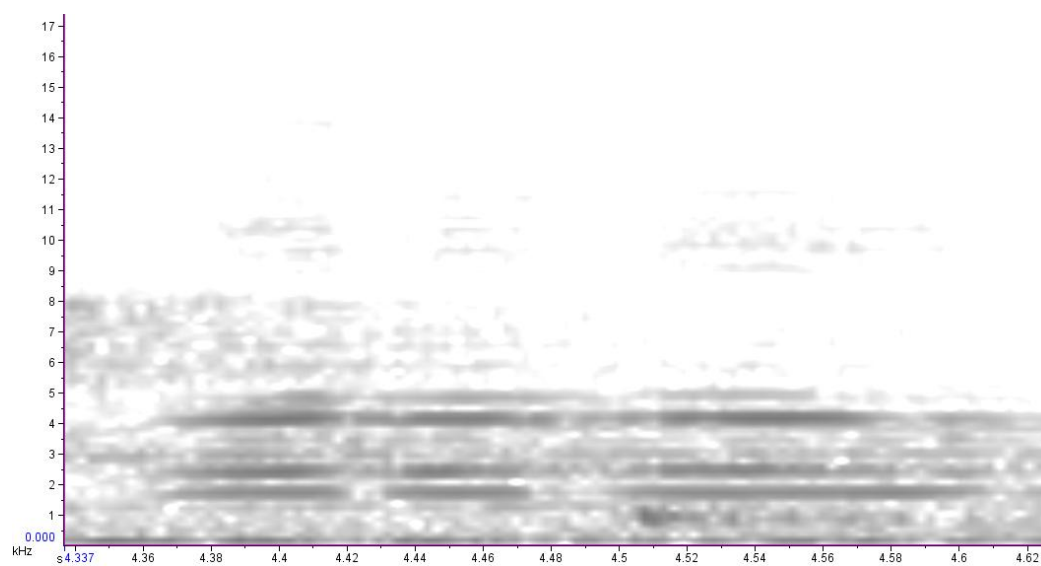
Syllable 185.



Repeated

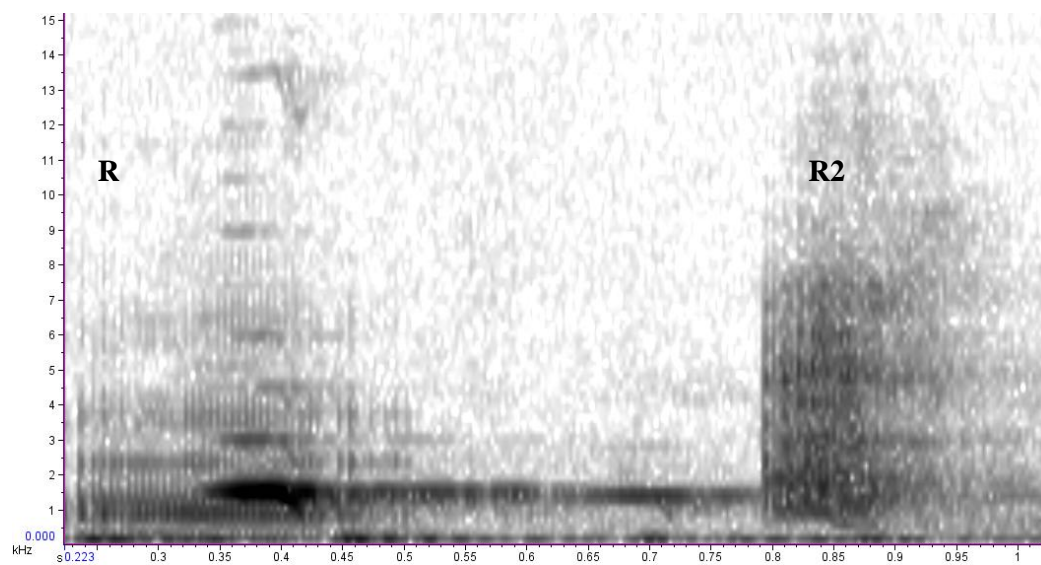


Repeated

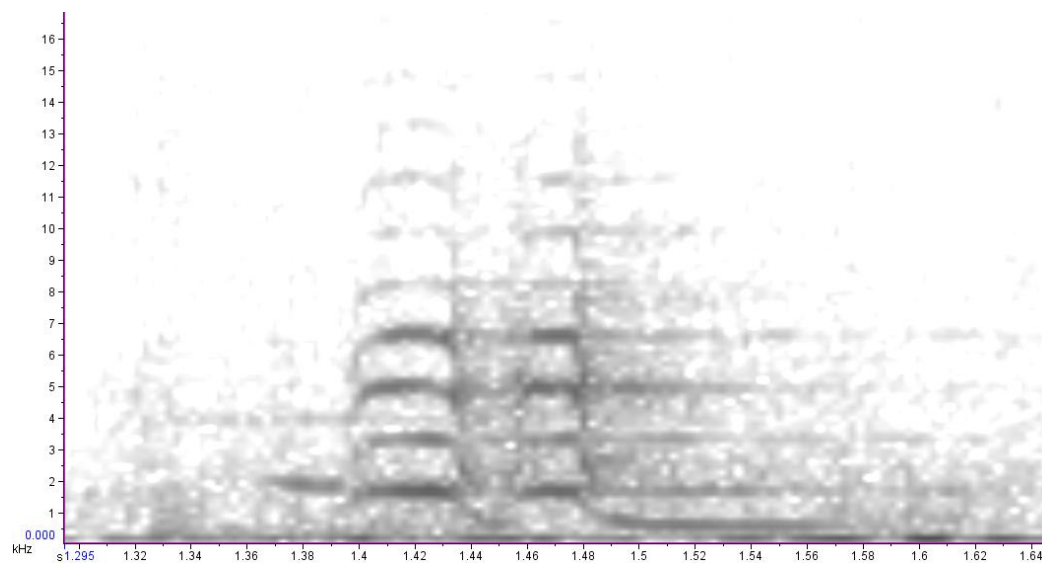


Song 21 - 021-2010-07-26 02_32_12. Non-breeding season.

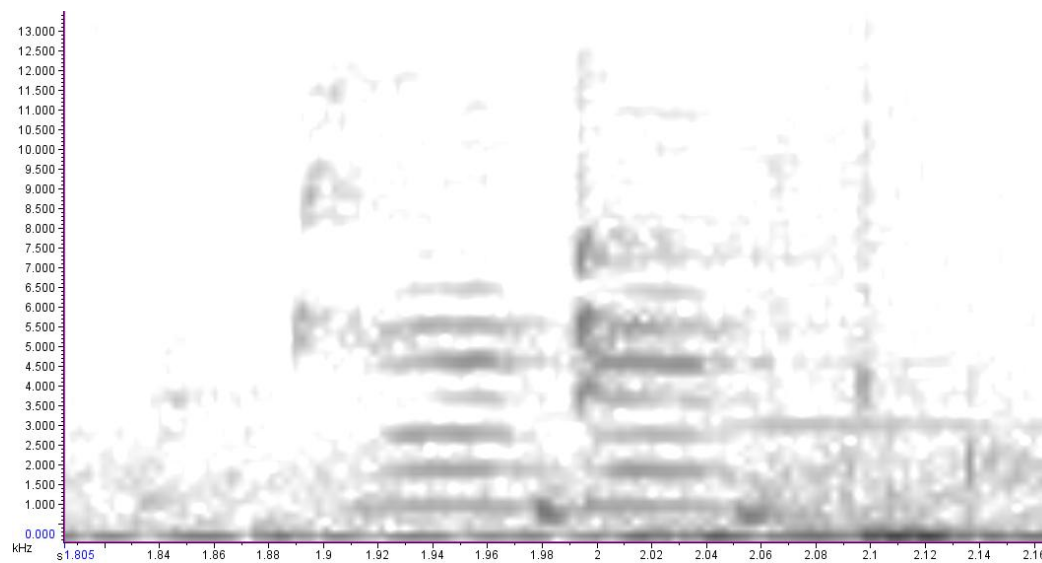
Repeated x2



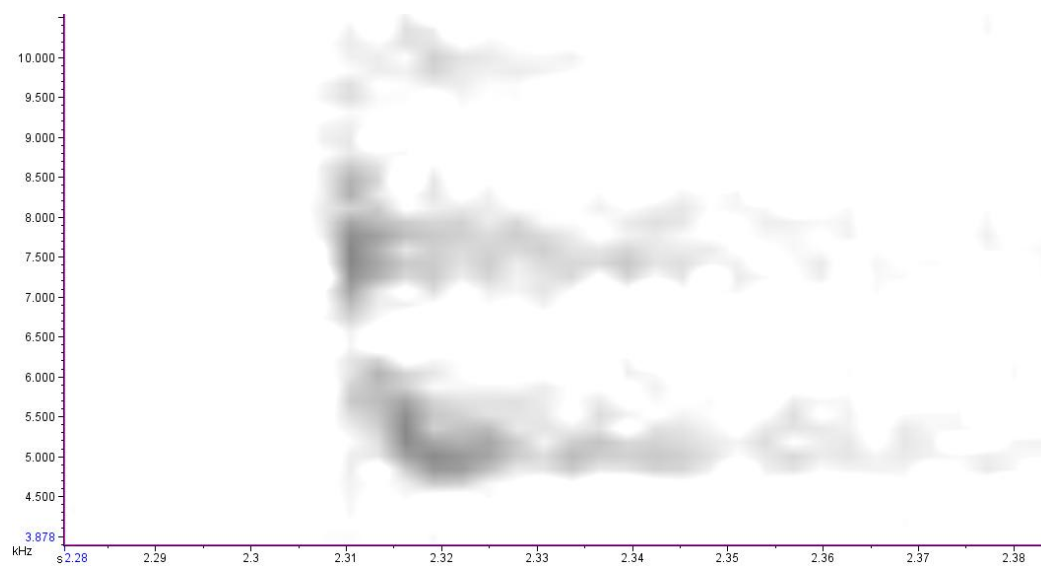
Repeated



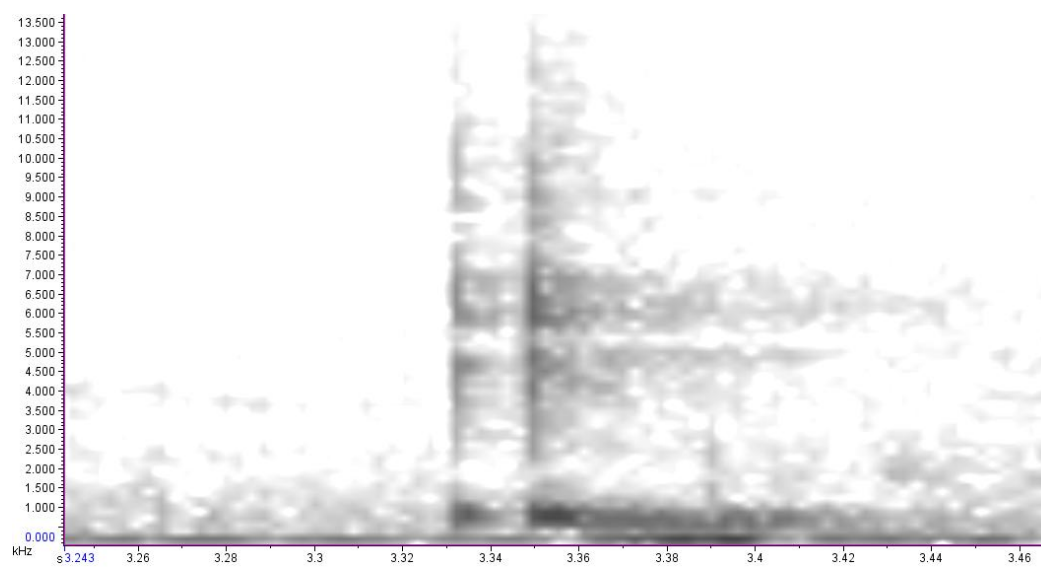
Repeated



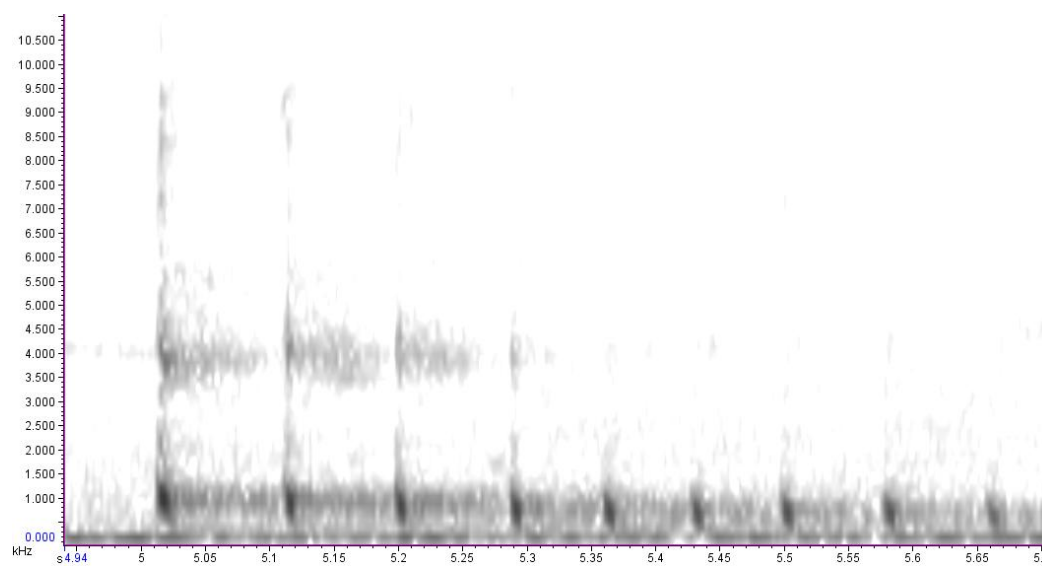
Syllable 186.



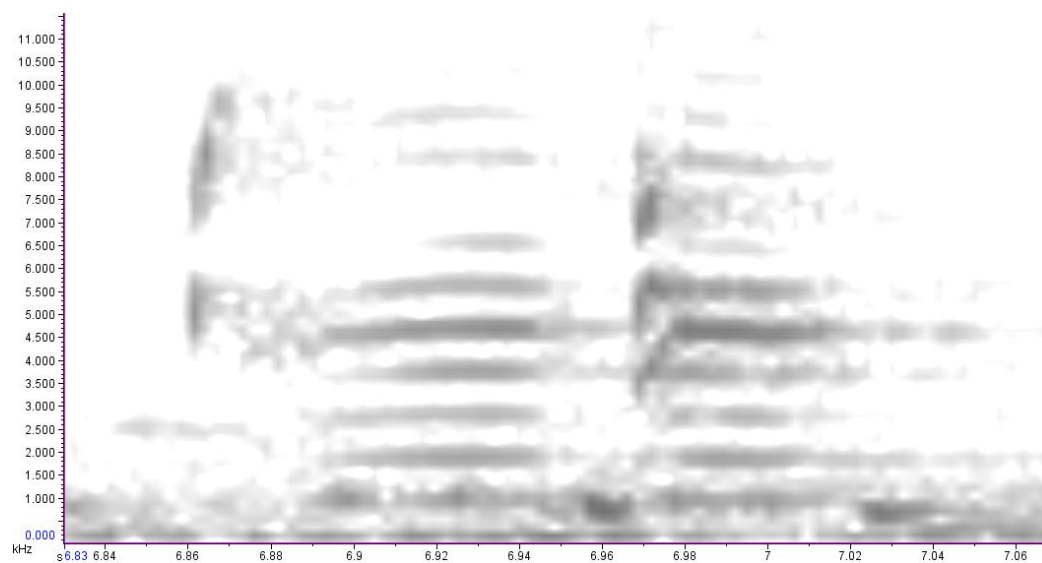
Repeated



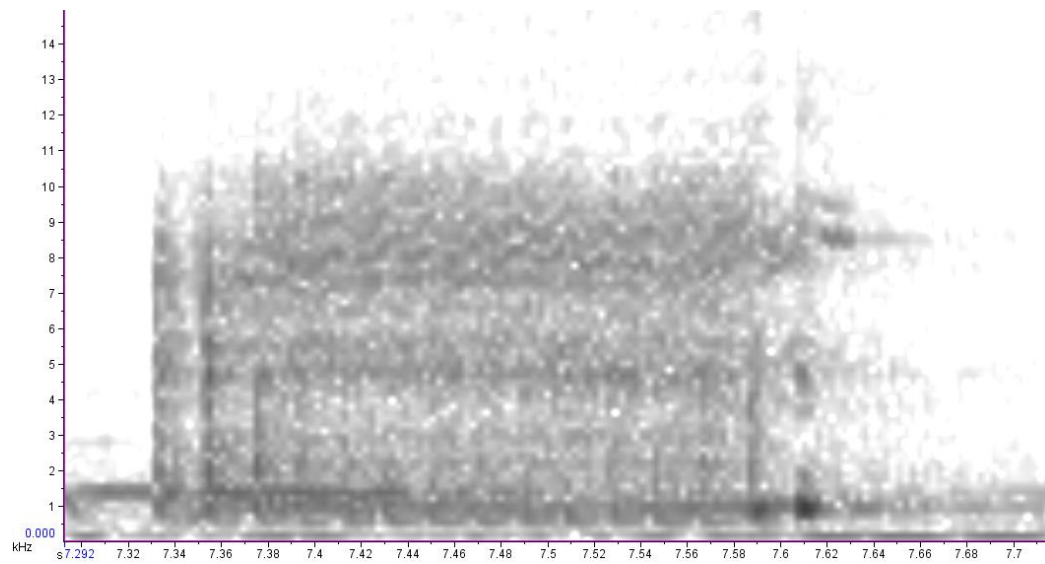
Repeated. The 'kok-kok-kok' syllable. This one has 9 notes.



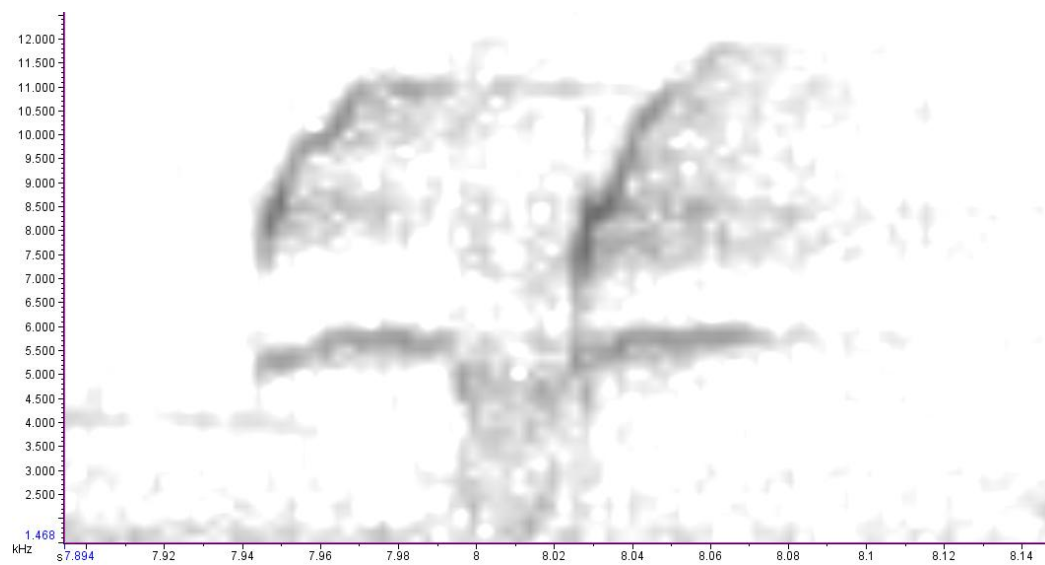
Repeated



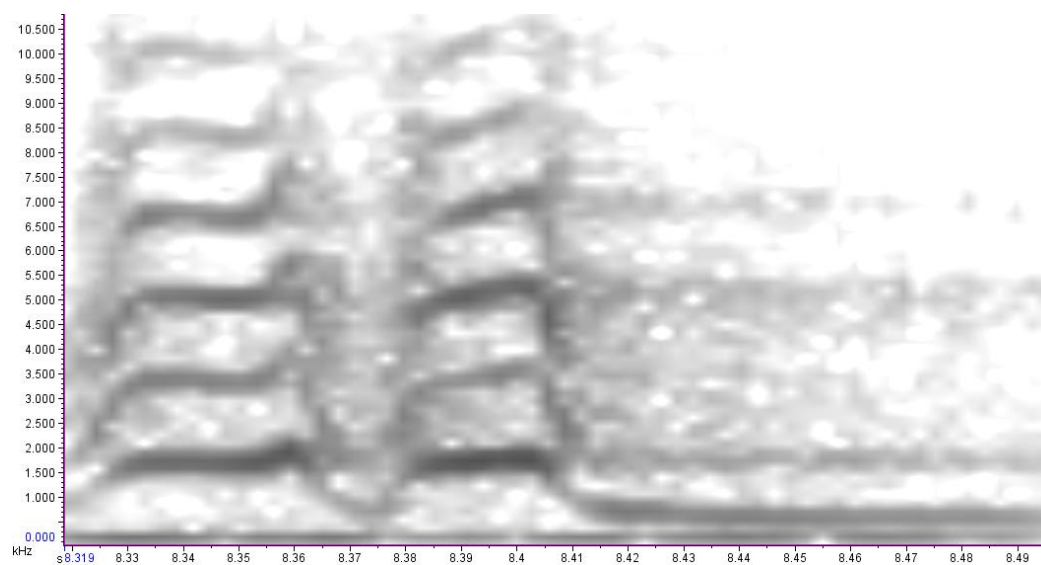
Repeated. Considered just one syllable as the two sounds are conjoined and always heard together. Never heard alone. The 'cork-popping' syllable.



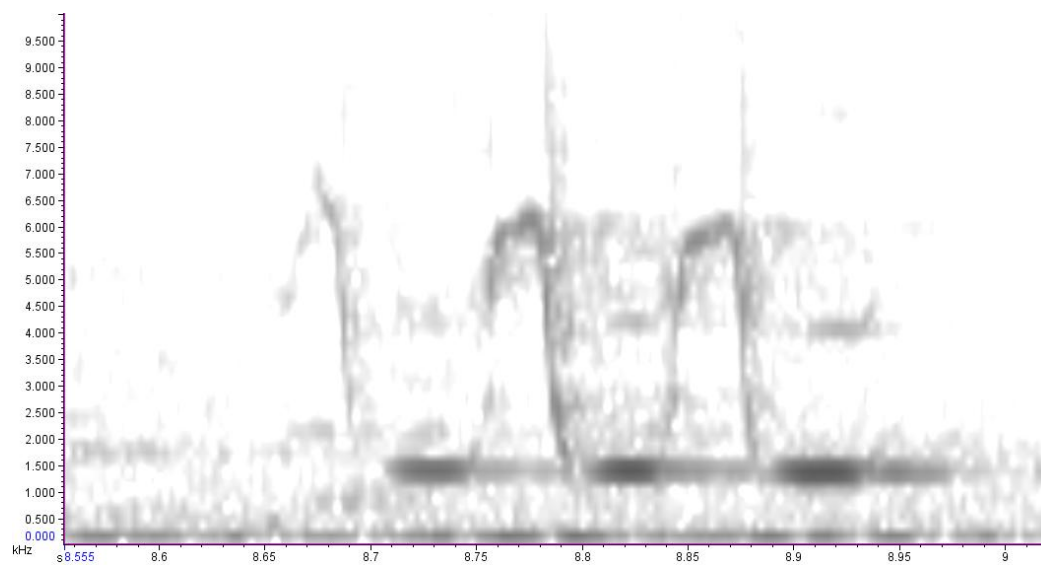
Repeated.



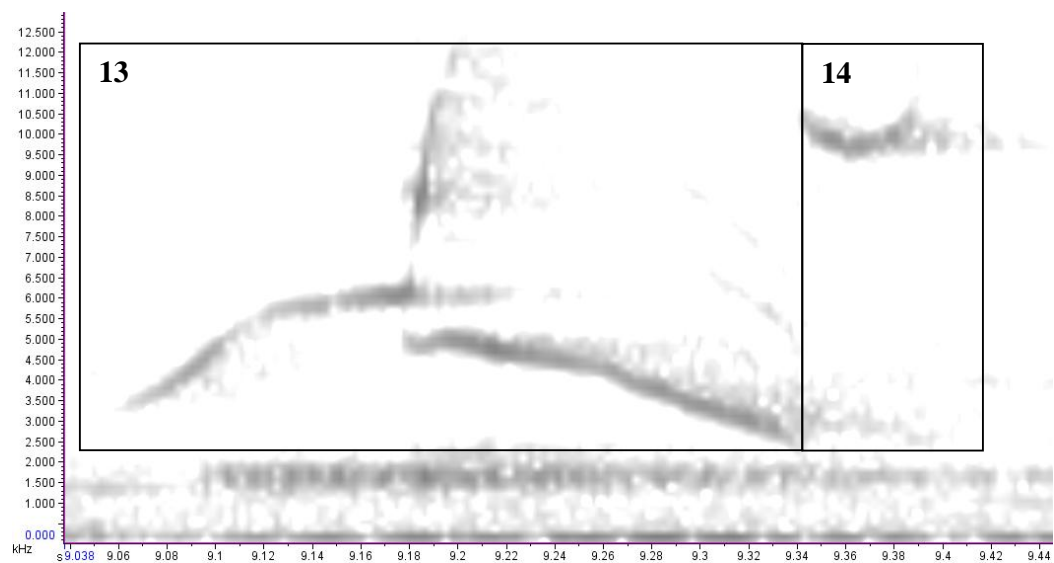
Repeated.



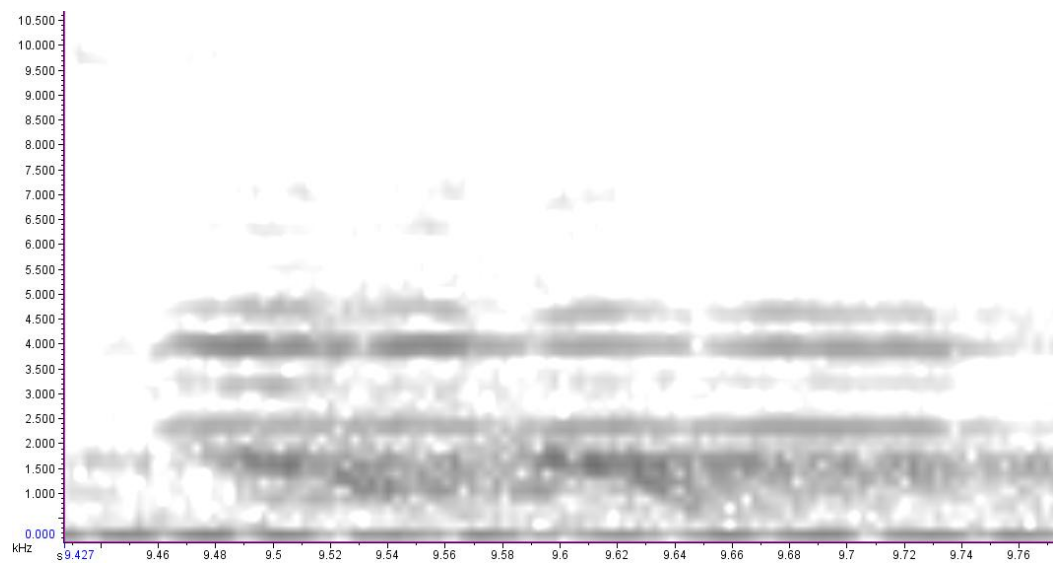
Repeated



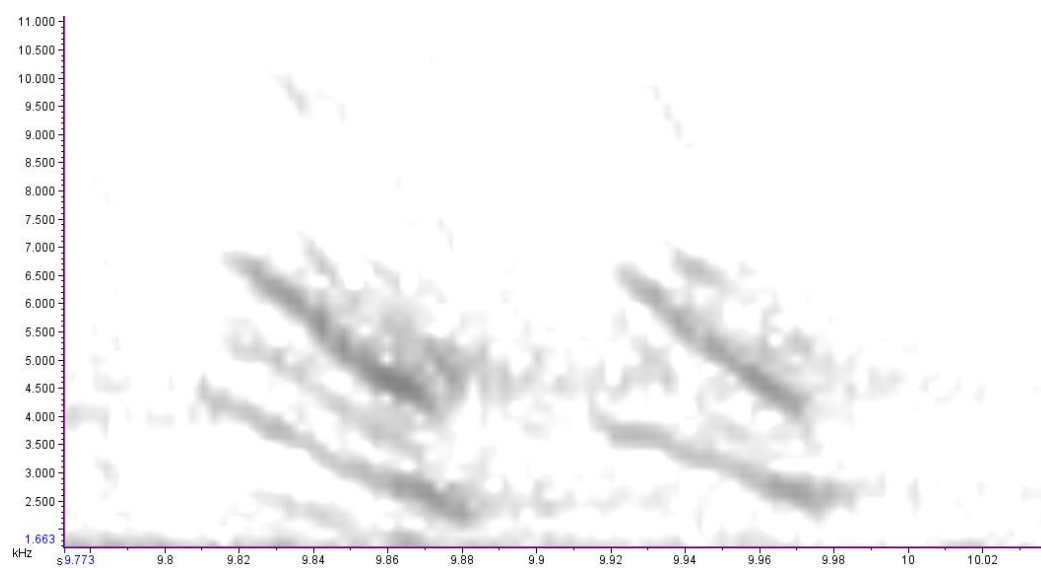
Repeated x2



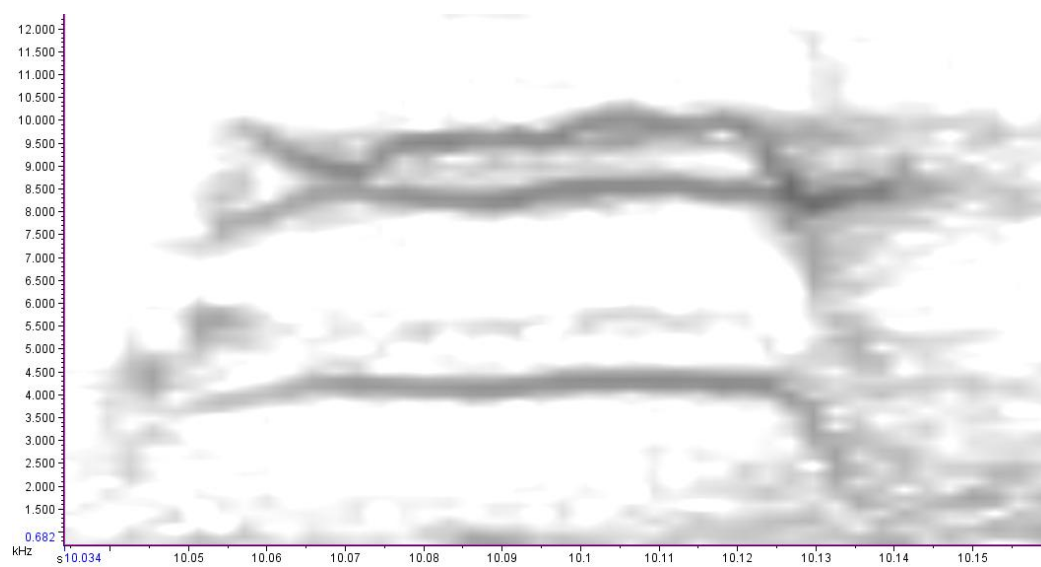
Repeated



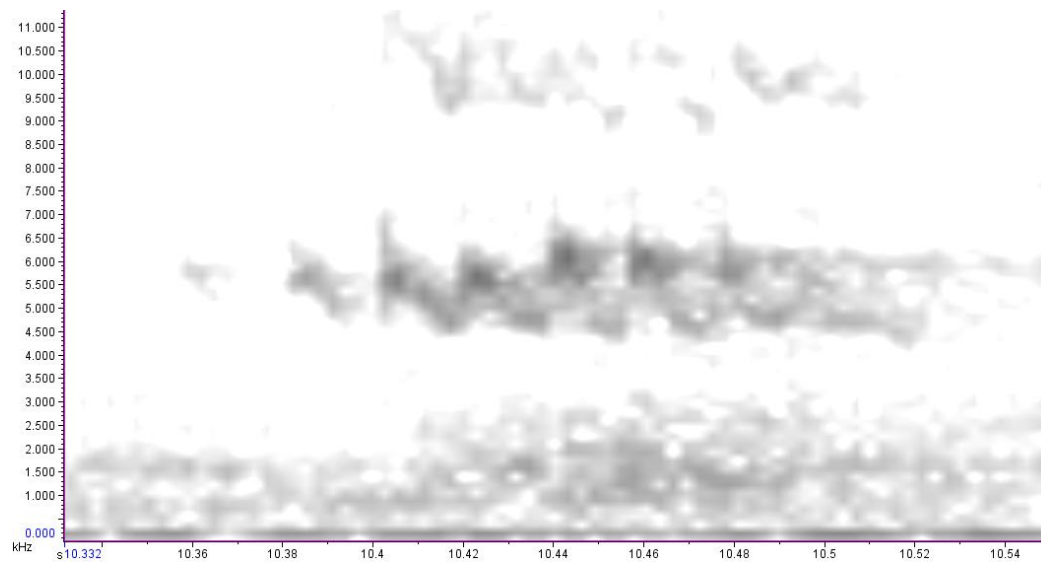
Repeated



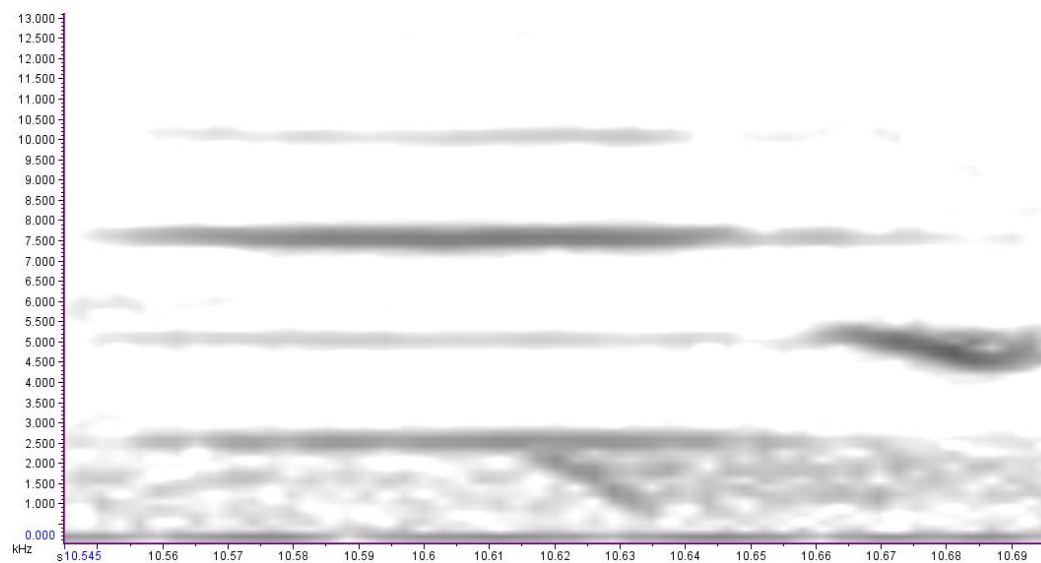
Repeated



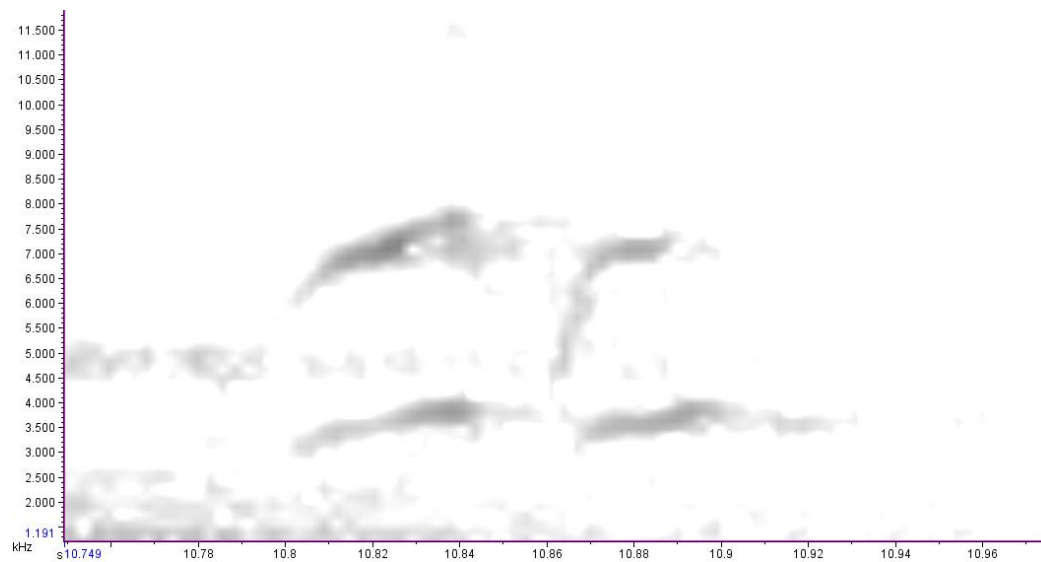
Repeated.



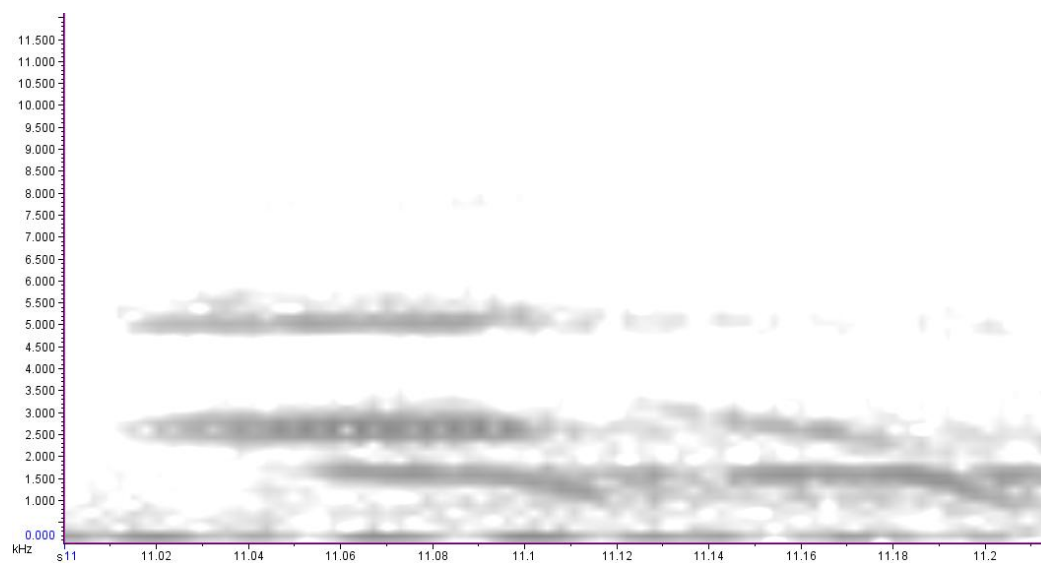
Repeated.



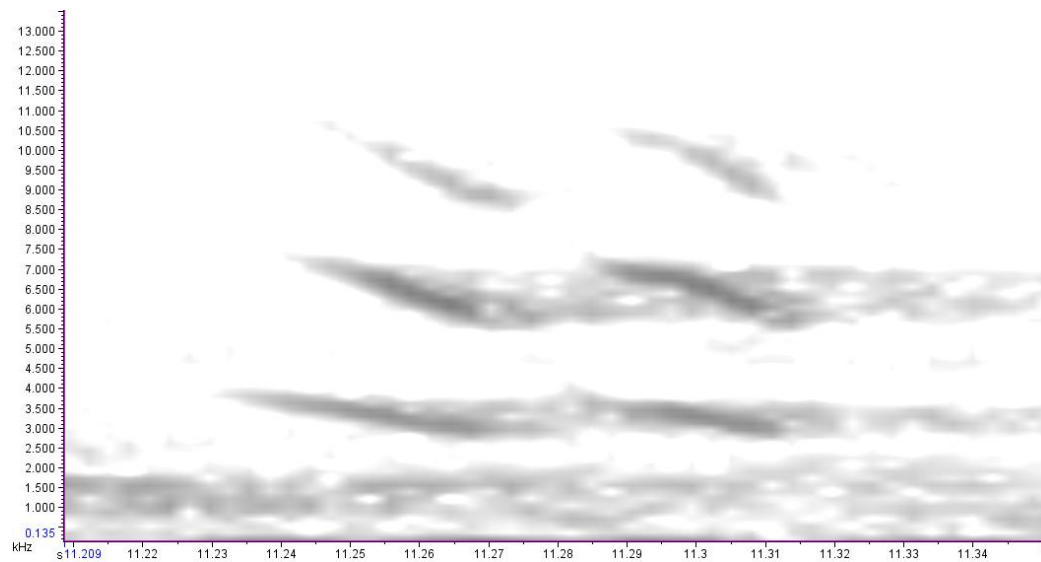
Repeated.



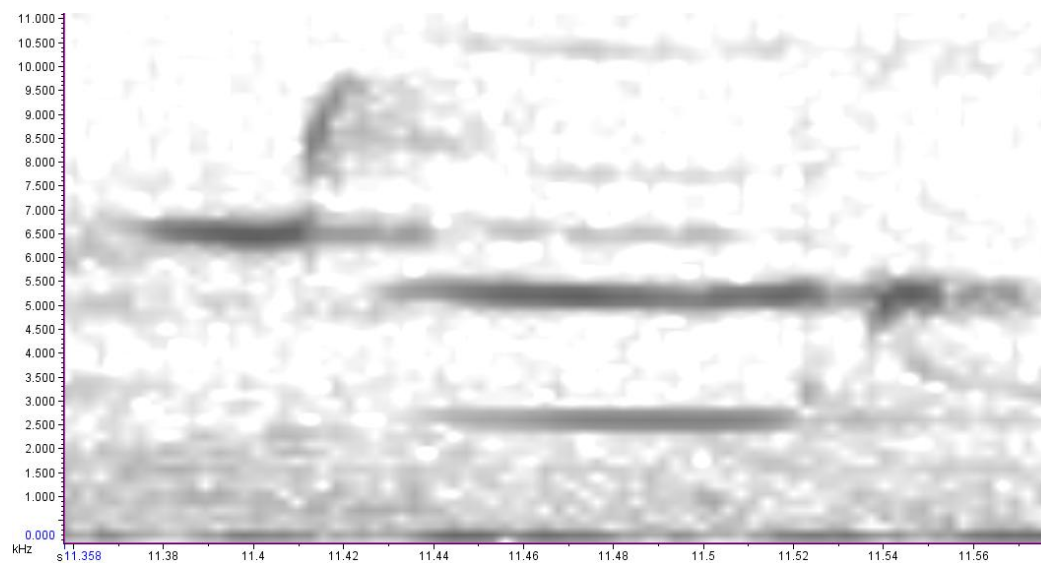
Syllable 187.



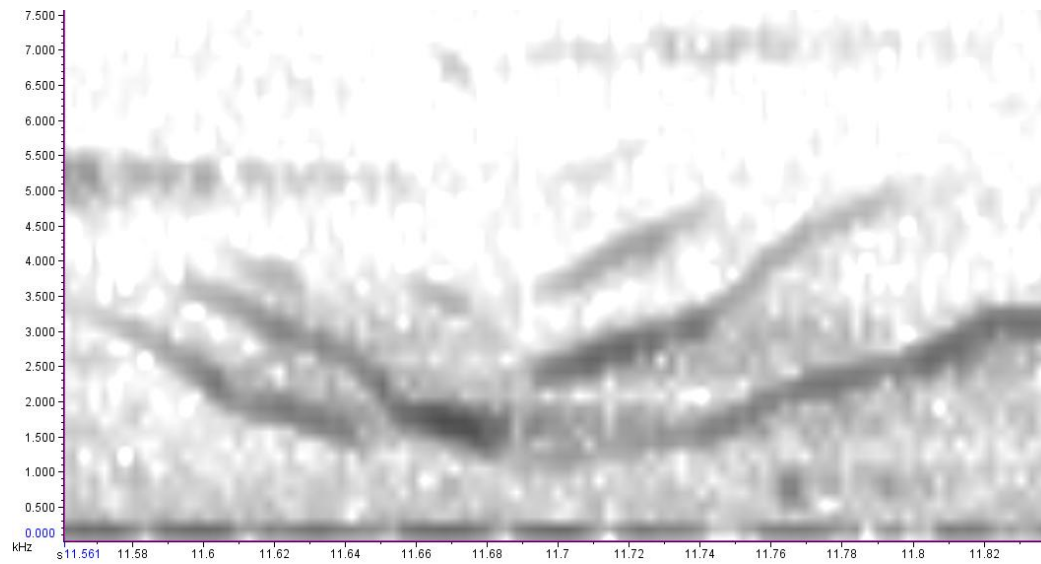
Repeated.



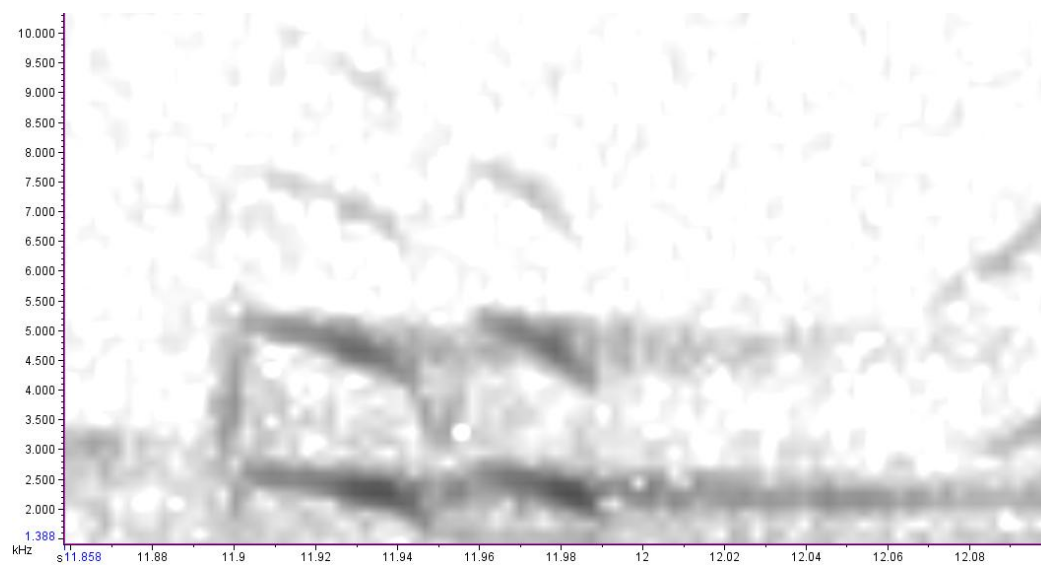
Syllable 188. Conjoined so considered one syllable.



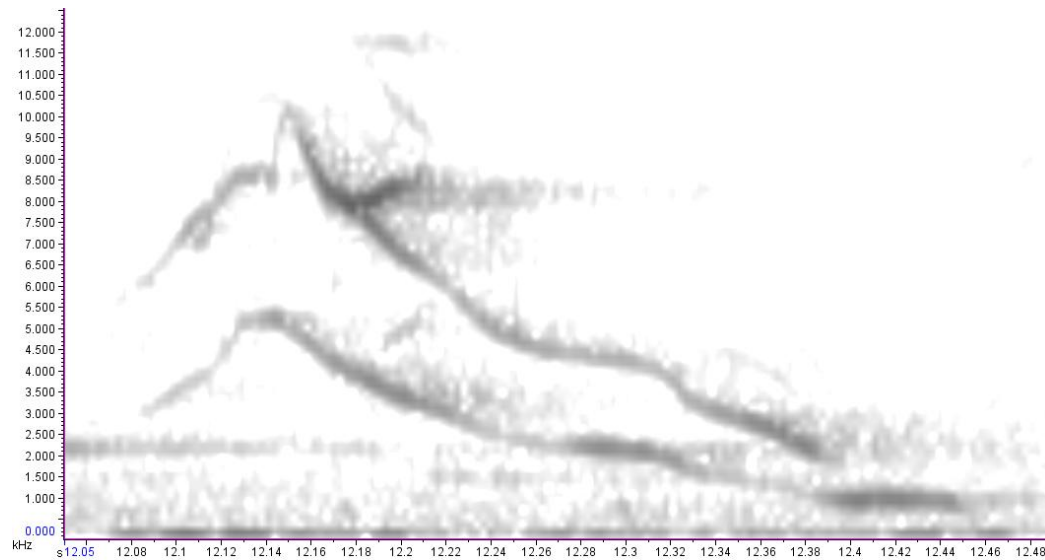
Repeated.



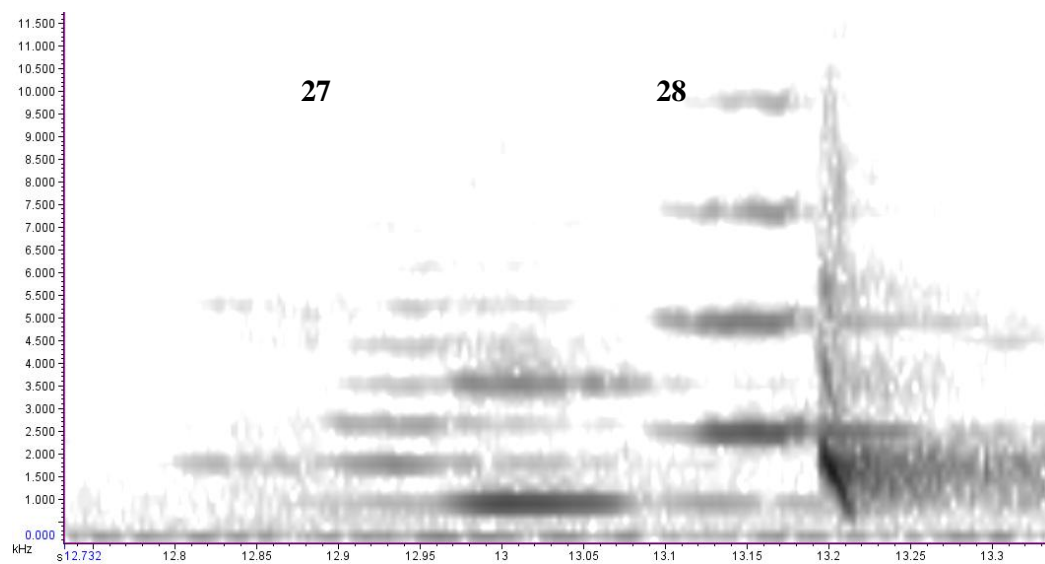
Repeated.



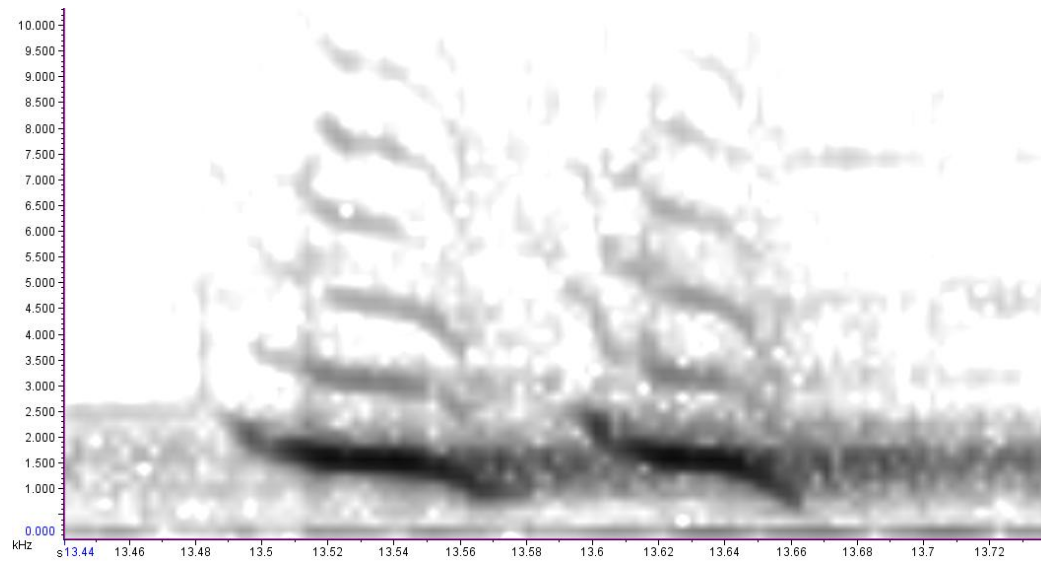
Syllable 189.



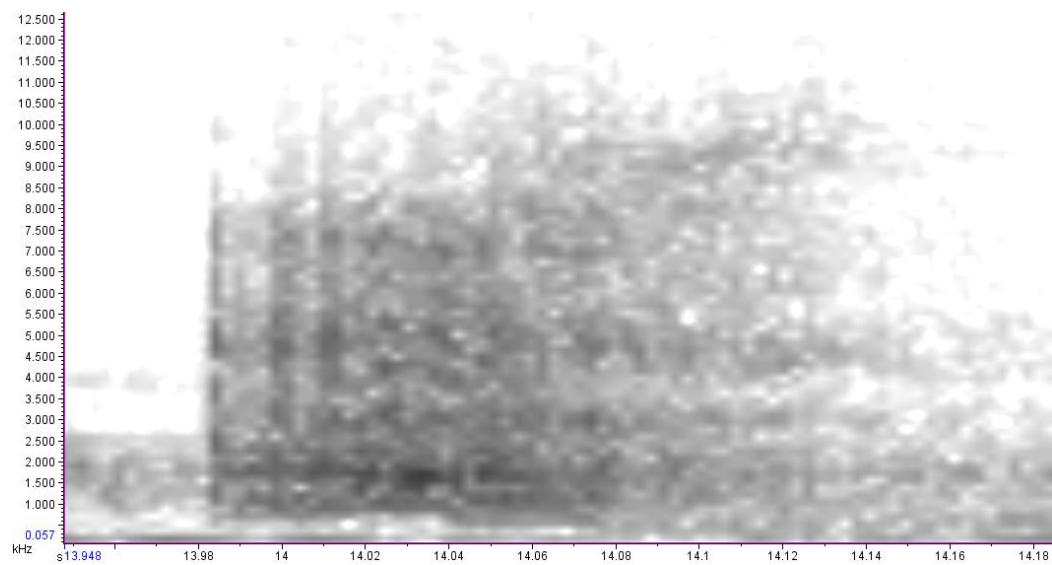
Repeated x2s. The start of a very common Ecology Bush phrase. Syllables 27-30 are usually the terminal phrase of a song.



Repeated

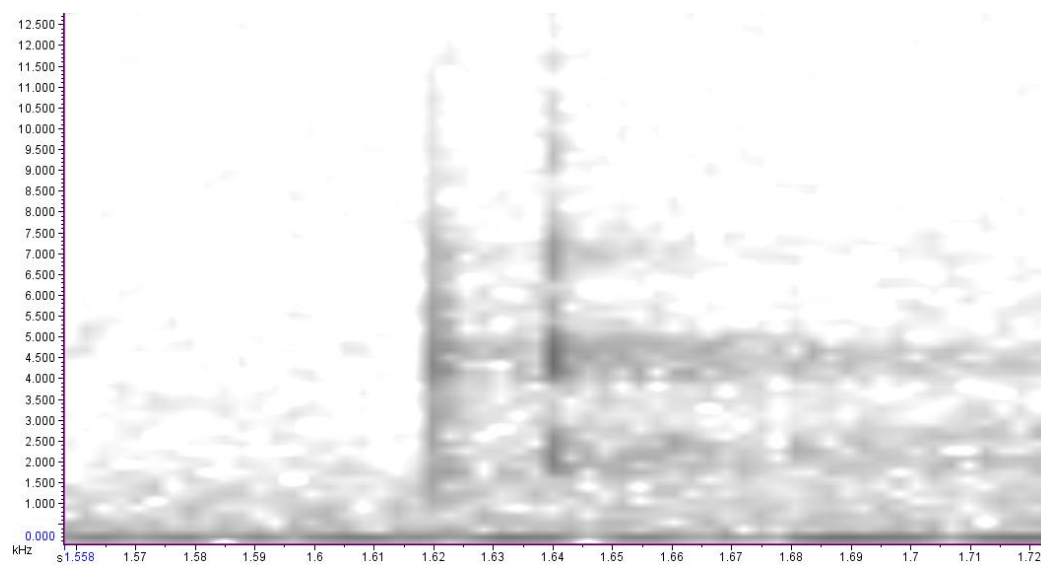


Repeated. The terminal 'kkuh'.

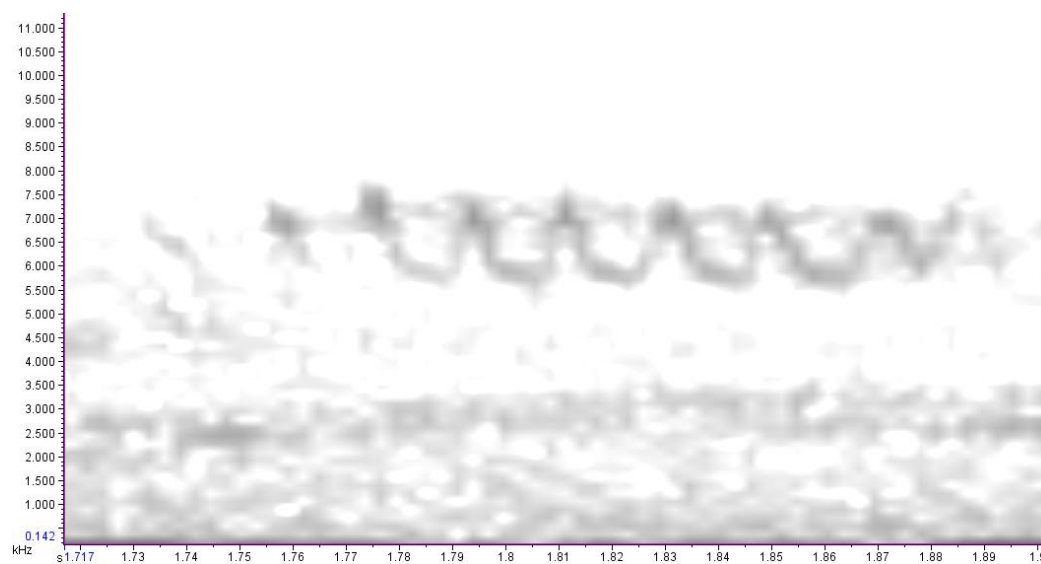


Song 22 - 064-2010-11-23 22_55_01.

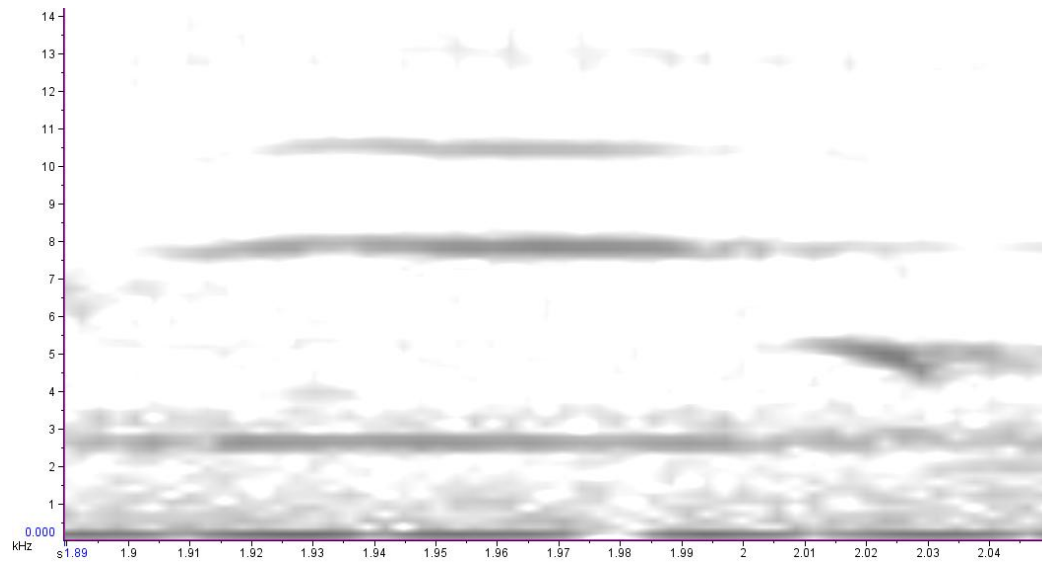
Syllable 190.



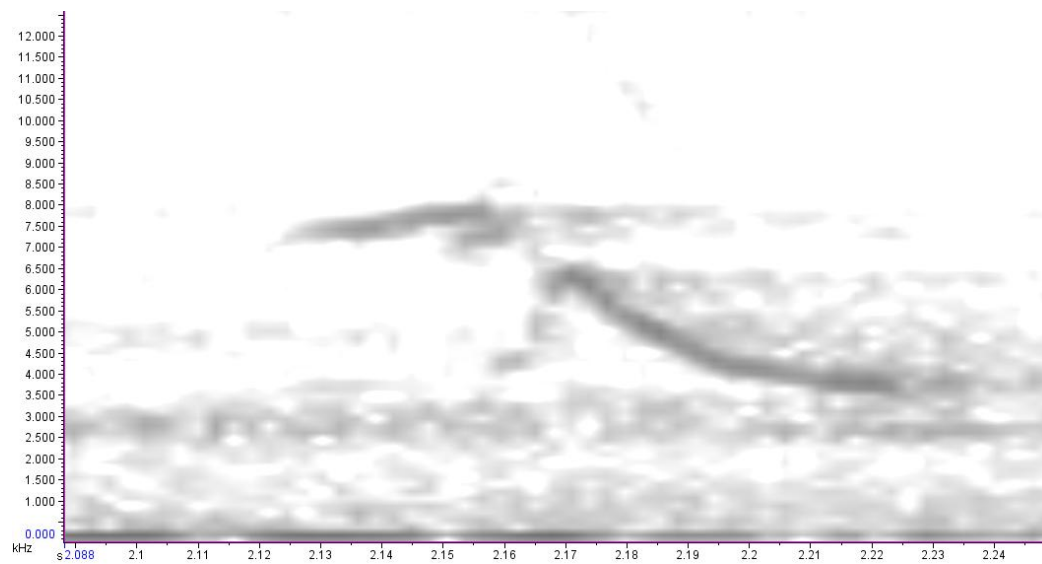
Repeated



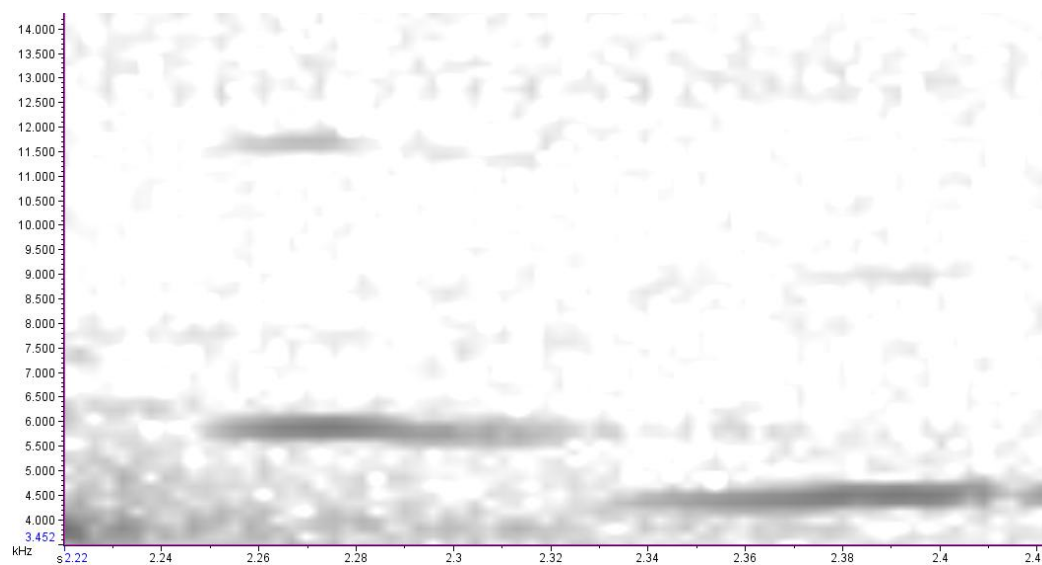
Repeated.



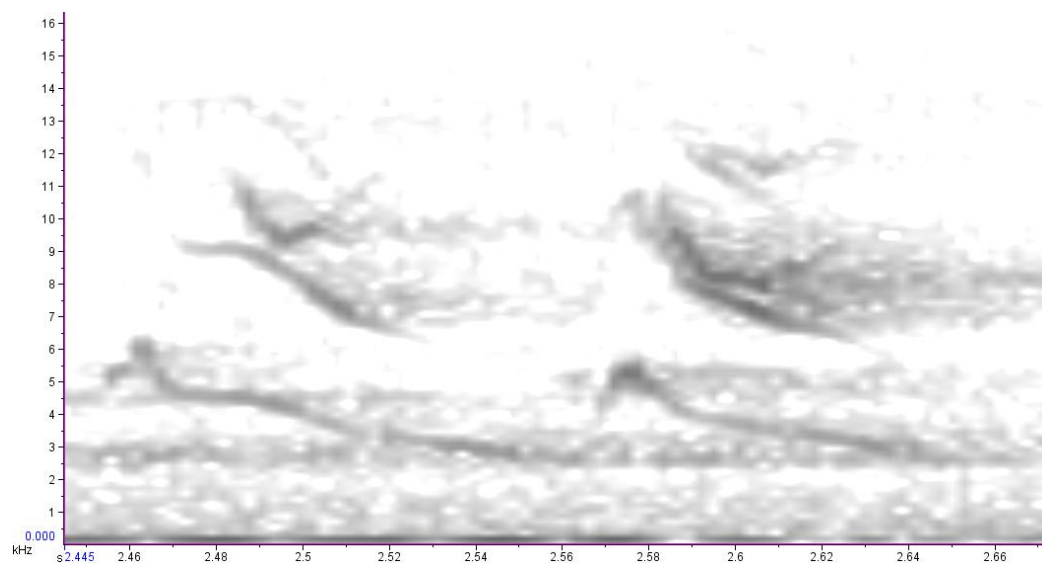
Syllable 191.



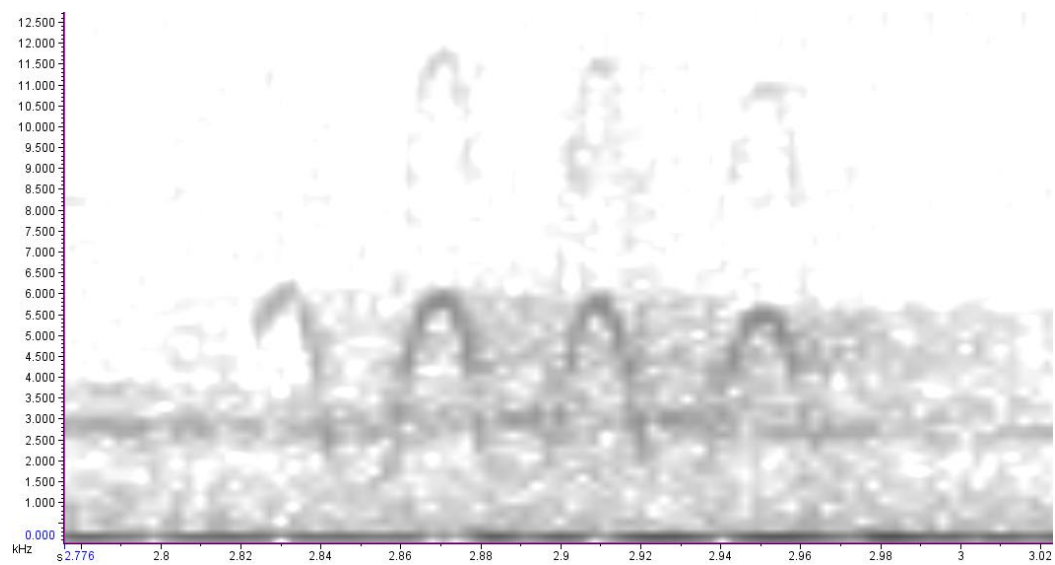
Syllable 192. Slight overlap and same sound type, though the second component of this syllable is at a slightly lower frequency, so considered one syllable.



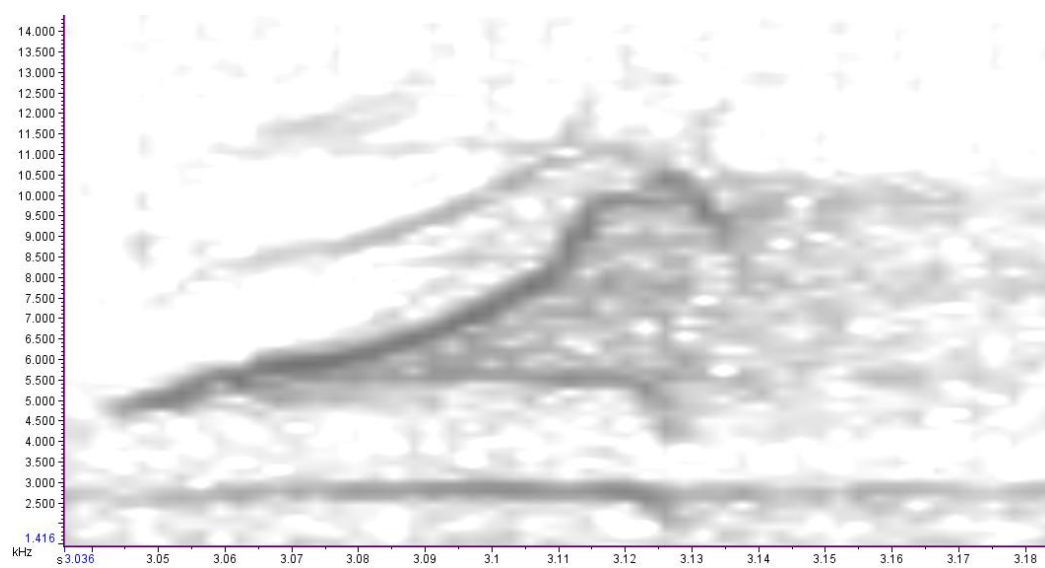
Syllable 193.



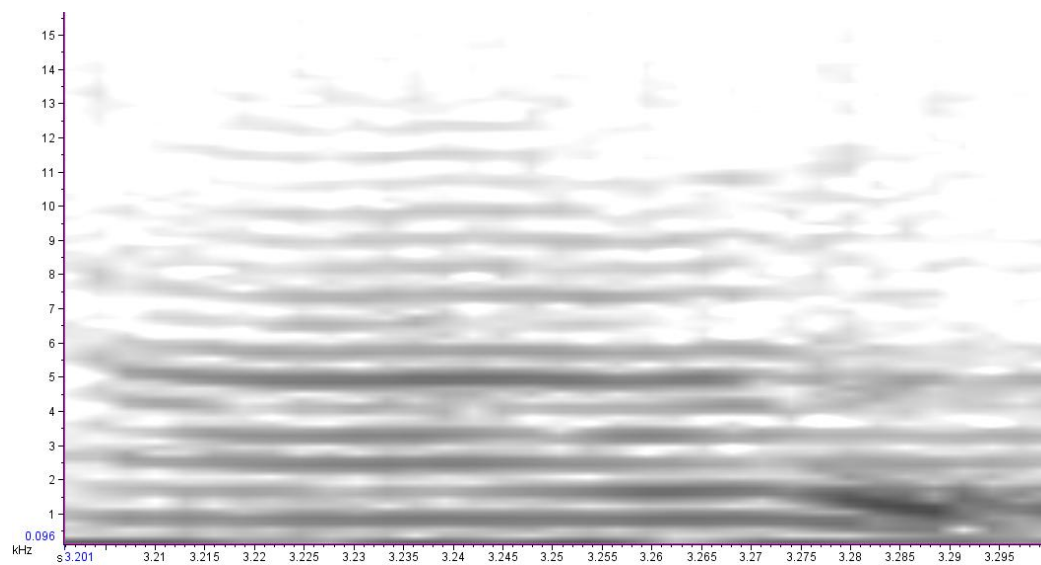
Repeated.



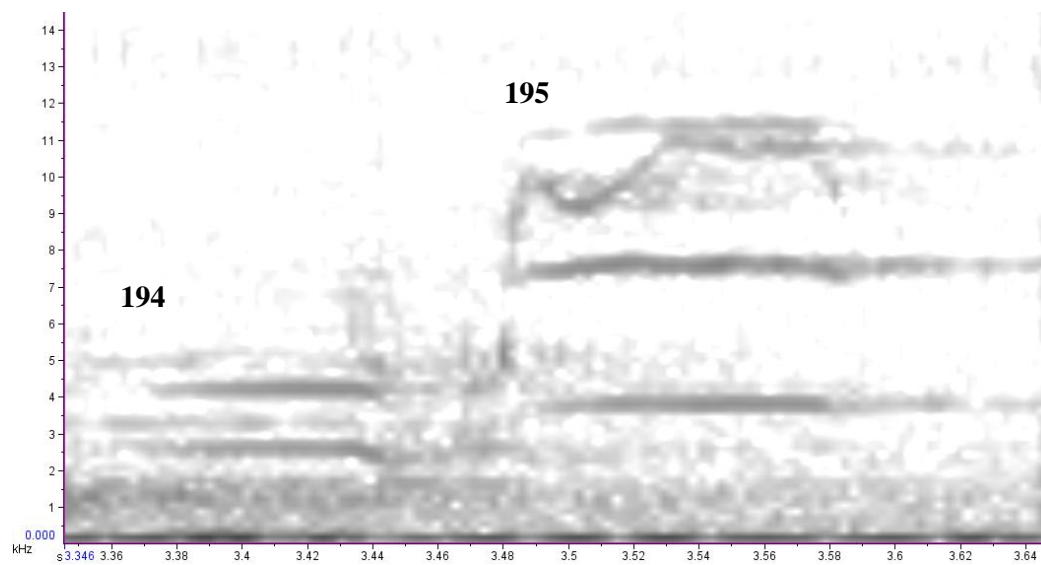
Repeated.



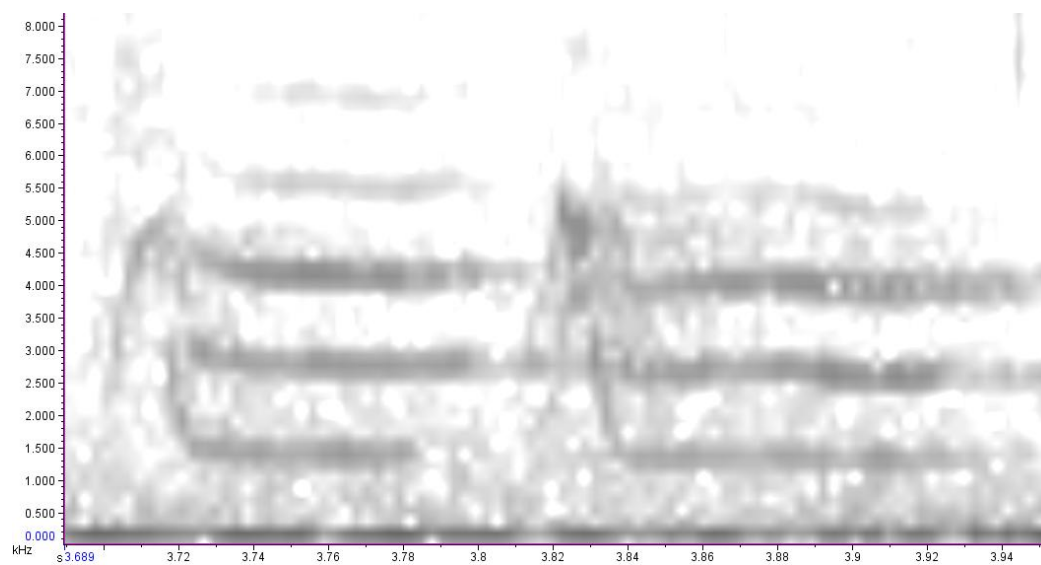
Repeated.



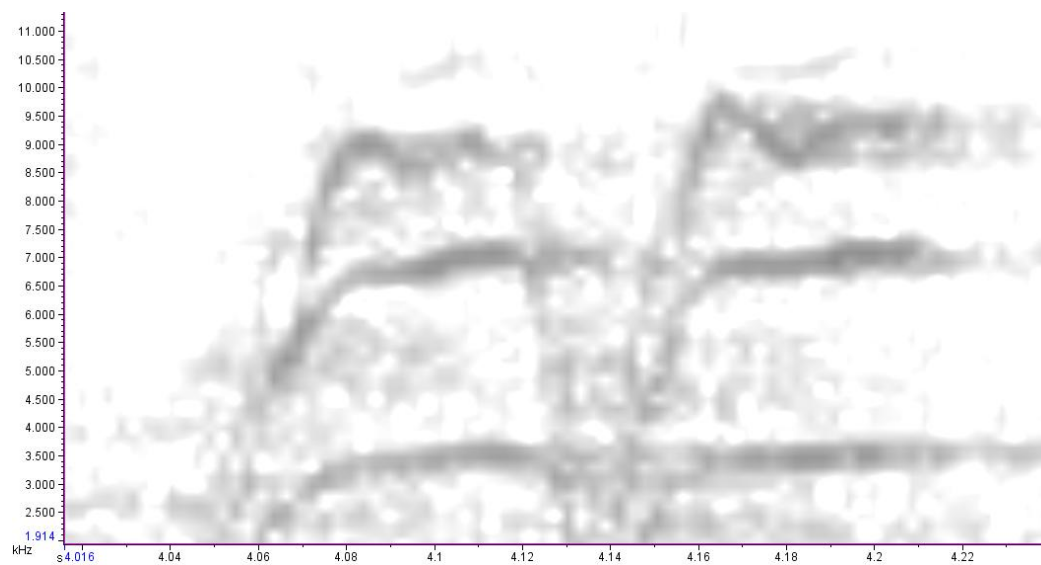
Syllables 194 and 195



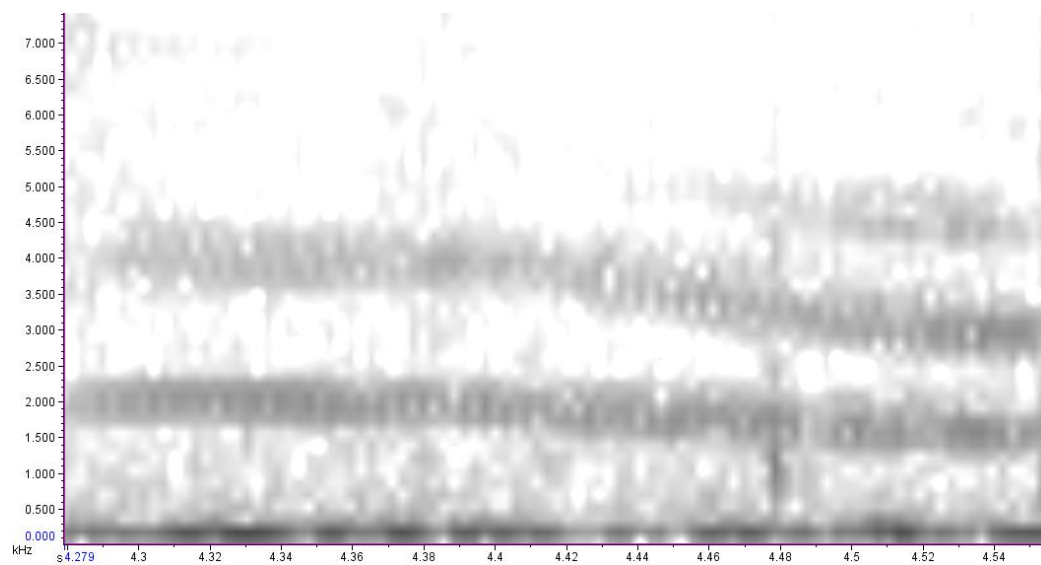
Repeated.



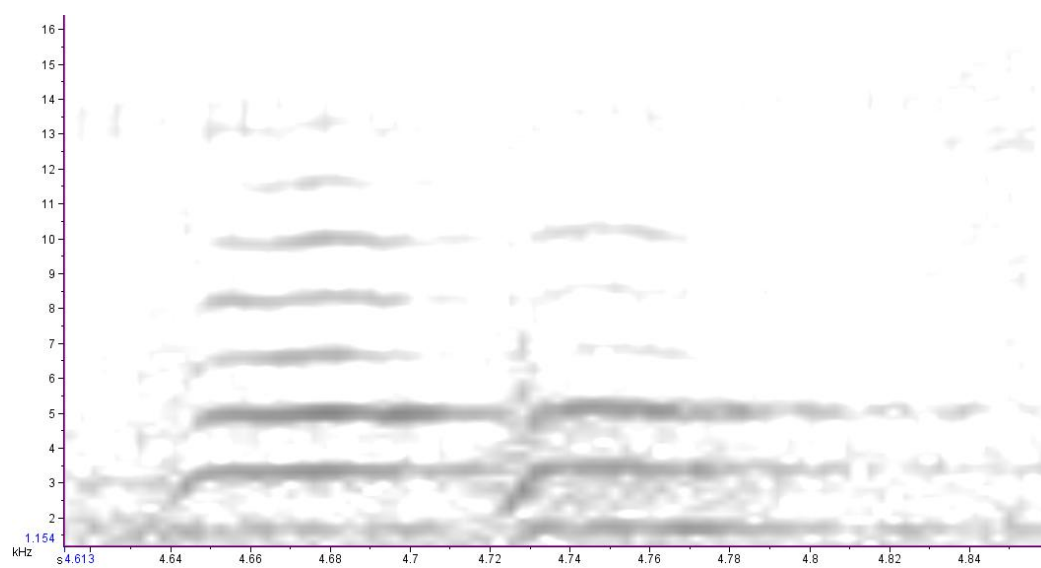
Repeated.



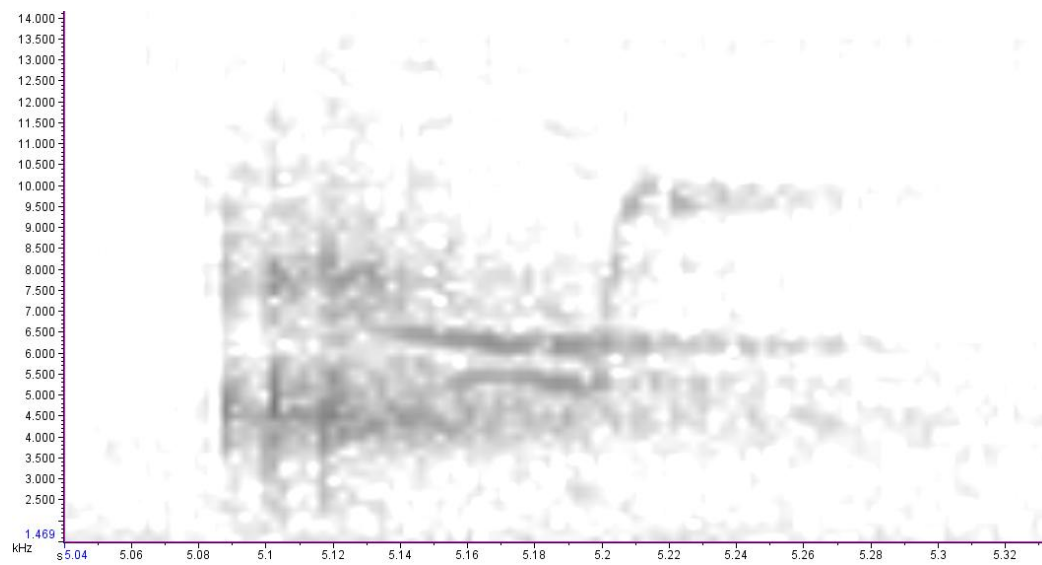
Syllable 196



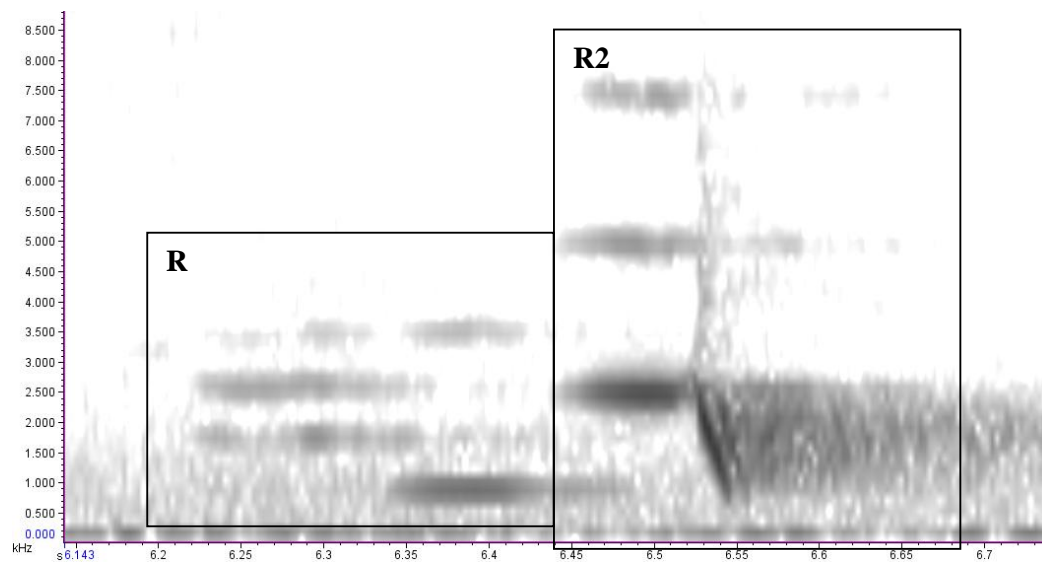
Repeated



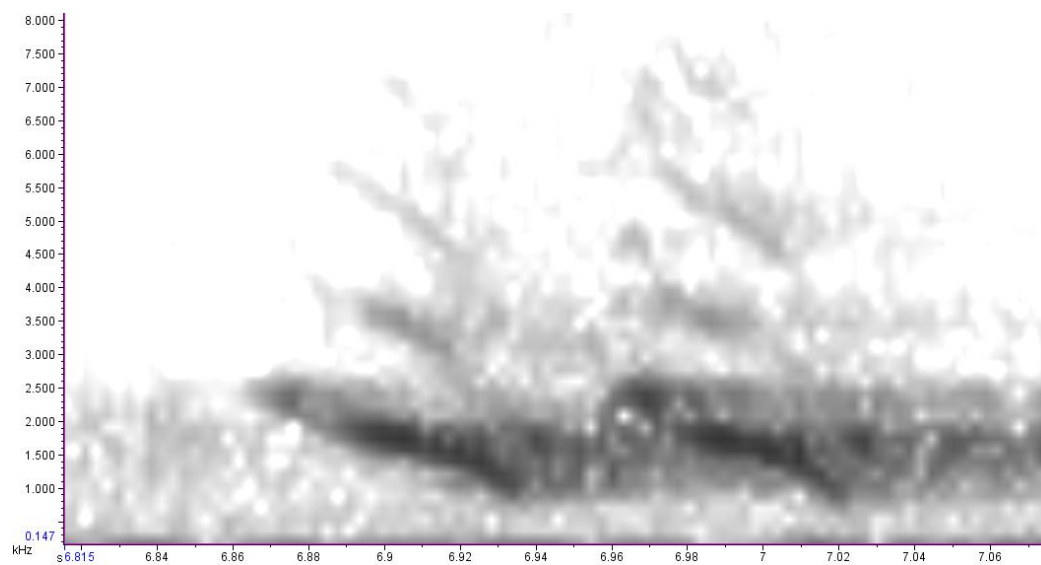
Syllable 197.



Repeated x2. Part of the common Ecology Bush ending phrase.

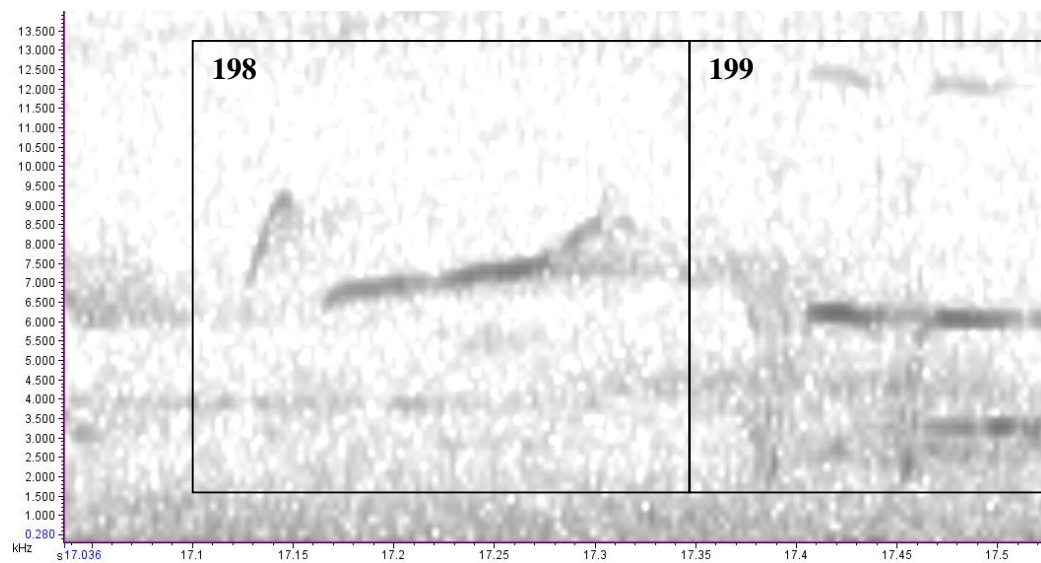


Repeated. Part of the common Ecology Bush ending phrase.

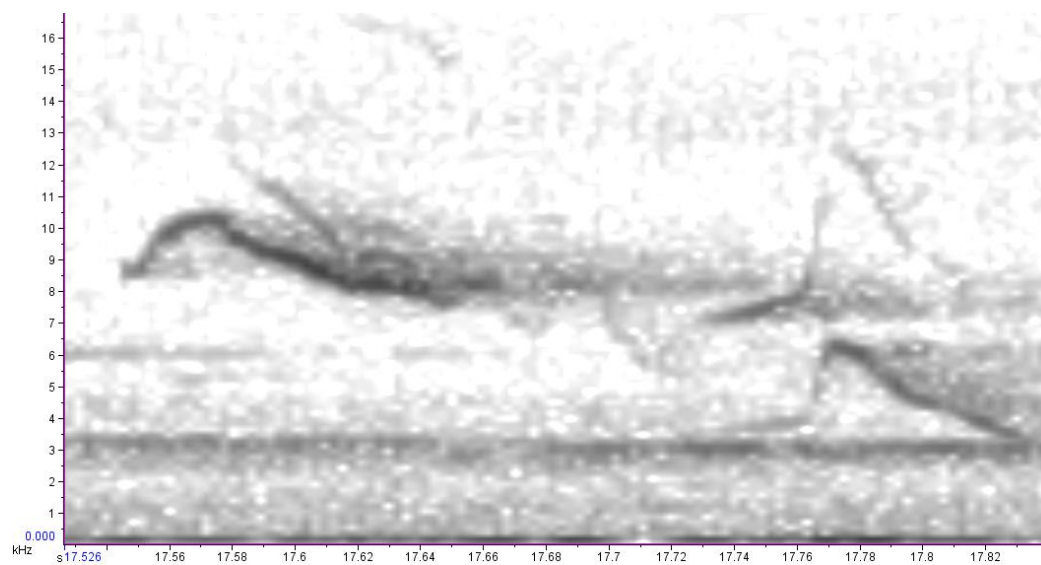


Song 23 - 065-2010-11-23 22_55_01.

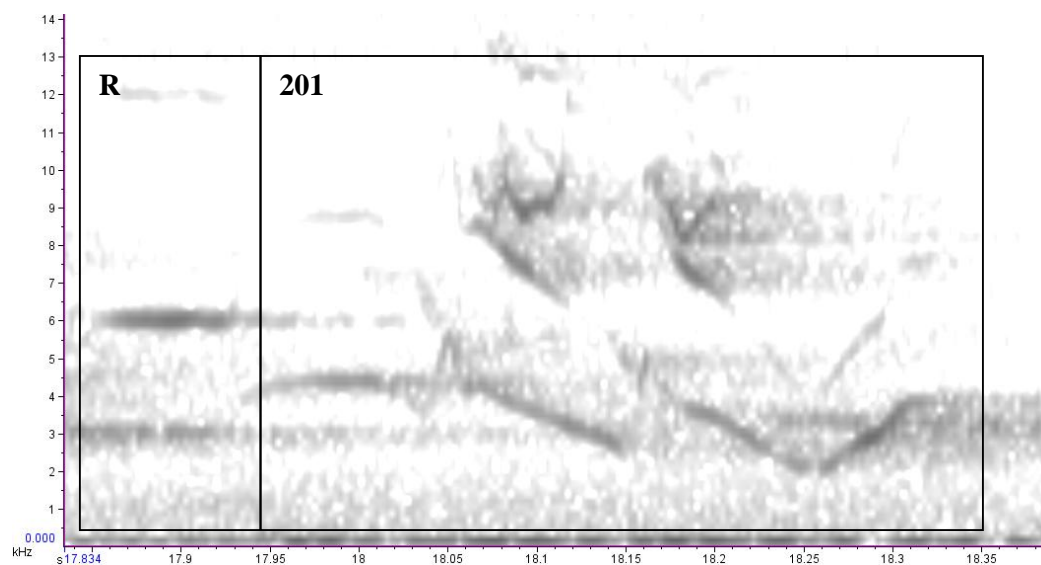
Syllables 198 and 199.



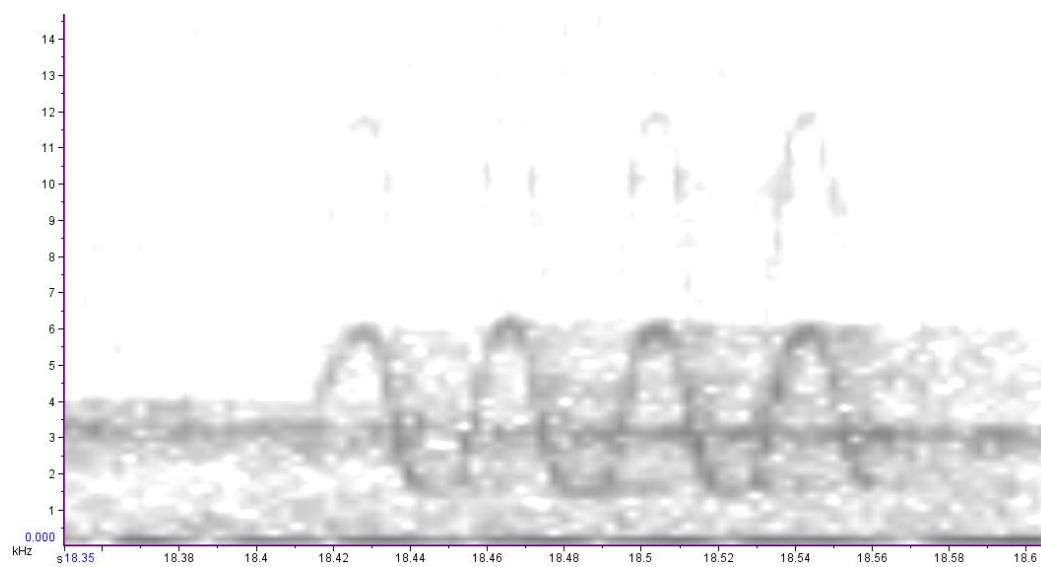
Syllable 200.



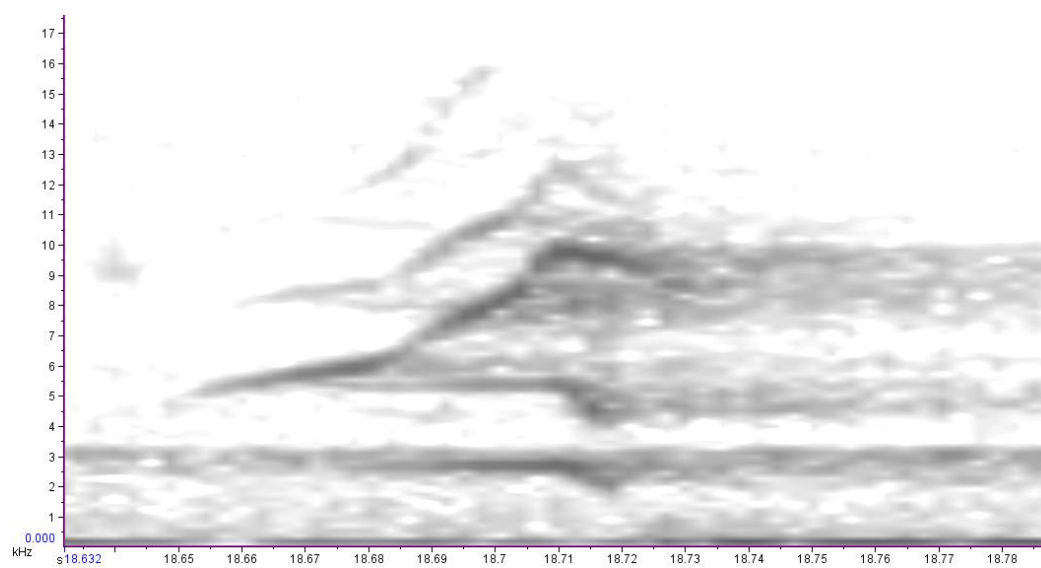
Syllable 201 and Repeated Syllable



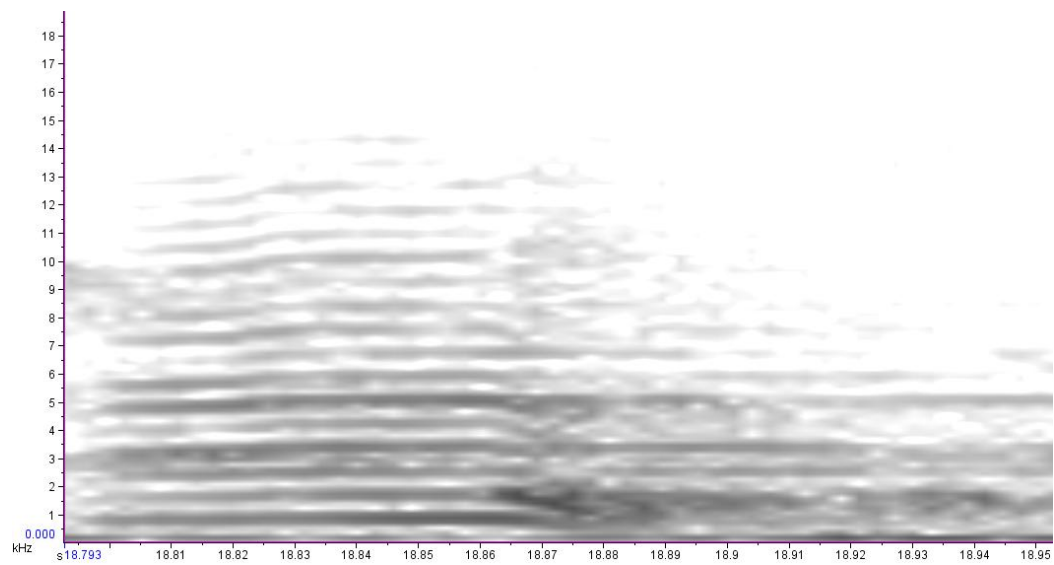
Repeated



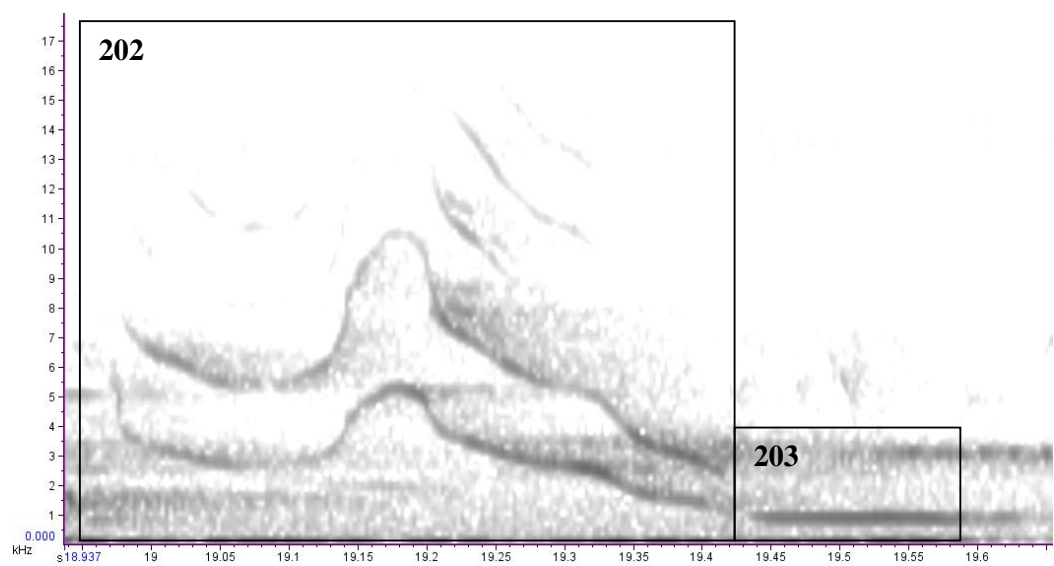
Repeated



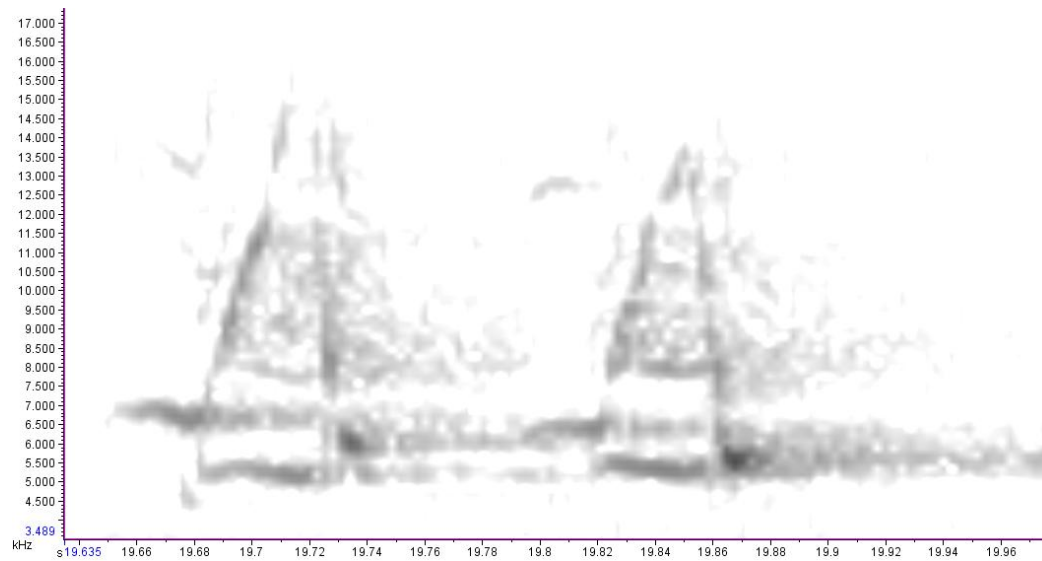
Repeated



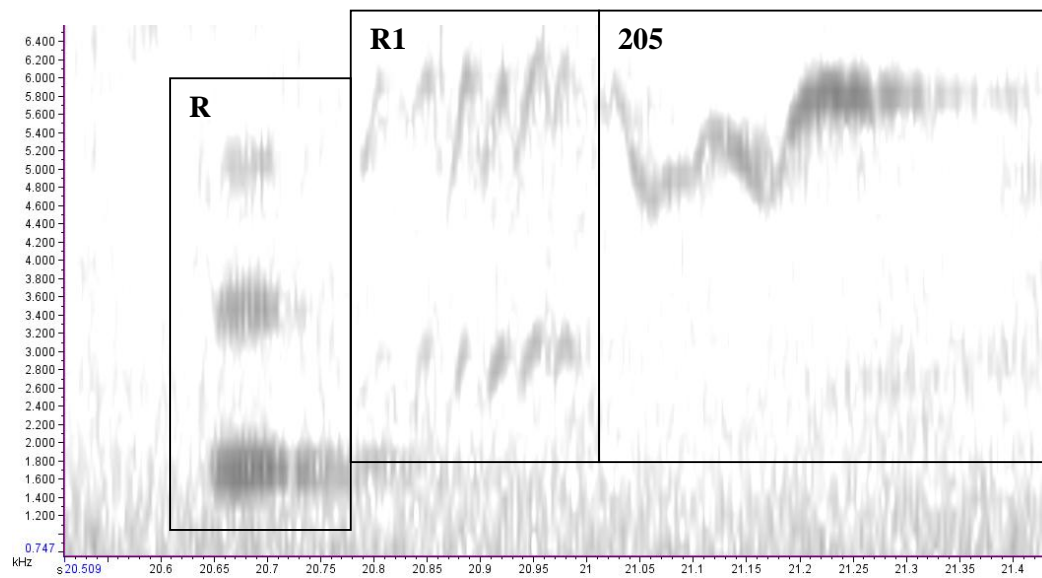
Syllables 202 and 203.



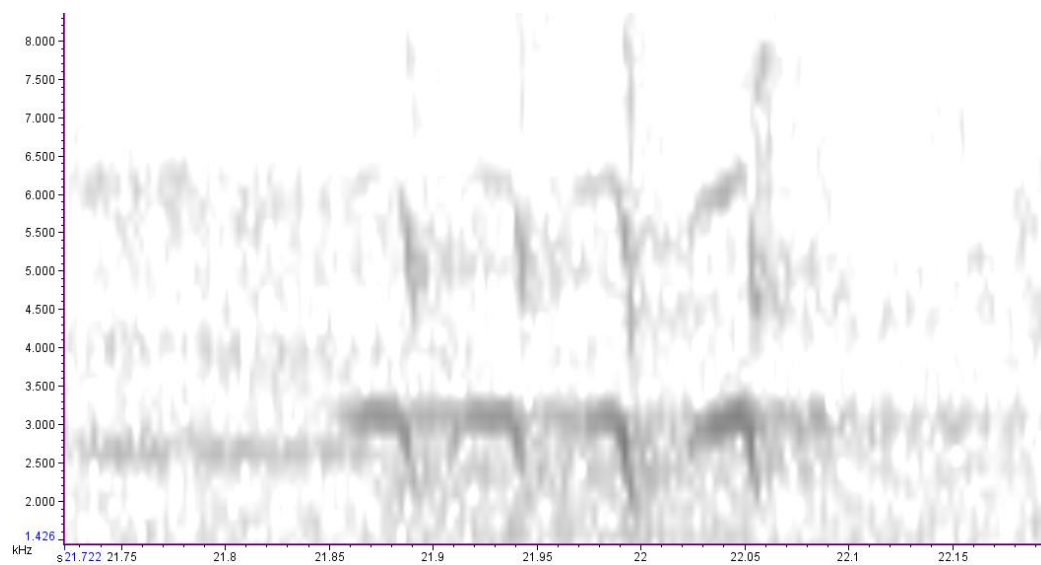
Syllable 204.



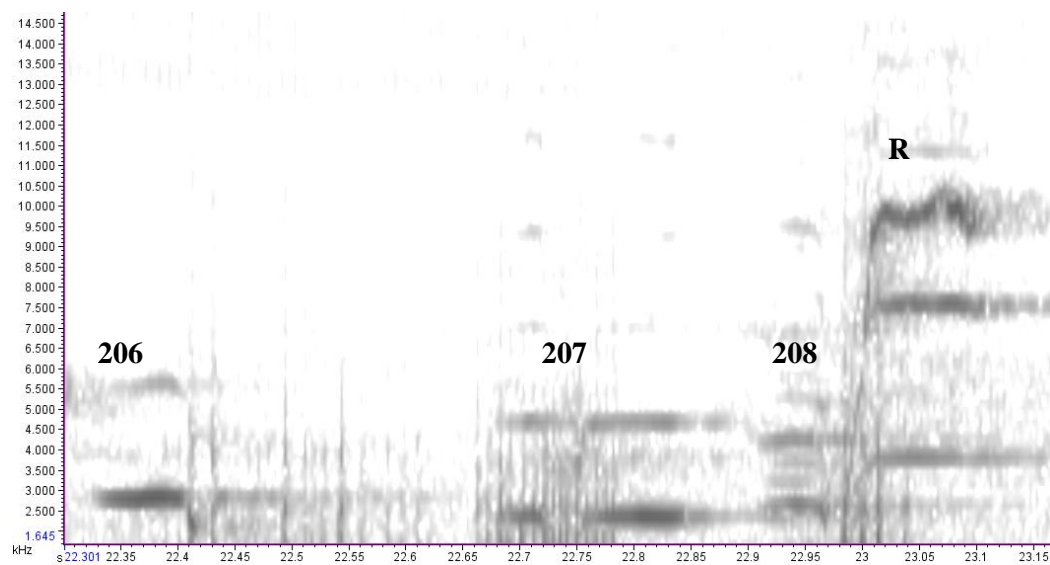
Syllable 205 and 2 Repeated Syllables



Repeated

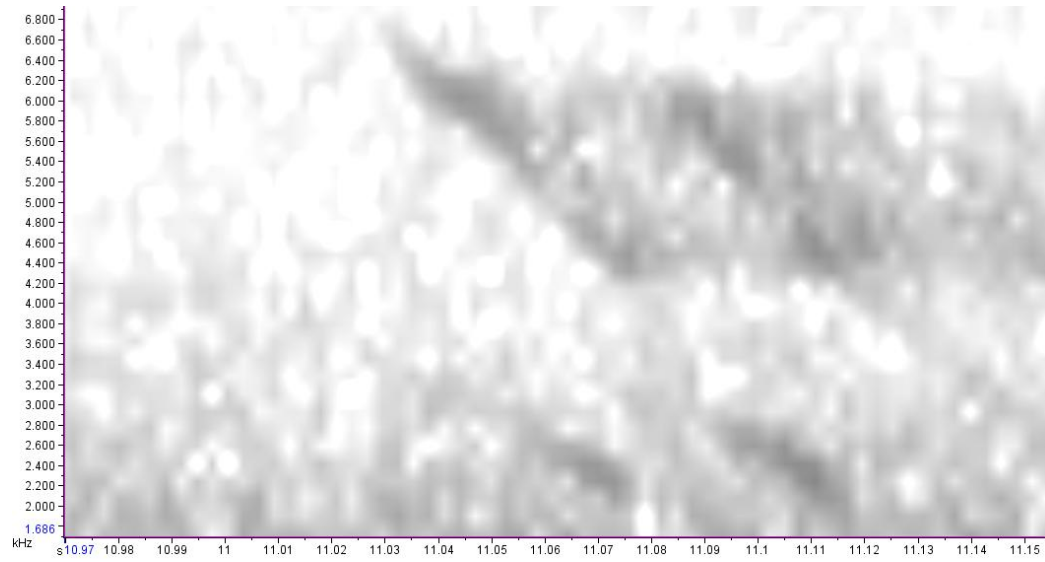


Syllables 206-208.

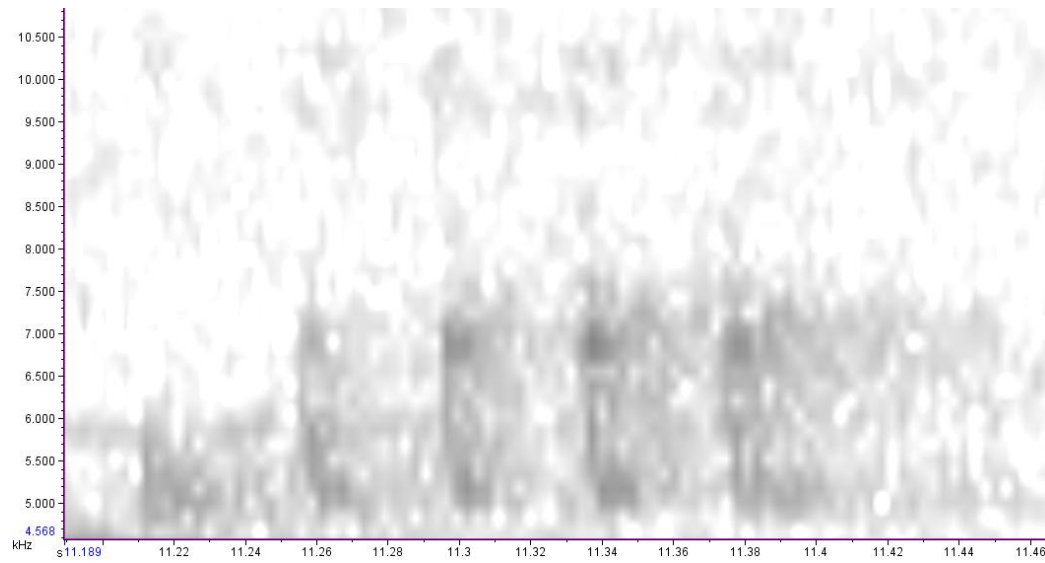


Song 24 - 004-2010-09-09 02_05_06. Non-breeding season.

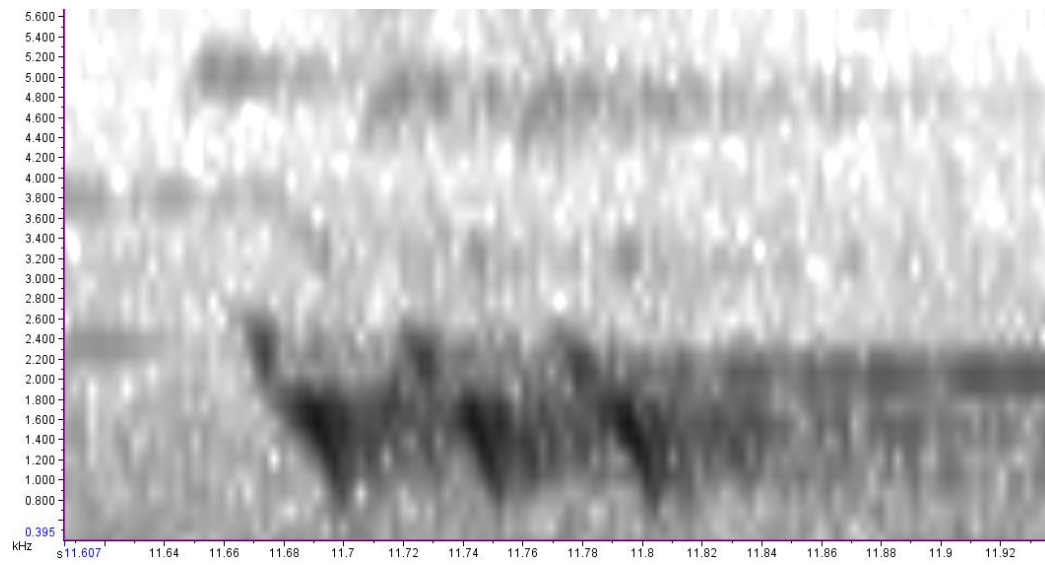
Syllable 209.



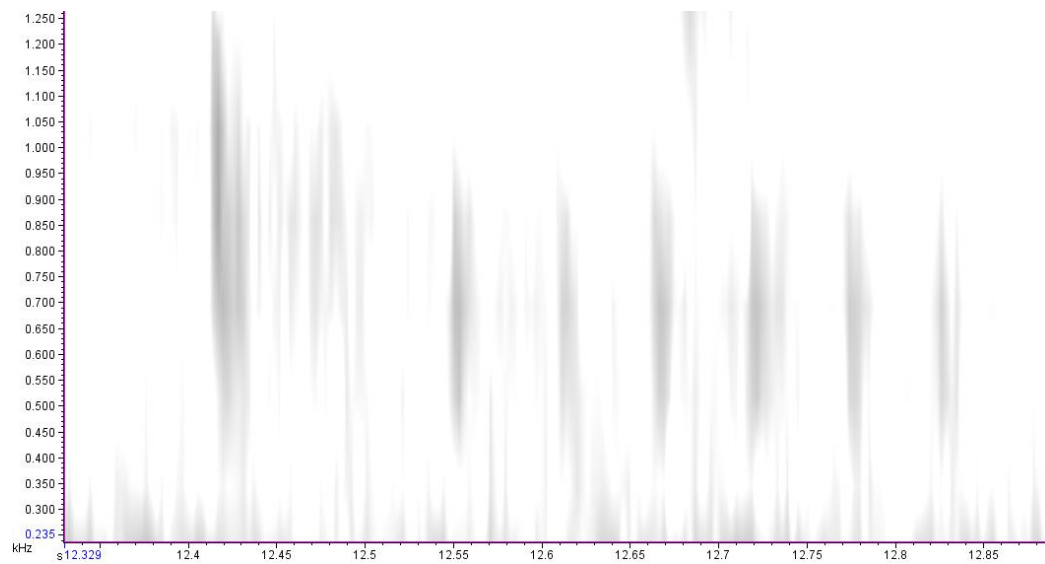
Syllable 210.



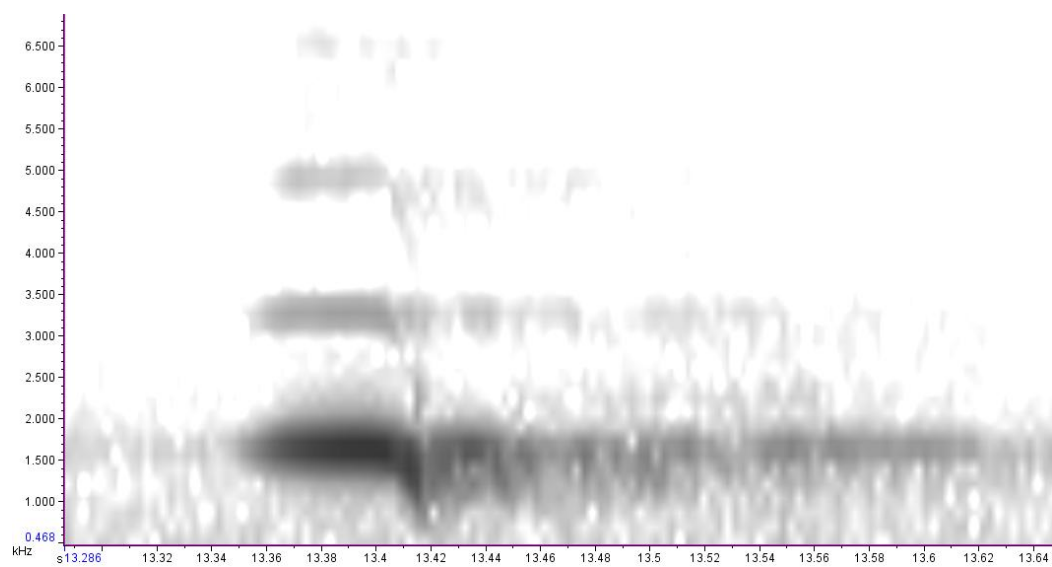
Repeated



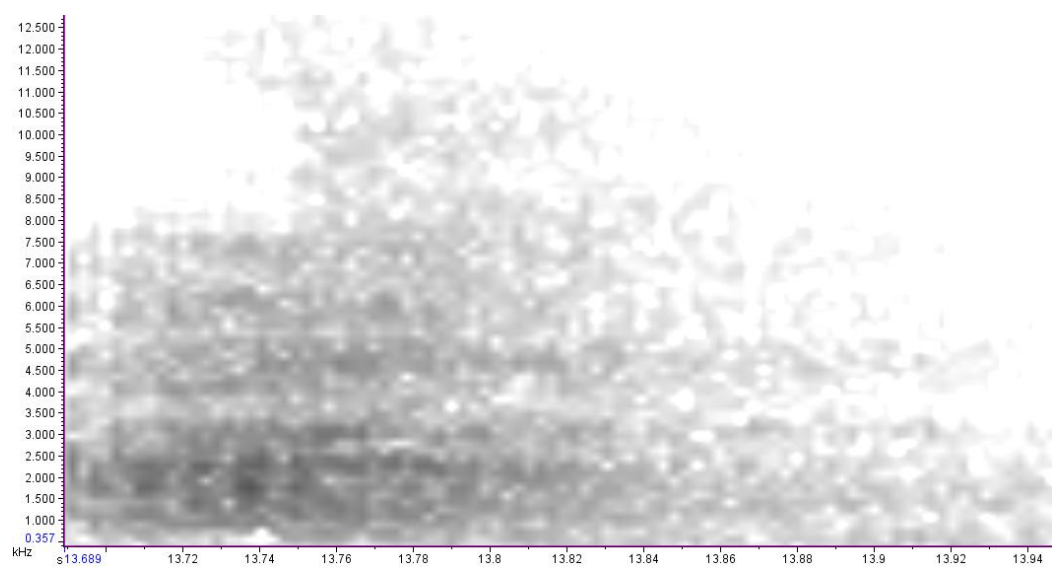
Repeated. The 'kok-kok-kok' syllable. This one has 7 notes.



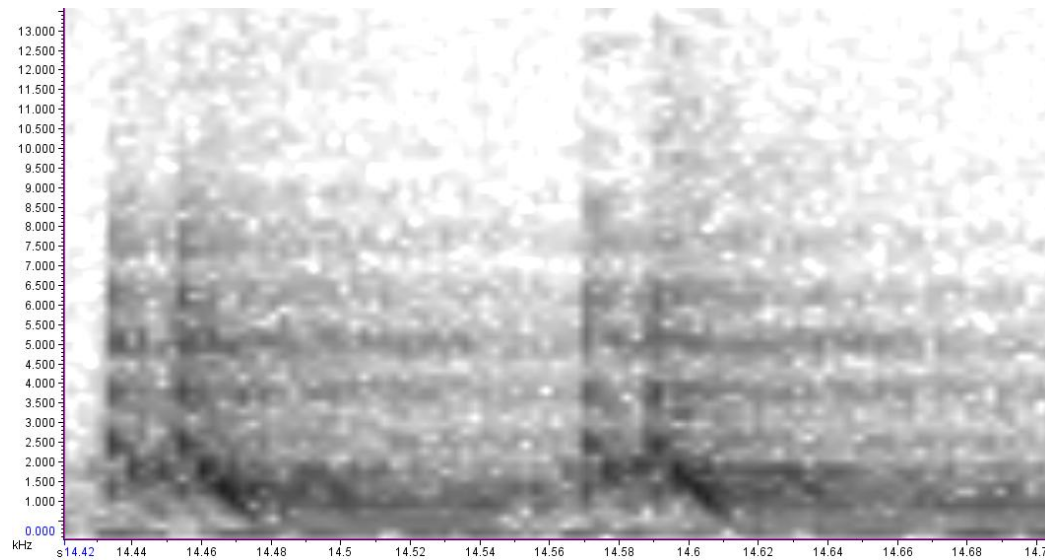
Repeated



Repeated.

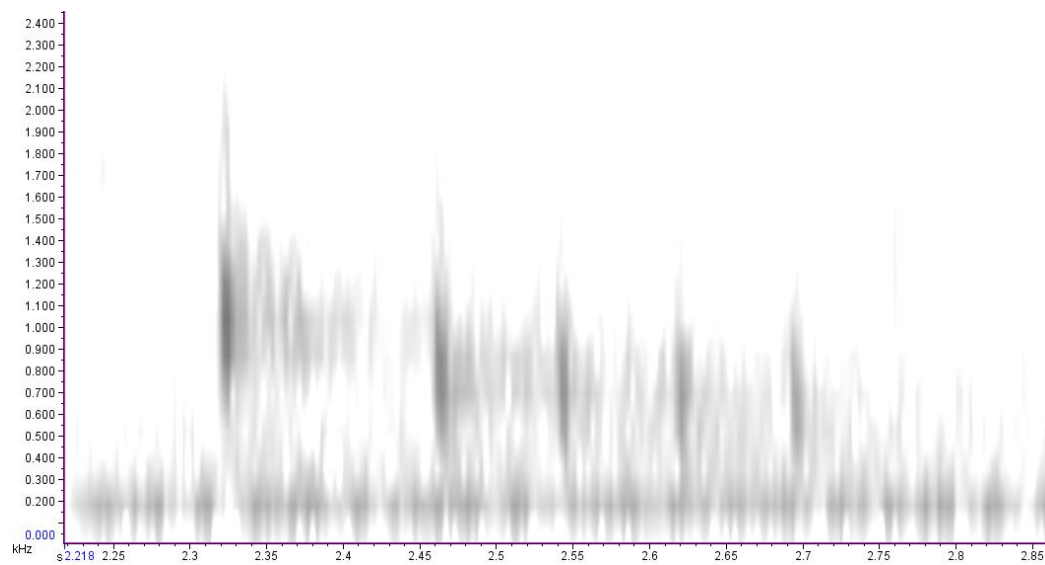


Repeated.

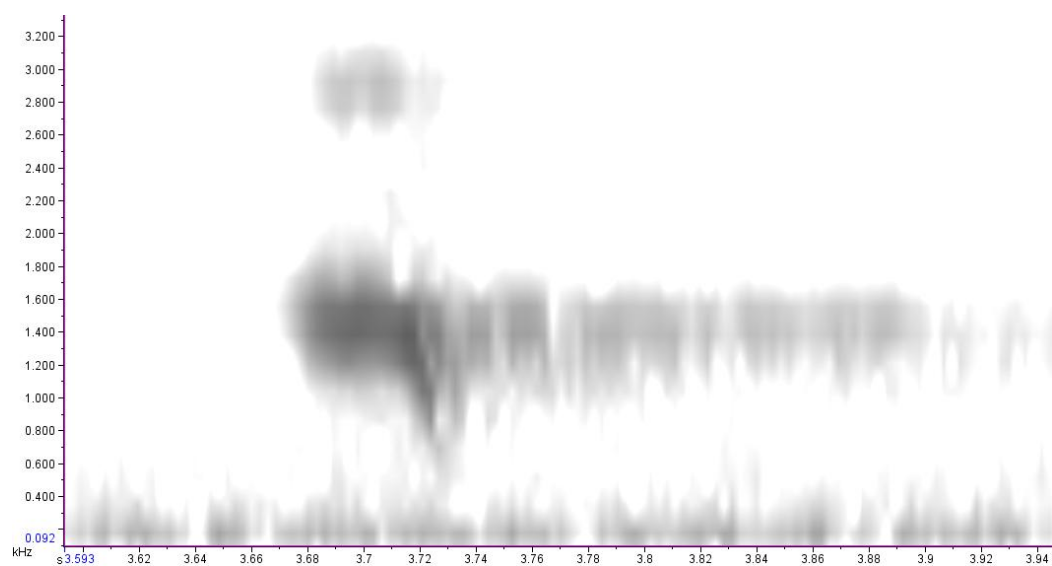


Song 25 - 010-2010-10-04 00_29_58.

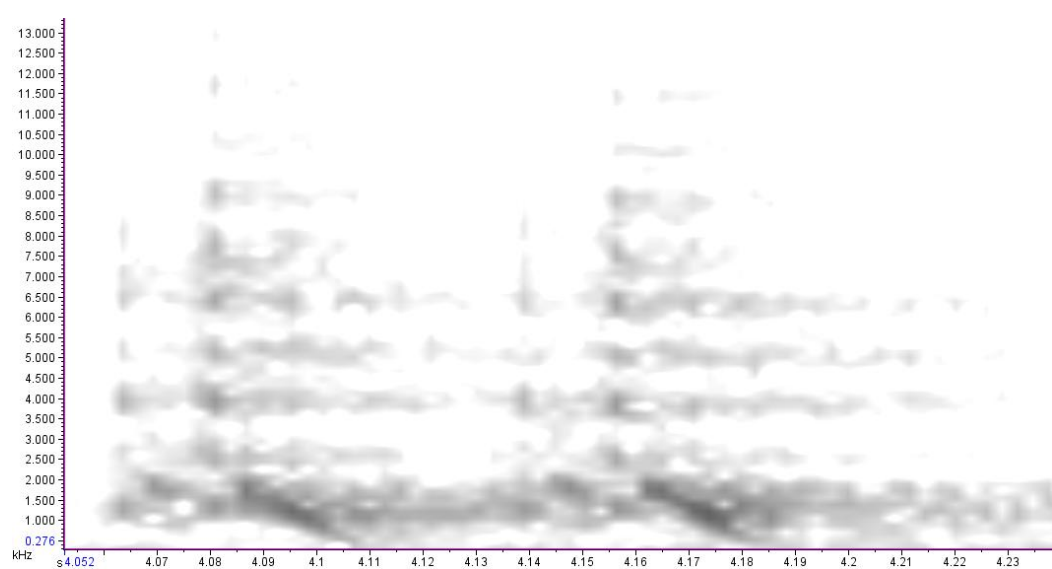
Repeated.



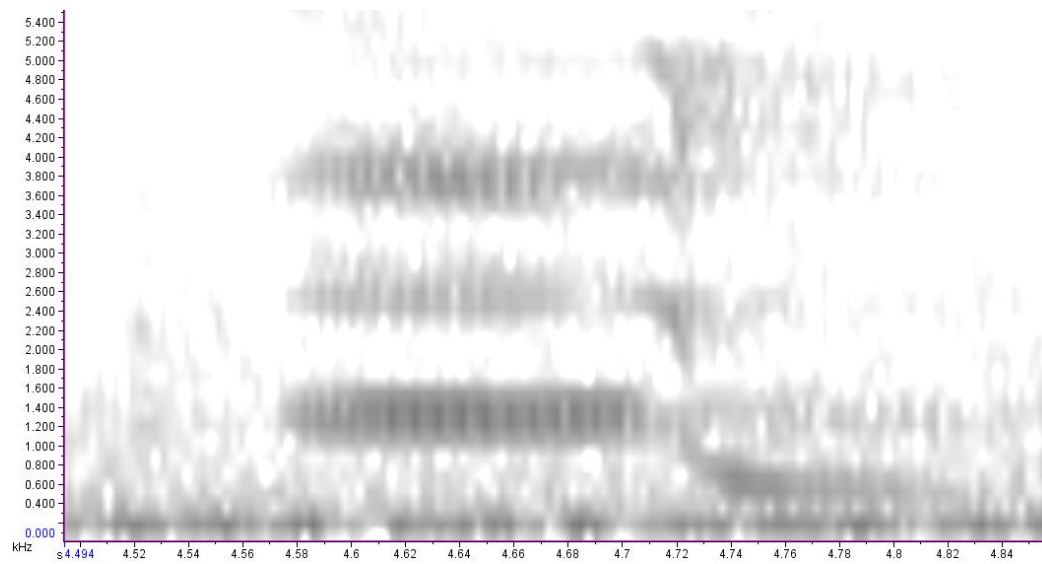
Repeated.



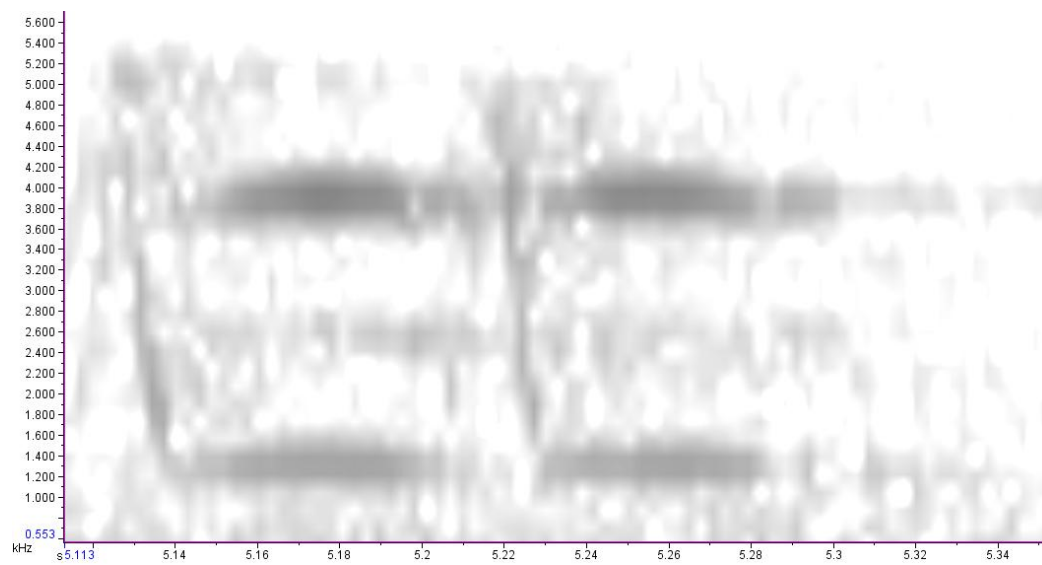
Repeated.



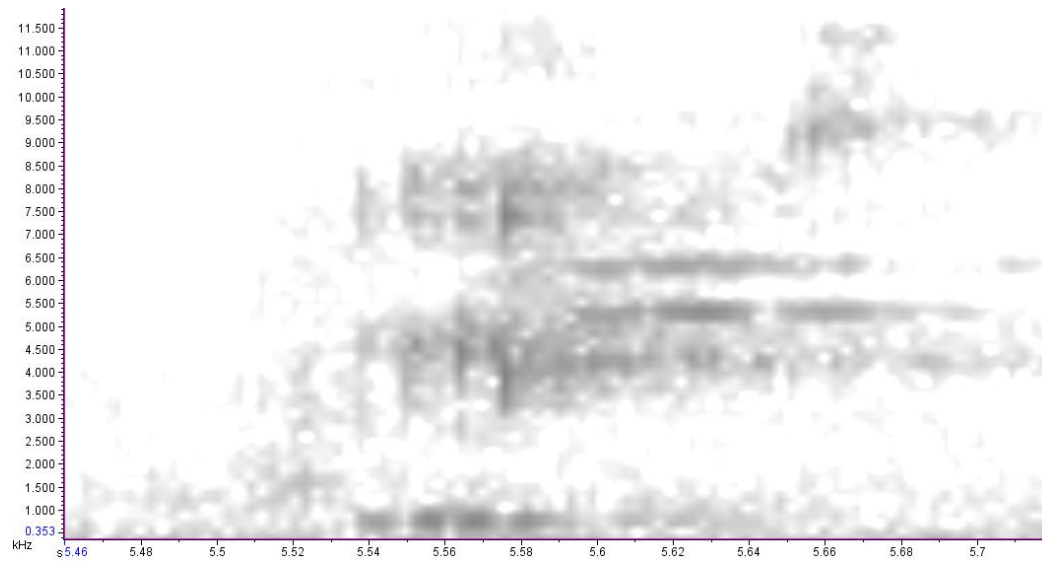
Repeated



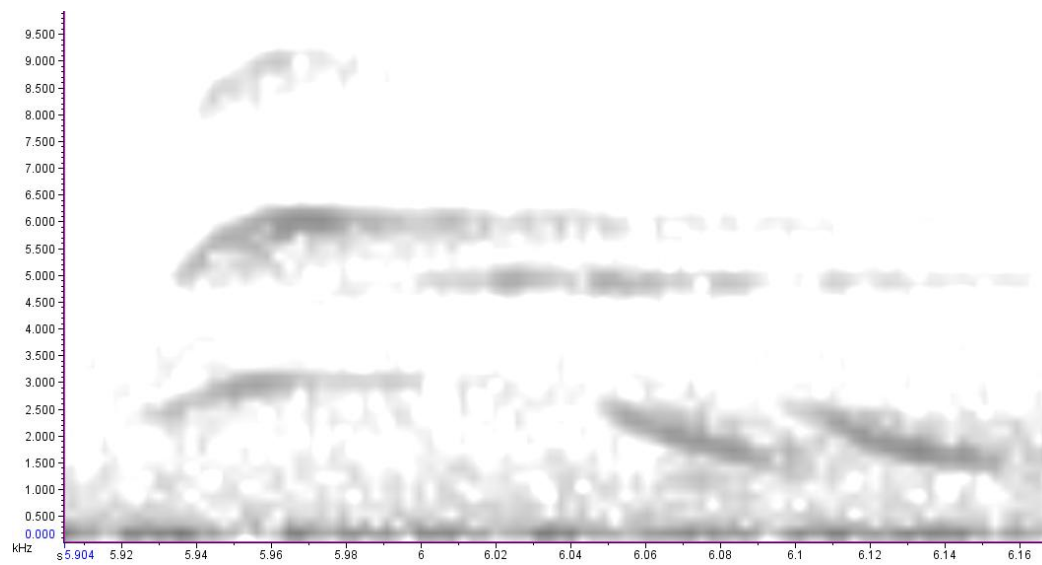
Repeated.



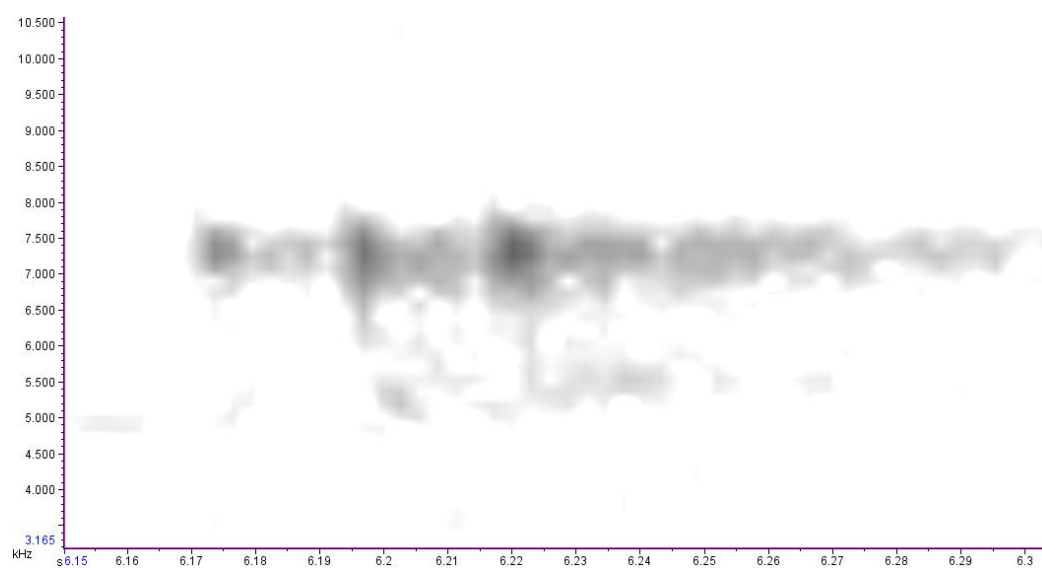
Repeated



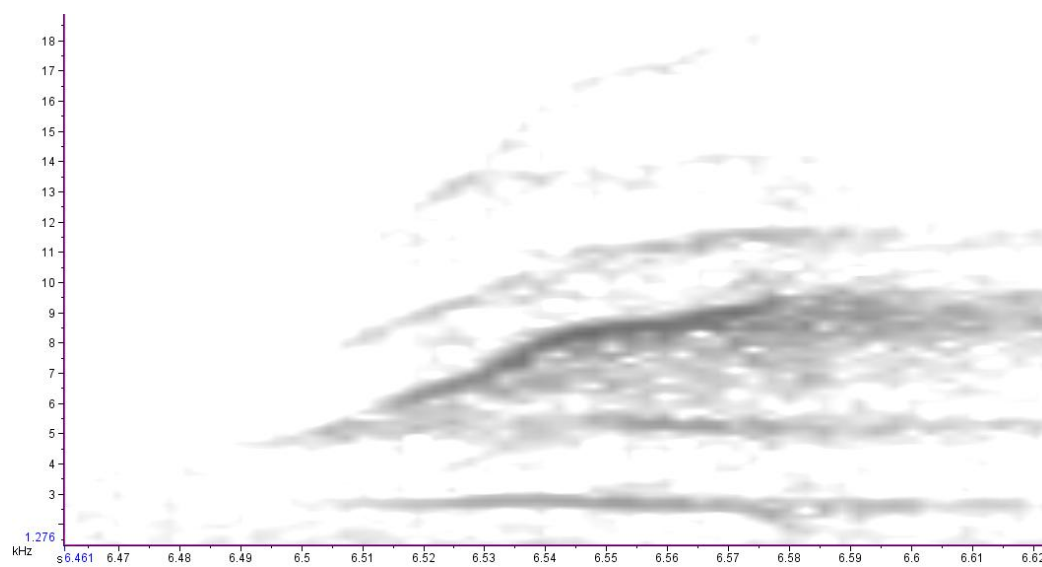
Repeated.



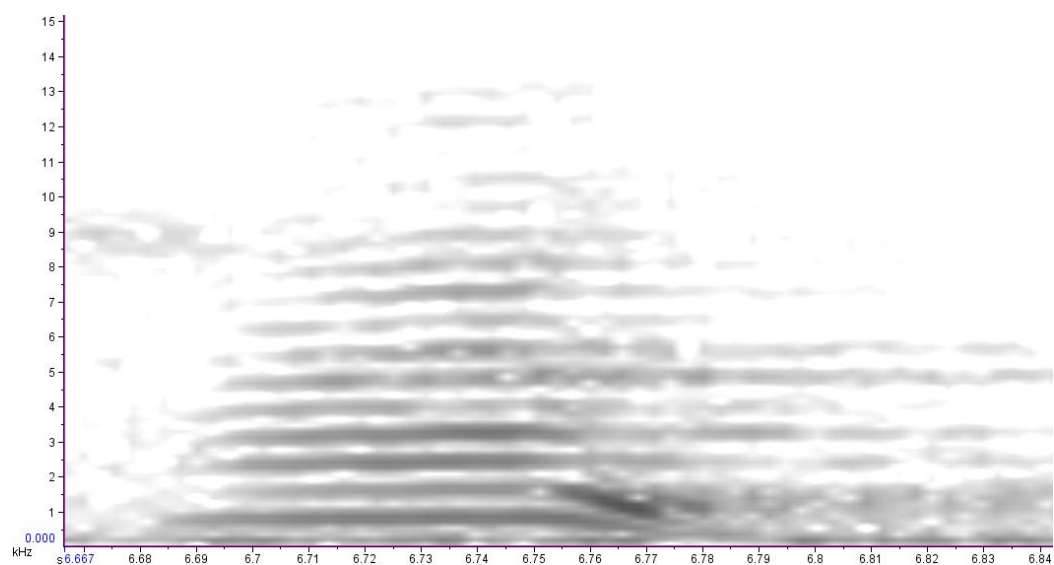
Syllable 211.



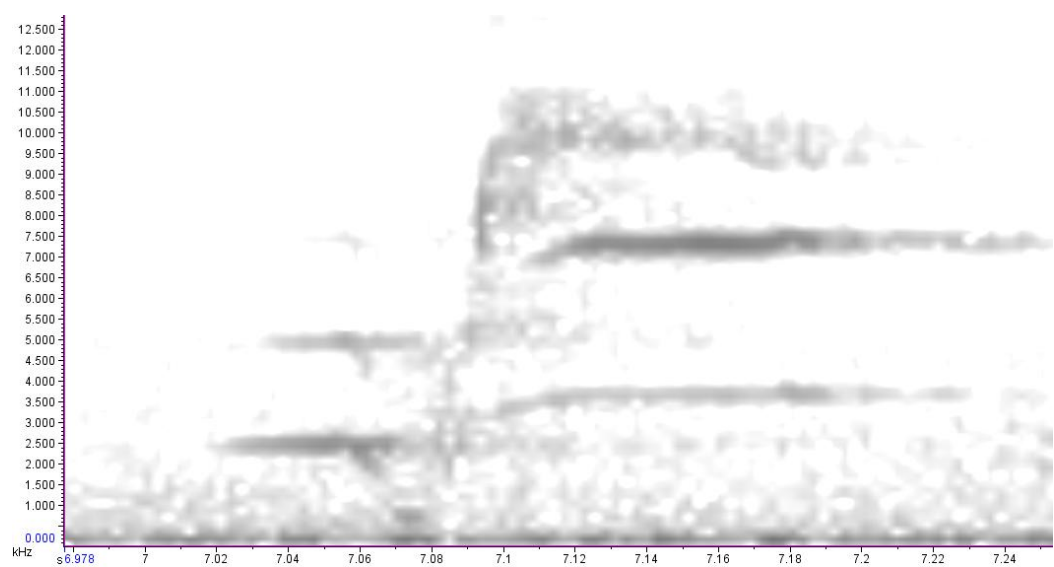
Repeated



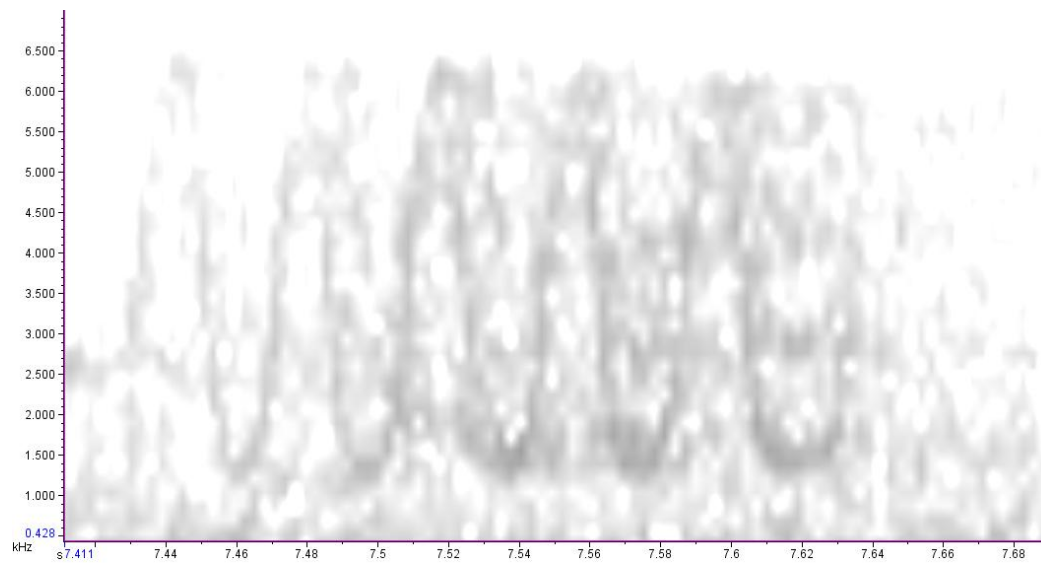
Repeated



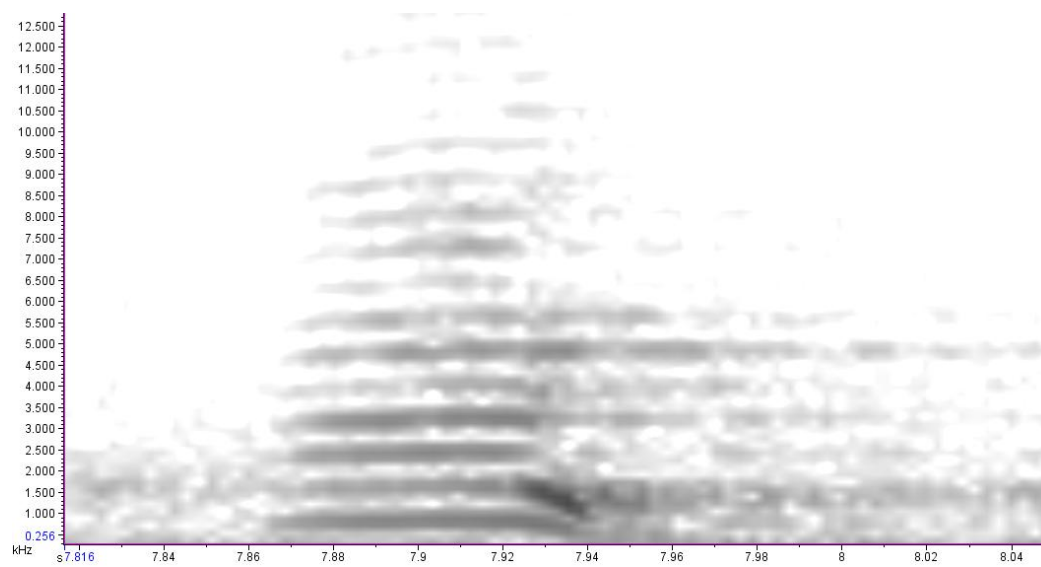
Repeated



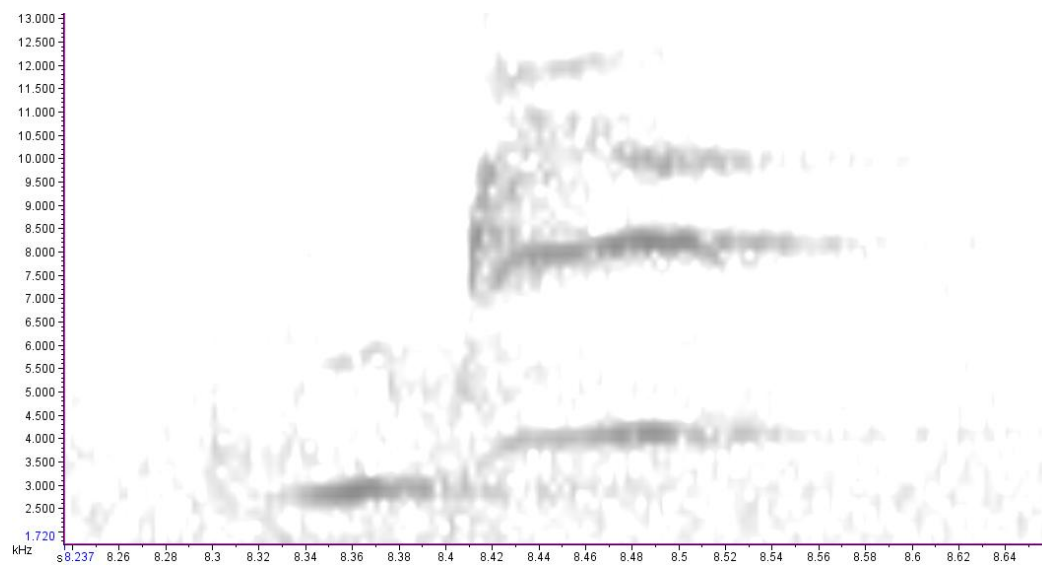
Repeated



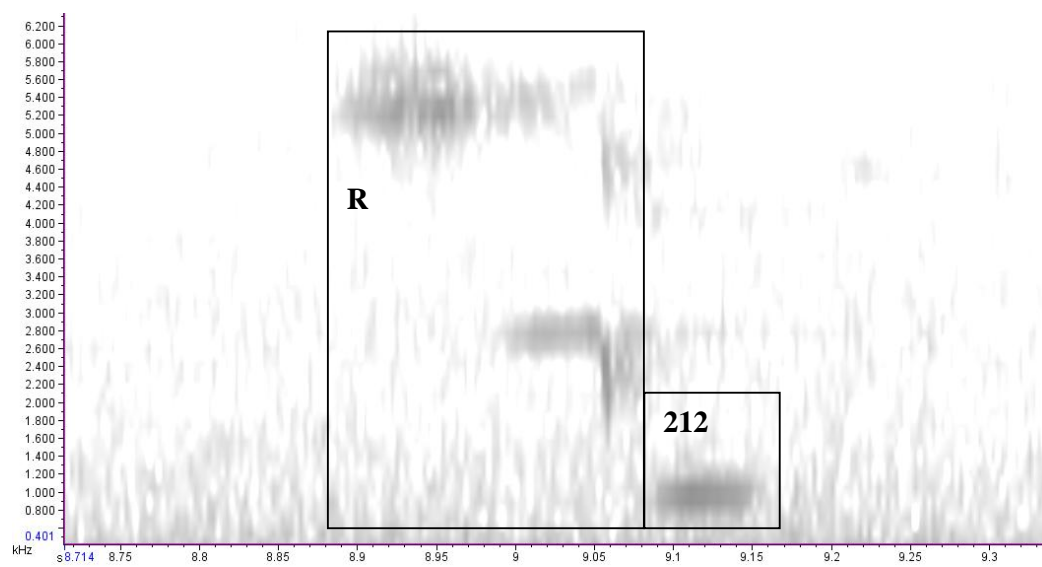
Repeated



Repeated

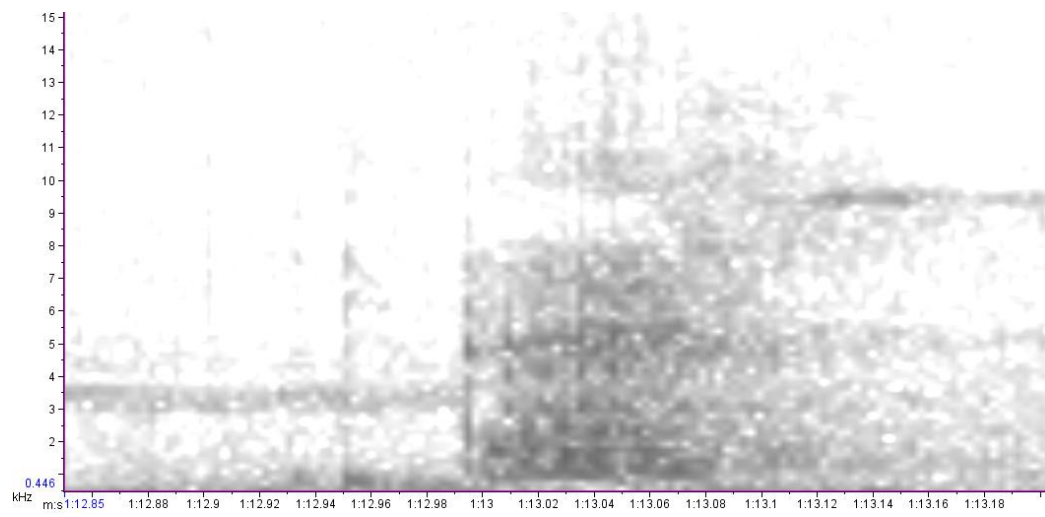


Syllable 212 and a repeated syllable

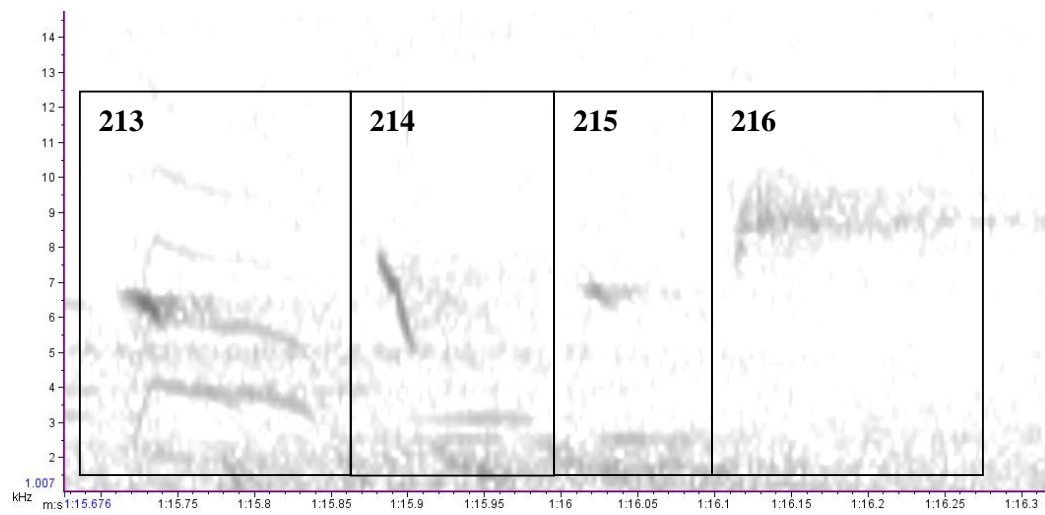


Song 26 – 1020 (Female).

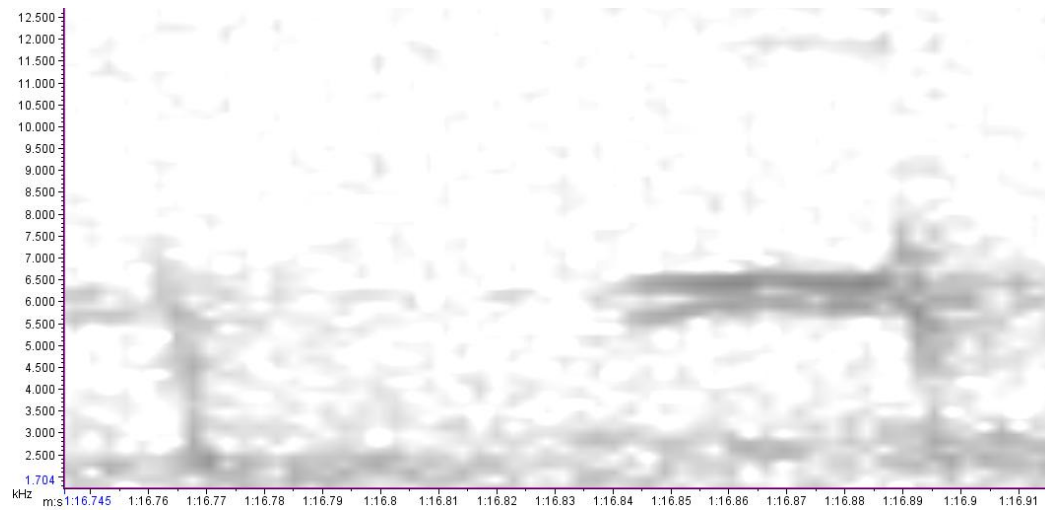
Repeated.



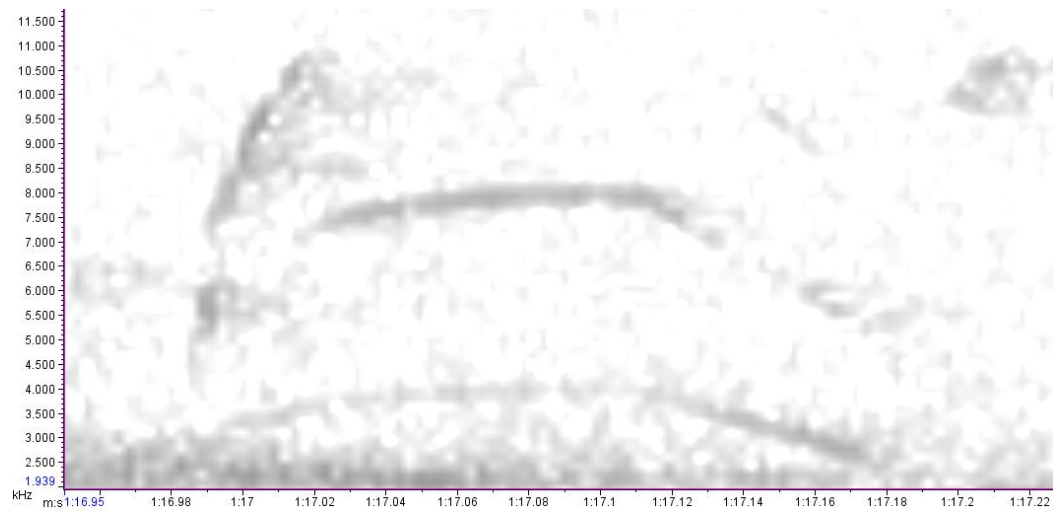
Syllables 213-216.



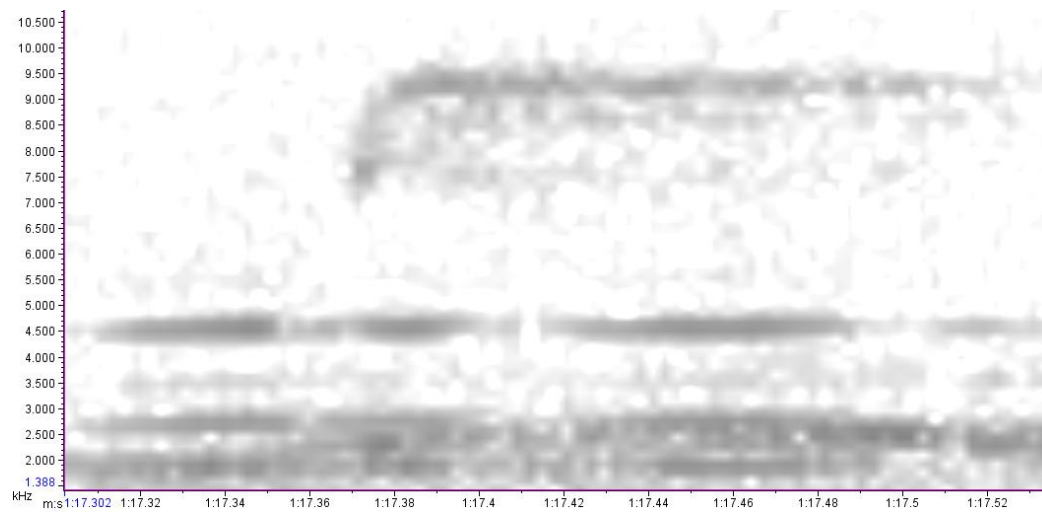
Syllables 217 and 218.



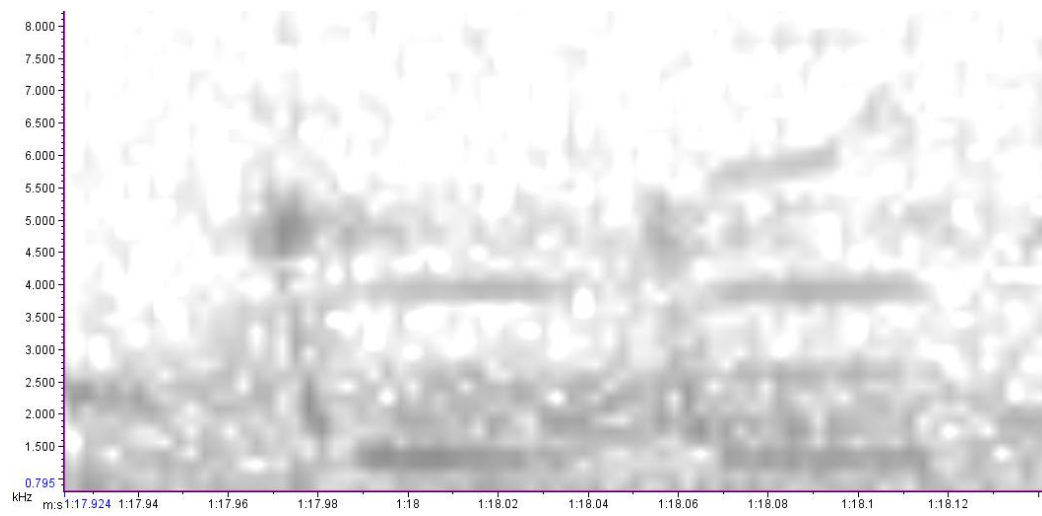
Repeated



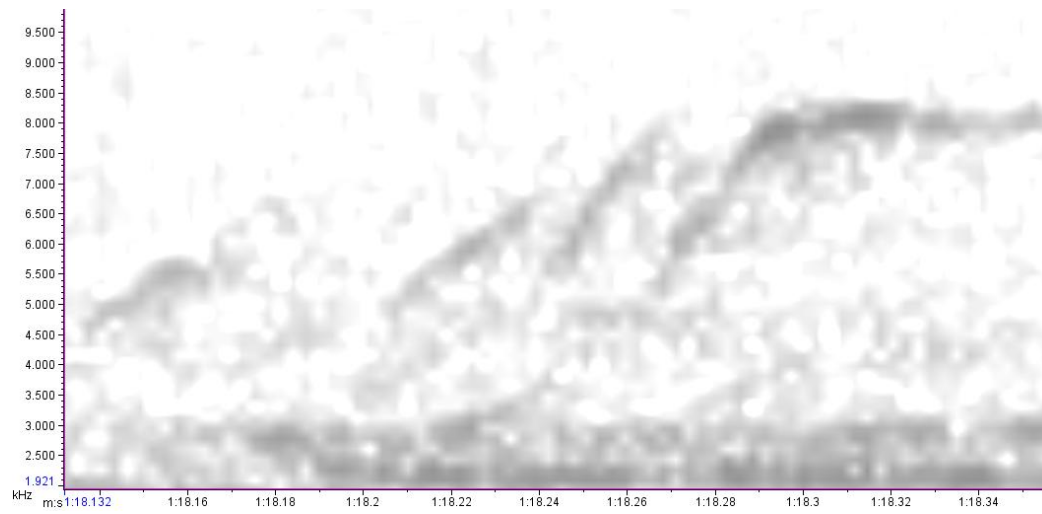
Repeated



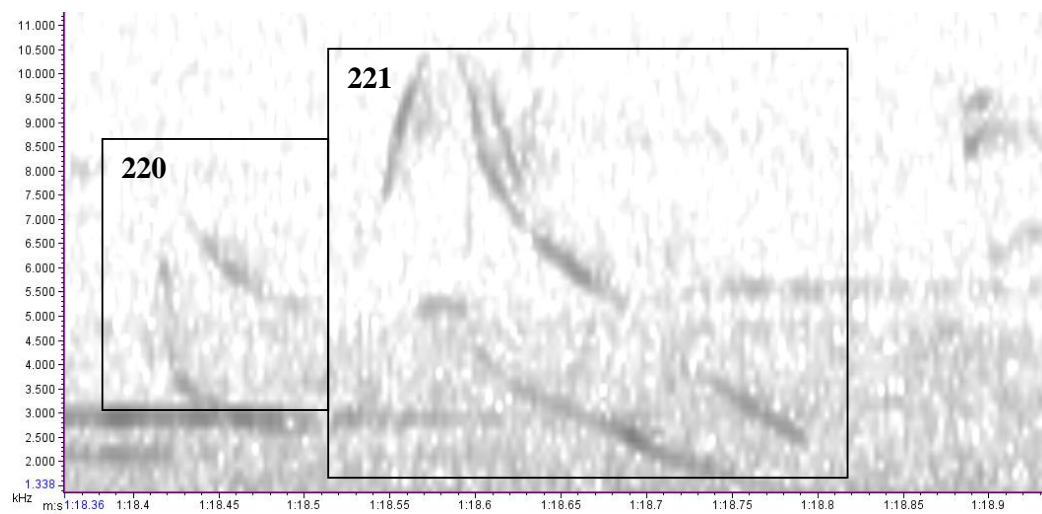
Repeated



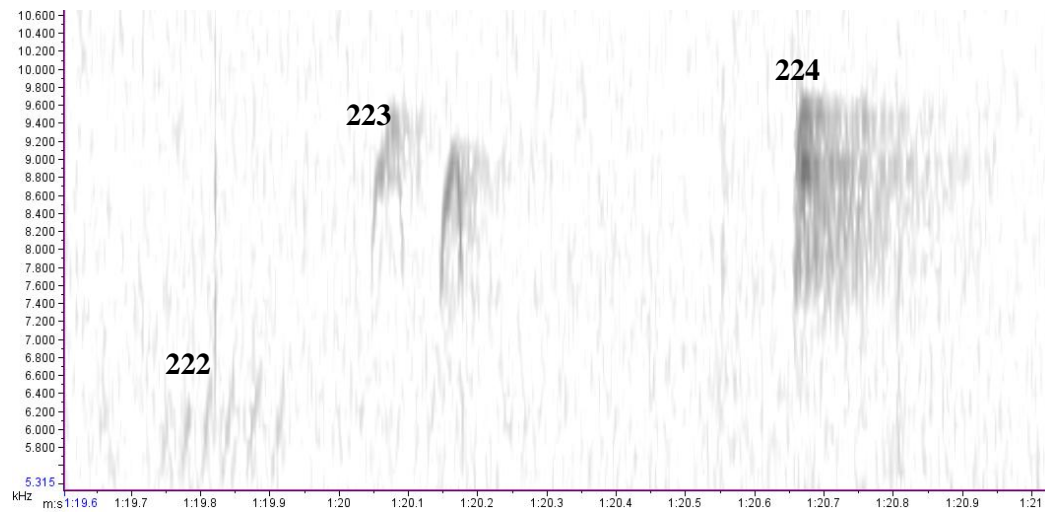
Syllable 219



Syllables 220 and 221

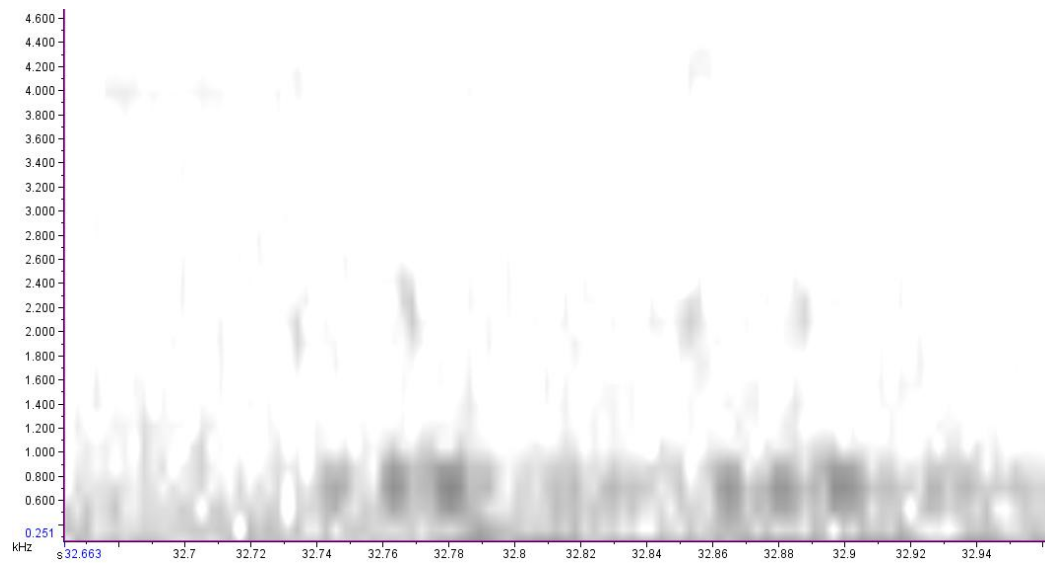


Syllables 222-224. Higher frequency syllables.

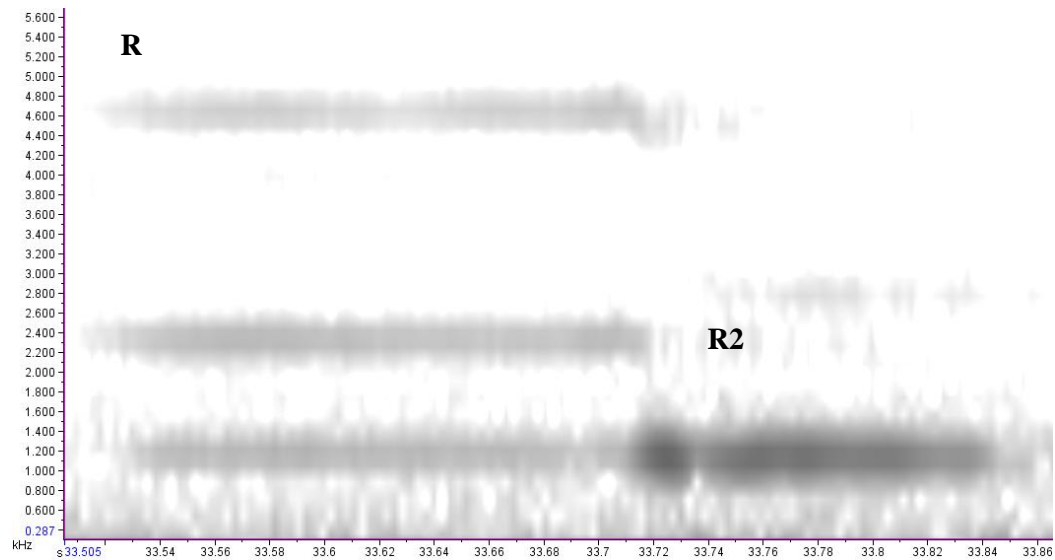


Song 27 - 004-2010-09-09 00_40_29. Non-breeding season.

Syllable 225.

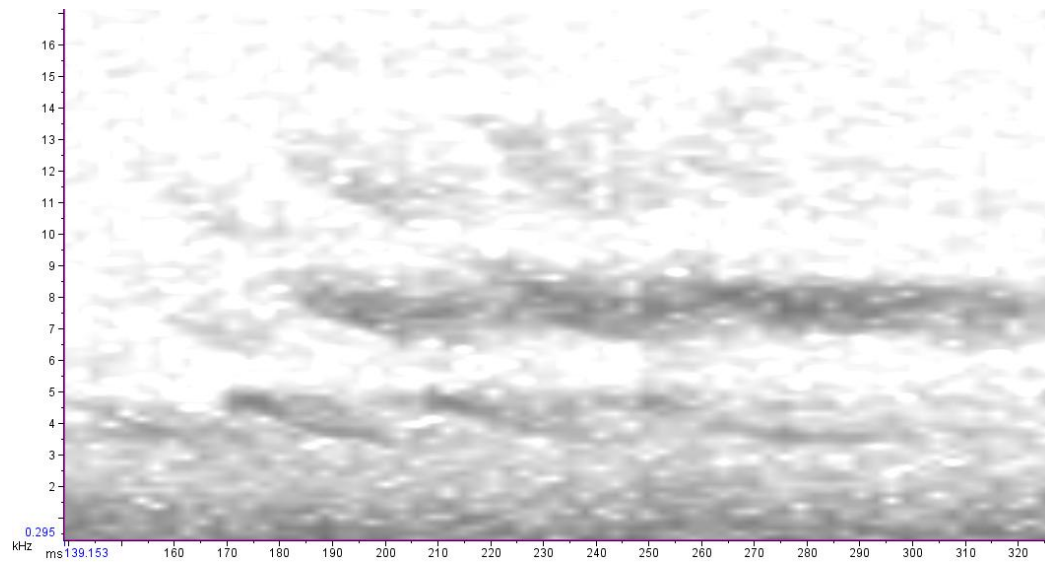


Repeated x2. Common Anchor Bay syllables. Usually there are 2 of these pairs of syllables sung consecutively, but this time just one.

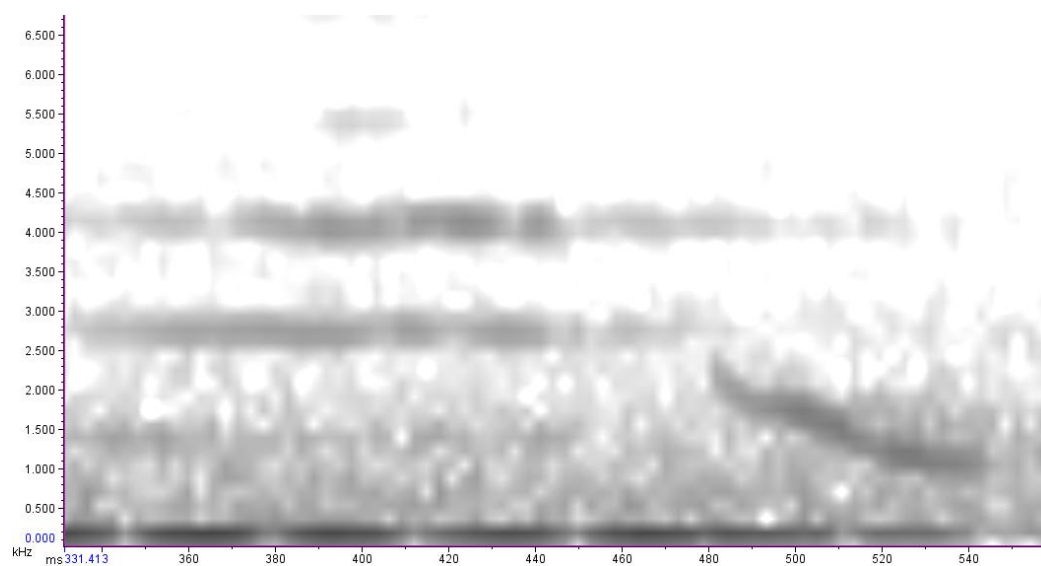


Song 28 - 020-2010-09-09 01_42_20. Non-breeding season.

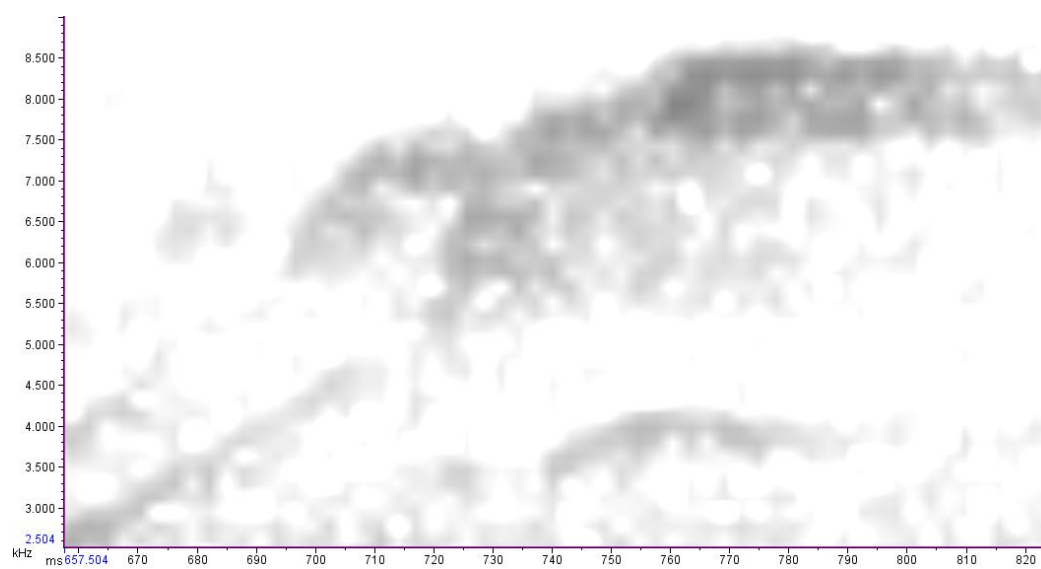
Syllable 226.



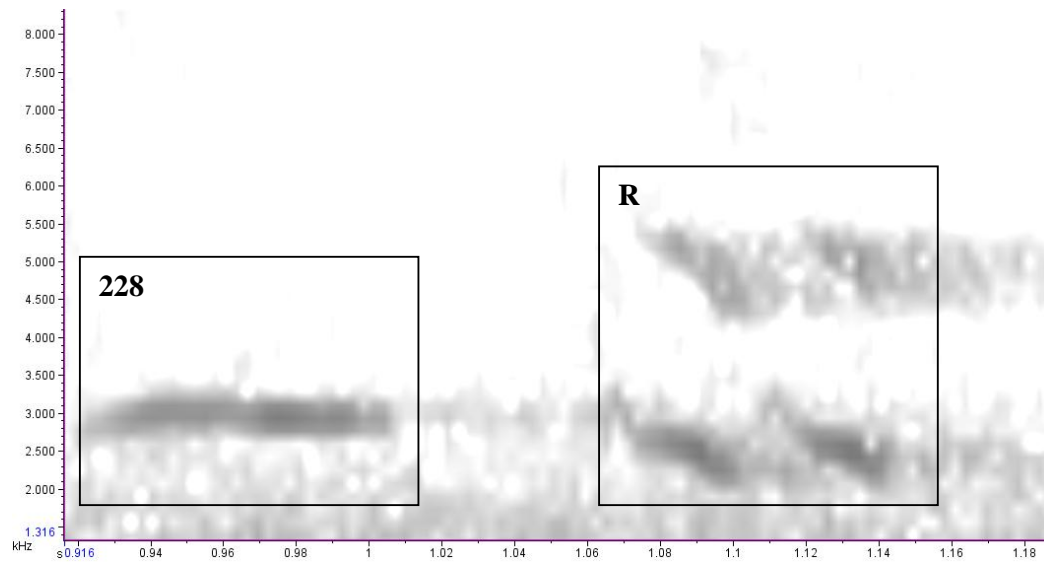
Repeated. Conjoined so considered one syllable.



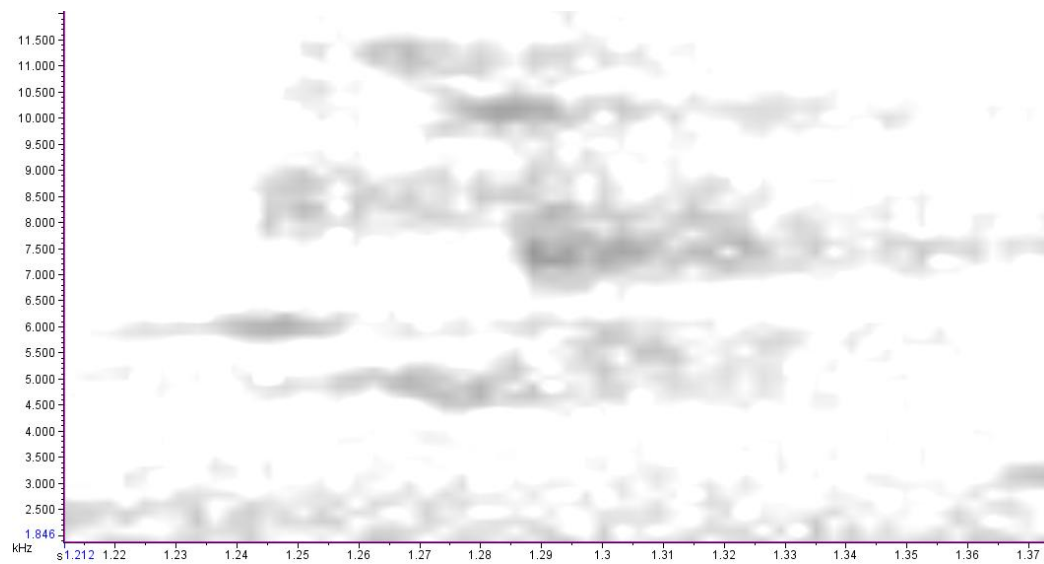
Syllable 227.



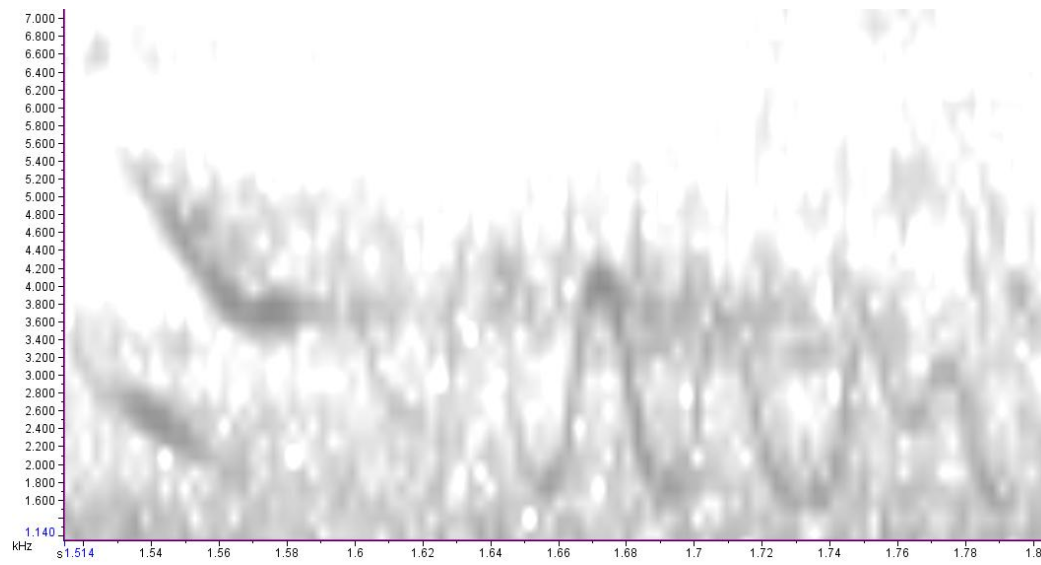
Syllables 228 and a repeated syllable



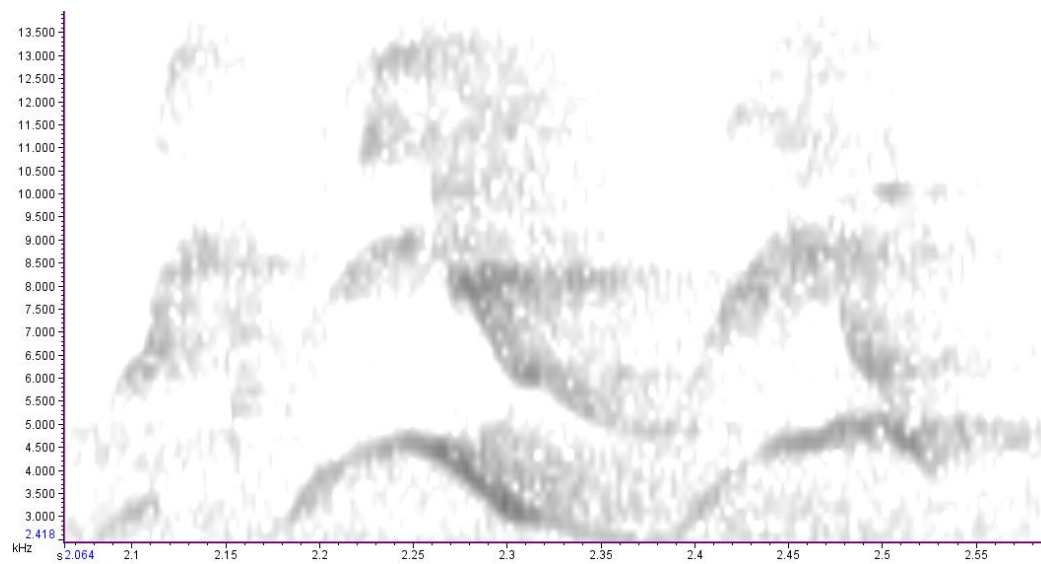
Syllable 229.



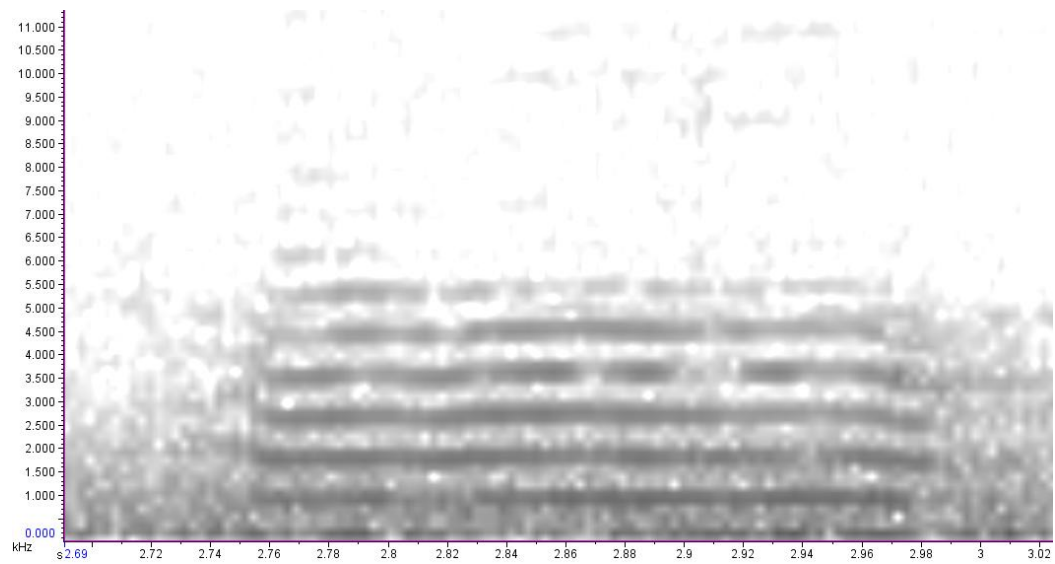
Syllables 230 and 231.



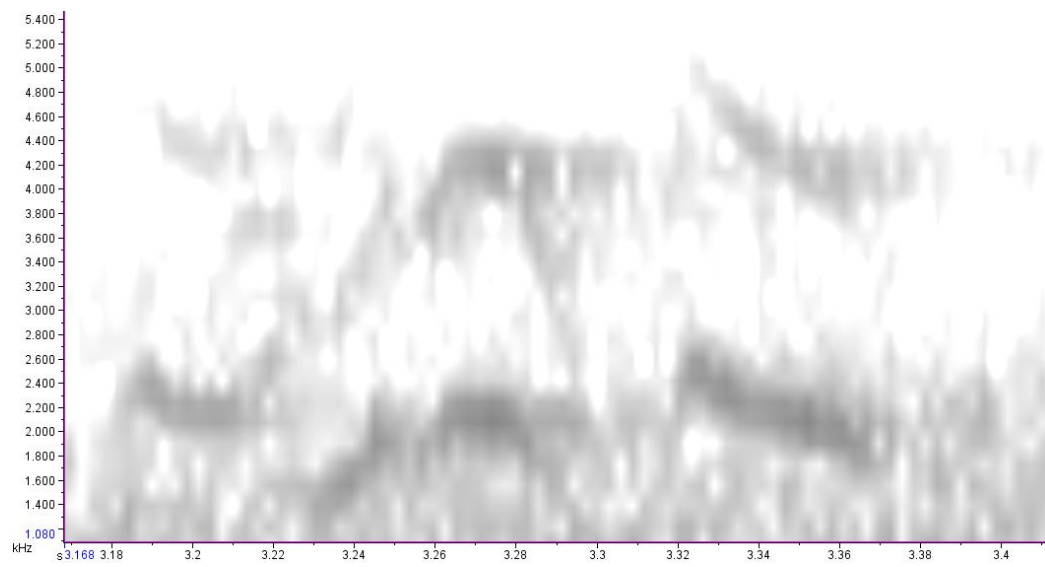
Repeated.



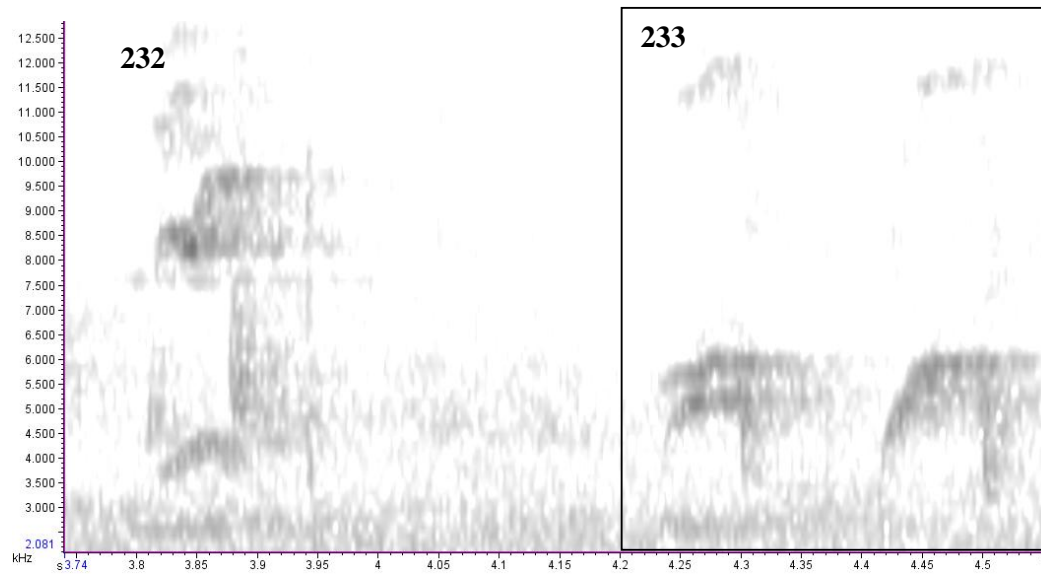
Repeated.



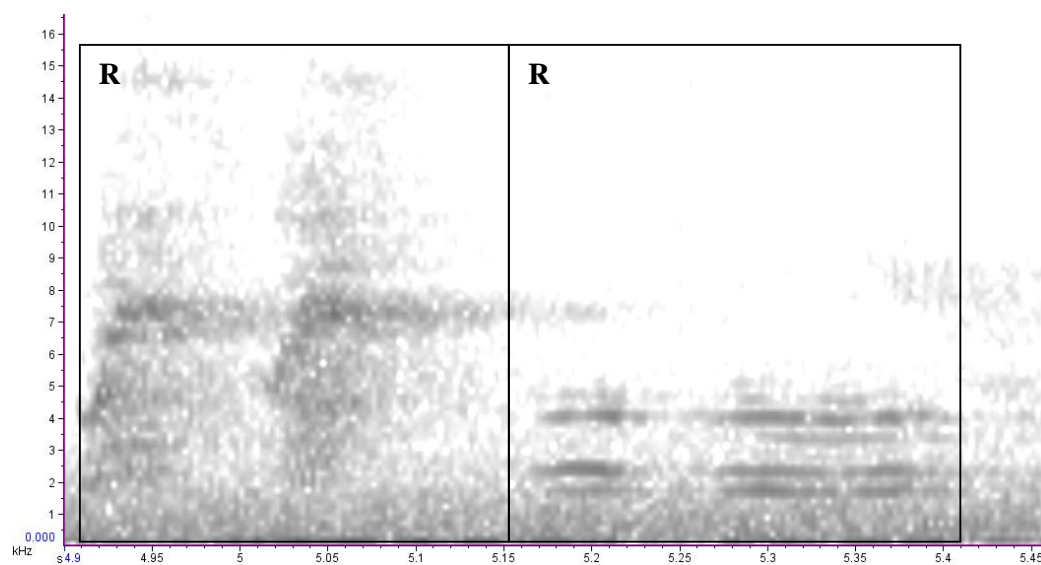
Repeated.



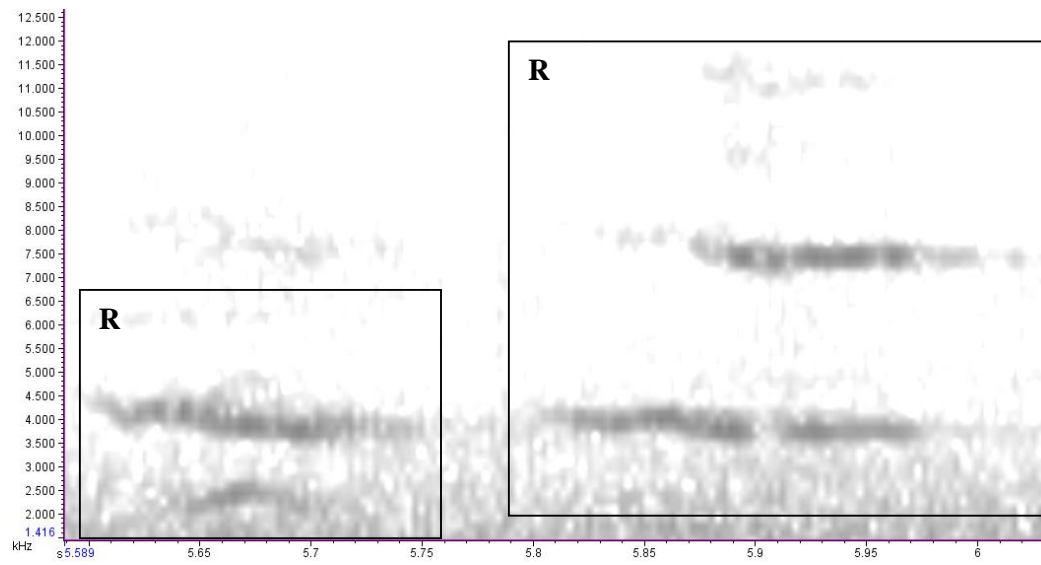
Syllables 232 and 233.



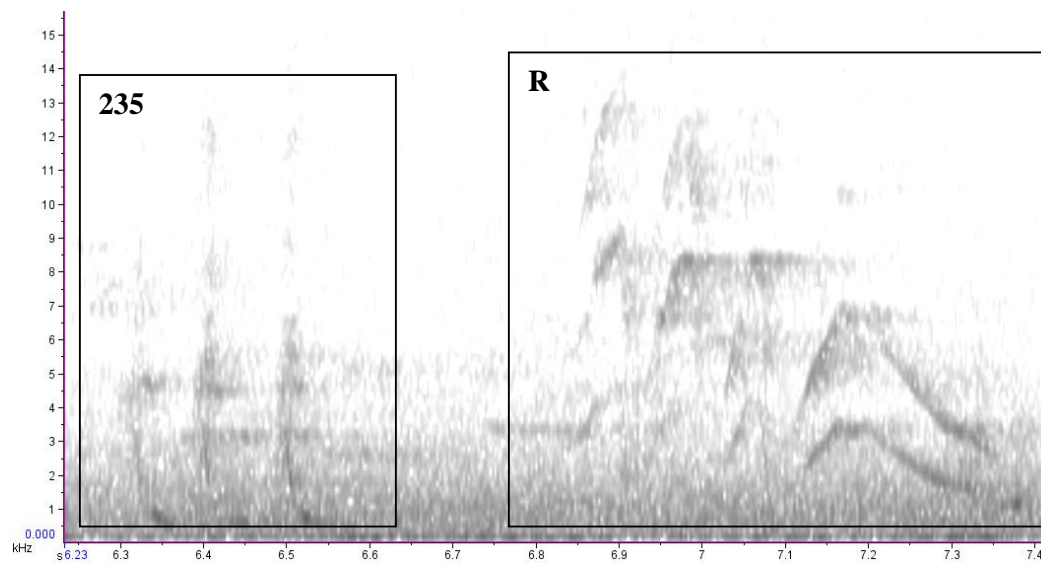
Syllable 234 and a repeated syllable



Repeated x2

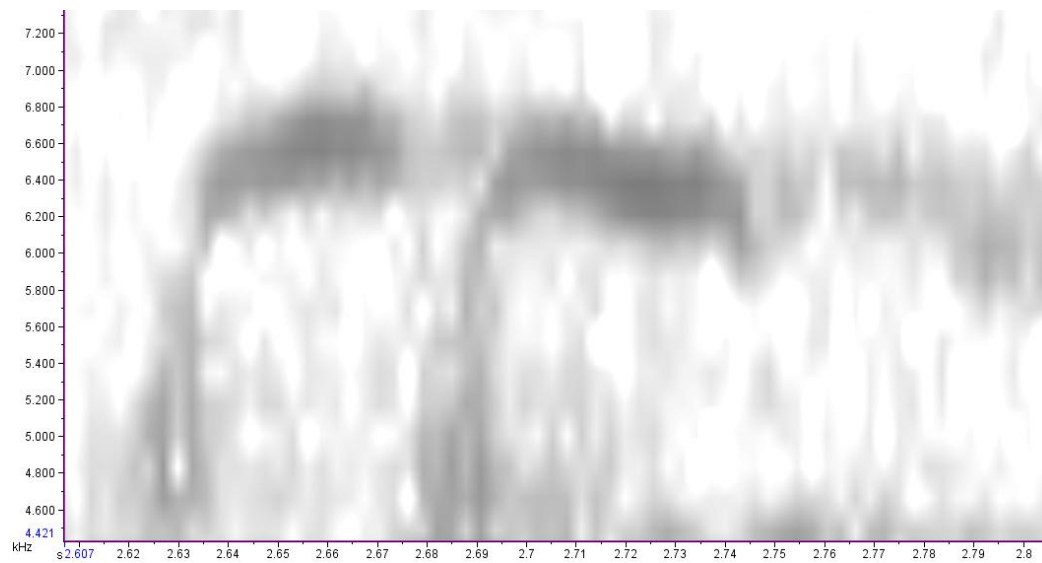


Syllable 235 and a repeated syllable.

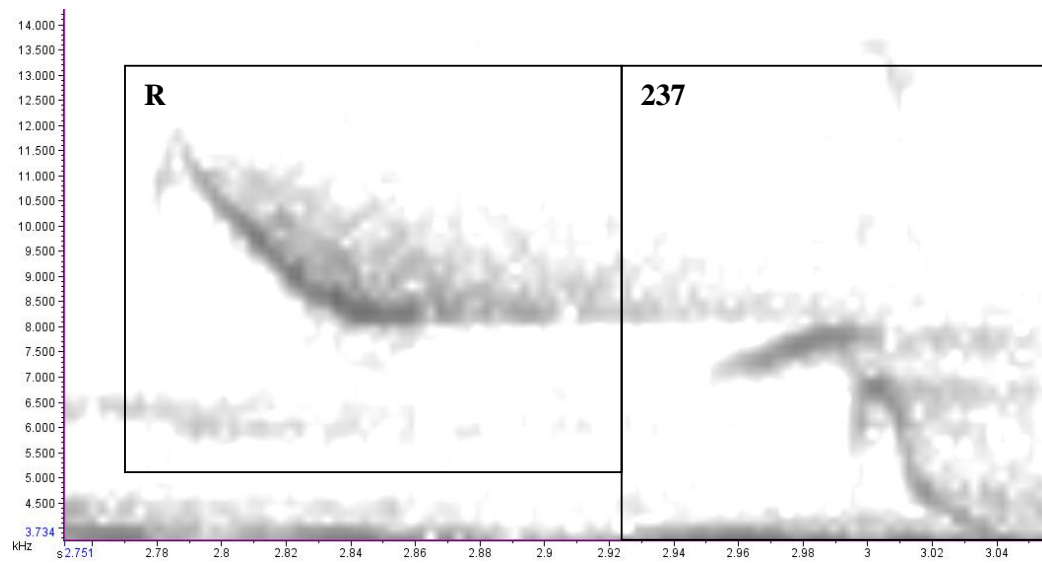


Song 29 – 061-2010-11-23 22_55_00

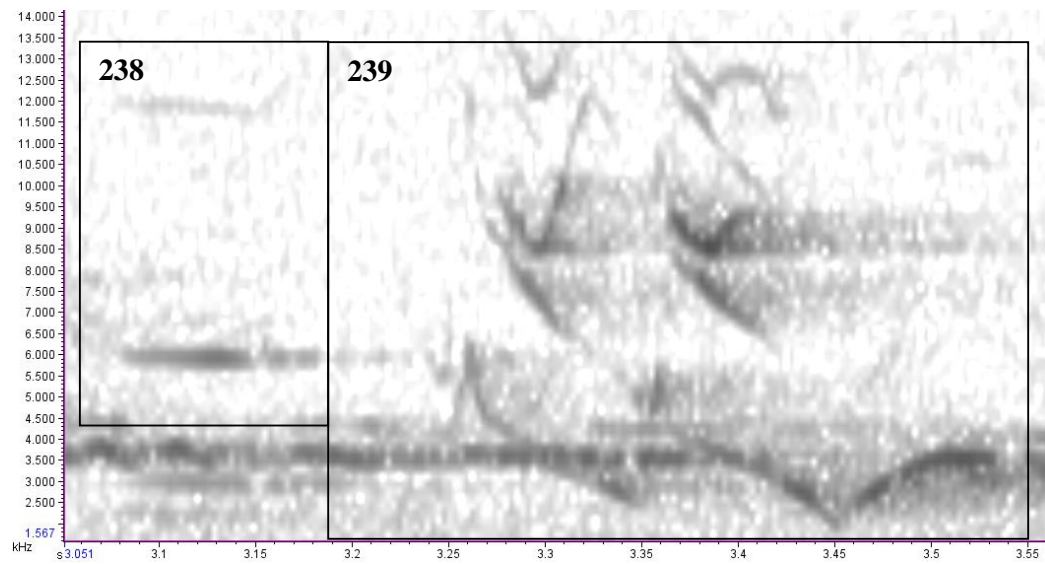
Syllable 236.



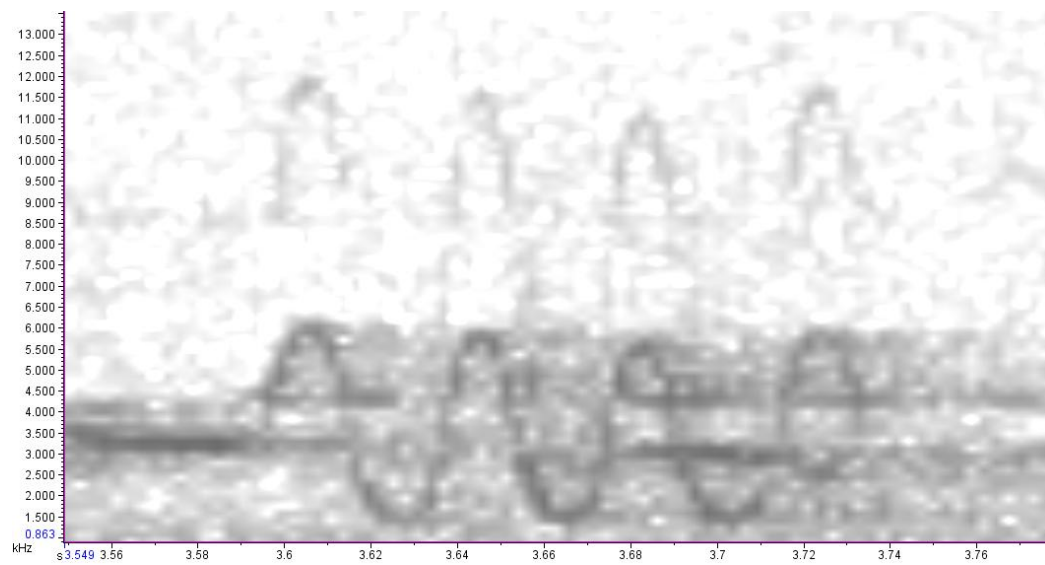
Repeated and Syllable 237.



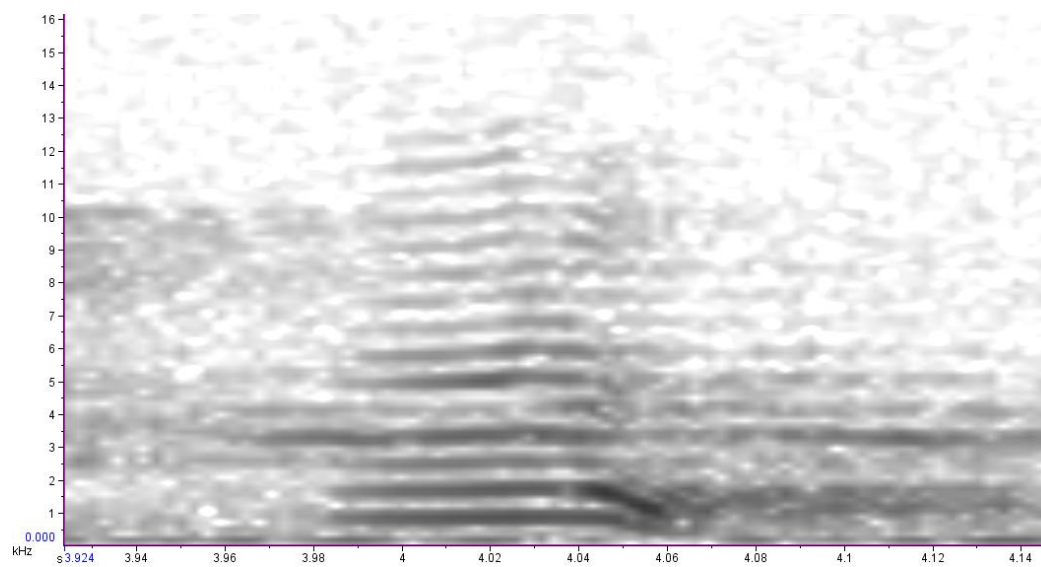
Syllables 238 and 239.



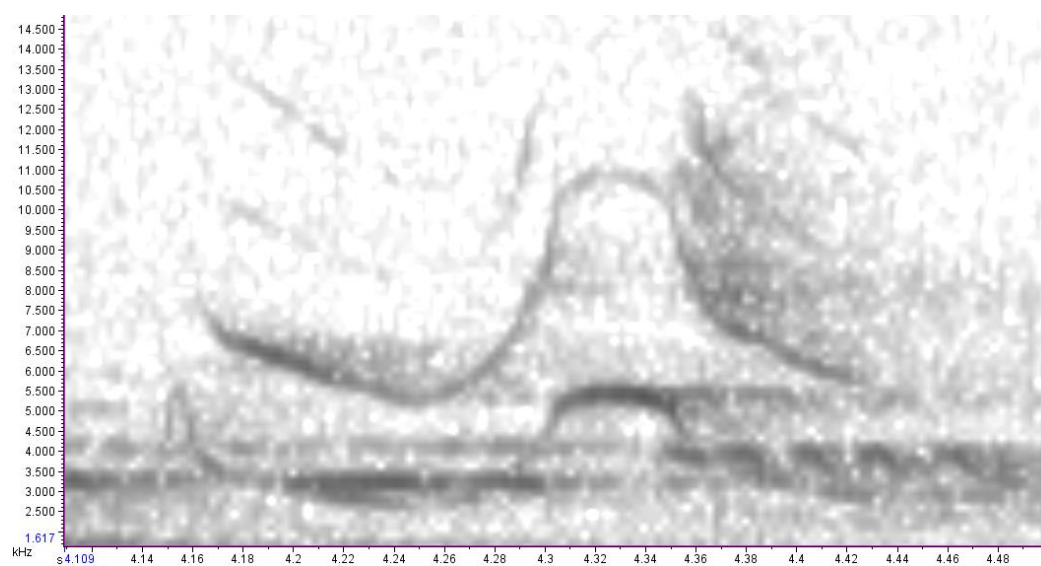
Repeated



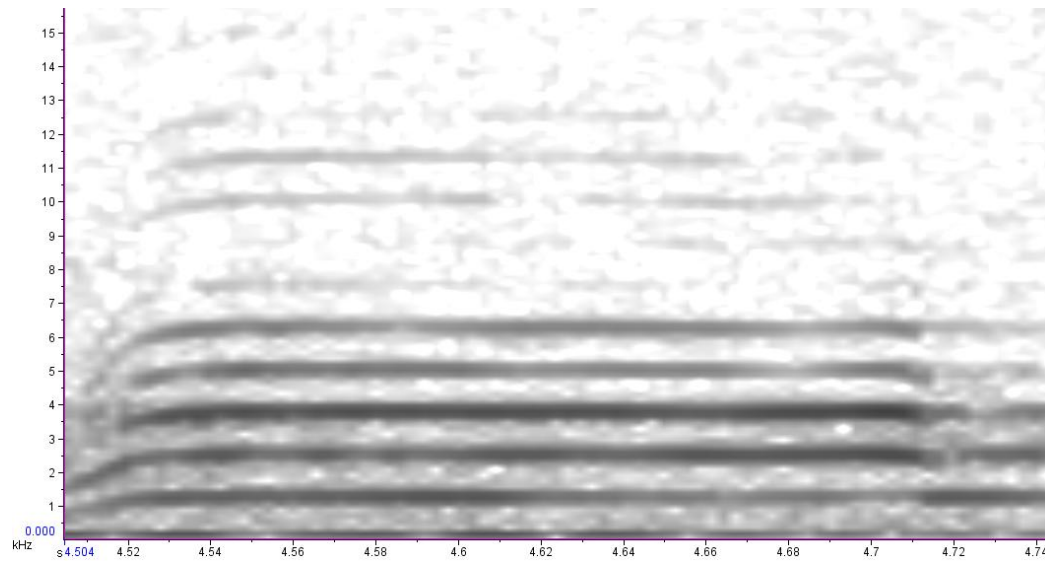
Repeated



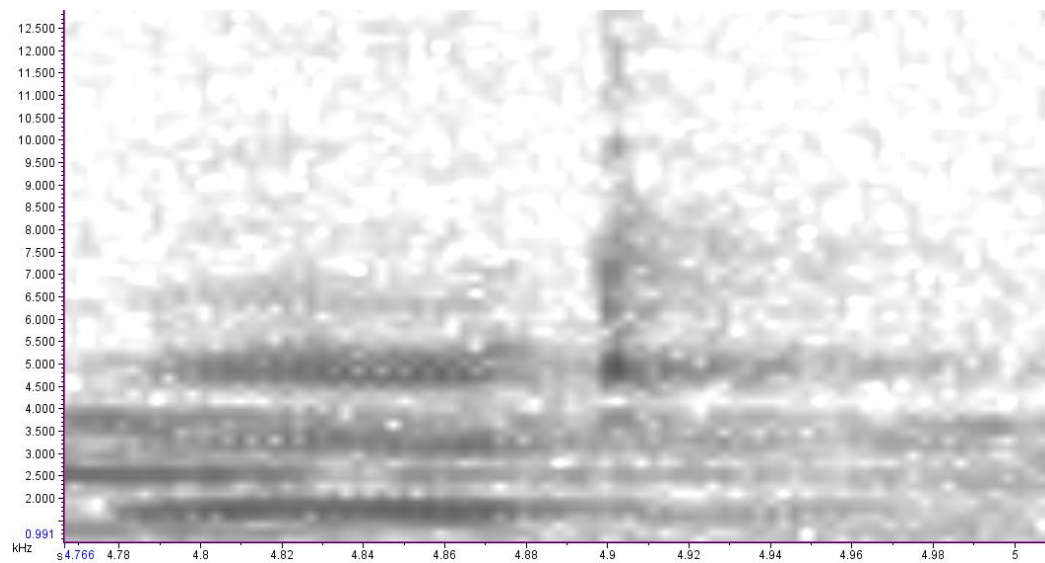
Repeated



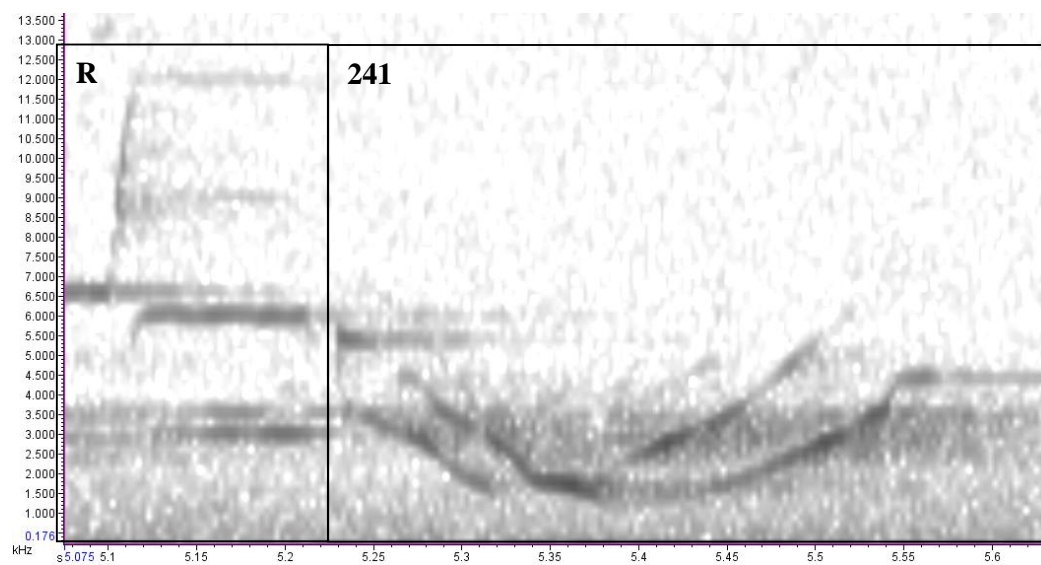
Repeated.



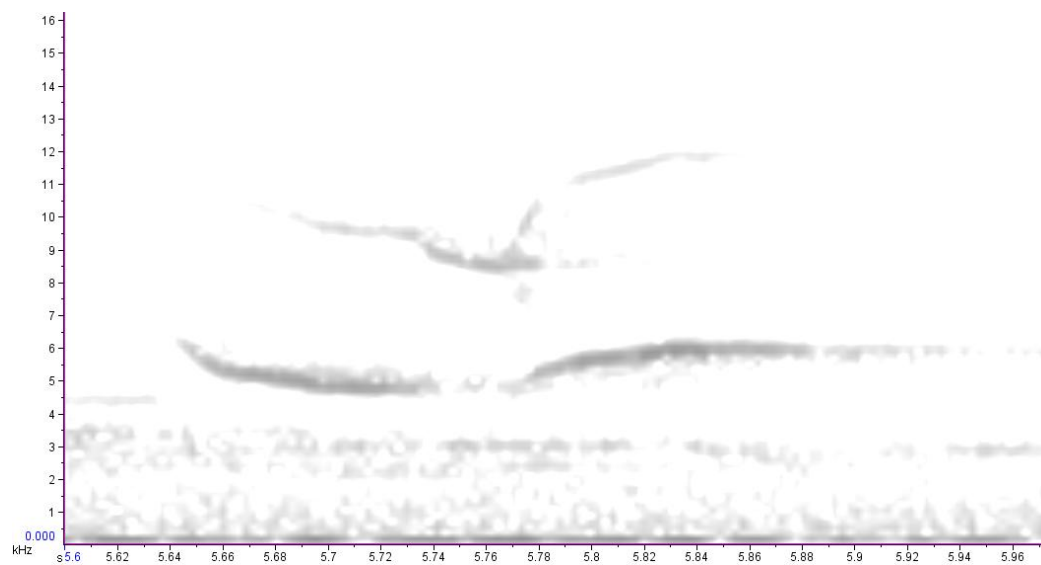
Syllable 240. Considered one syllable due to the lower part of the syllable proceeding all the way to the end, despite a different part of the syllable occurring at c. 4.9s.



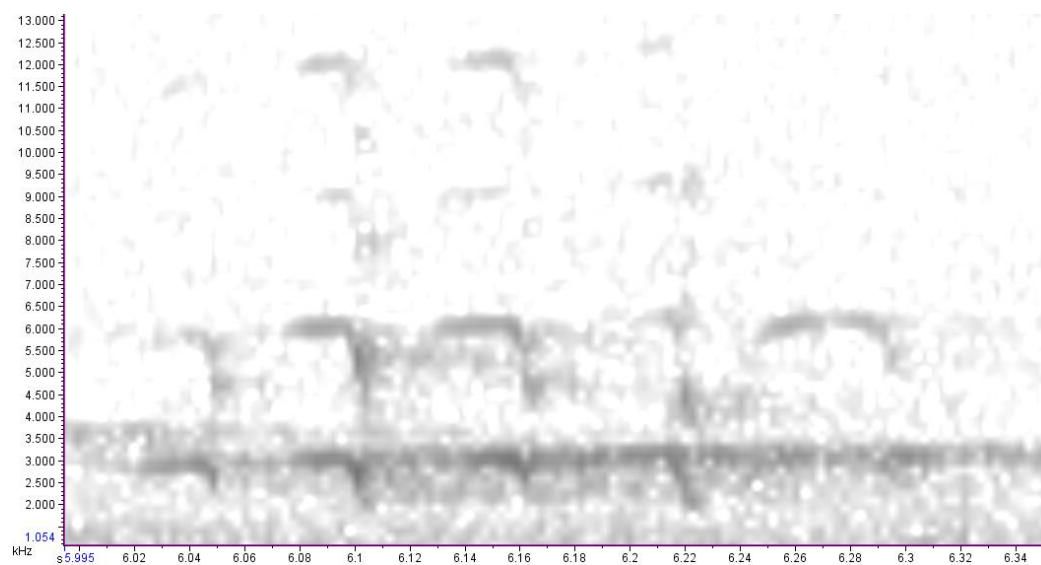
Syllable 241 and a repeated syllable.



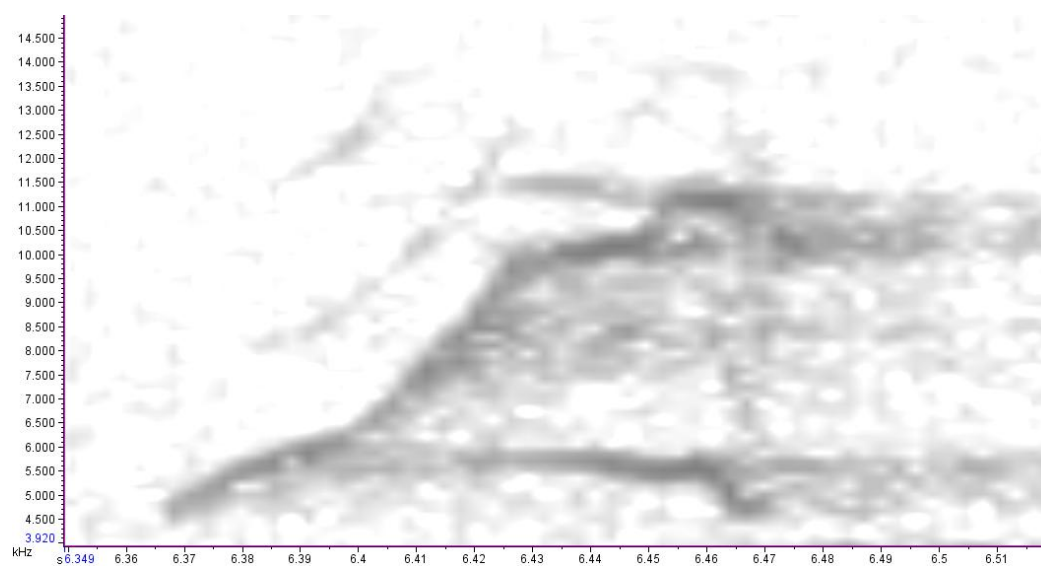
Syllable 242.



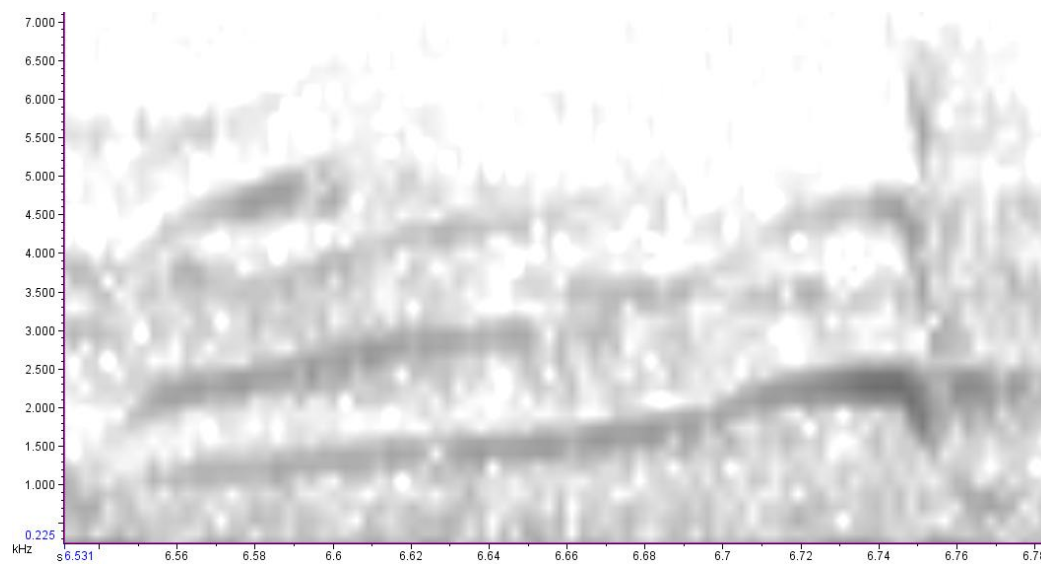
Repeated



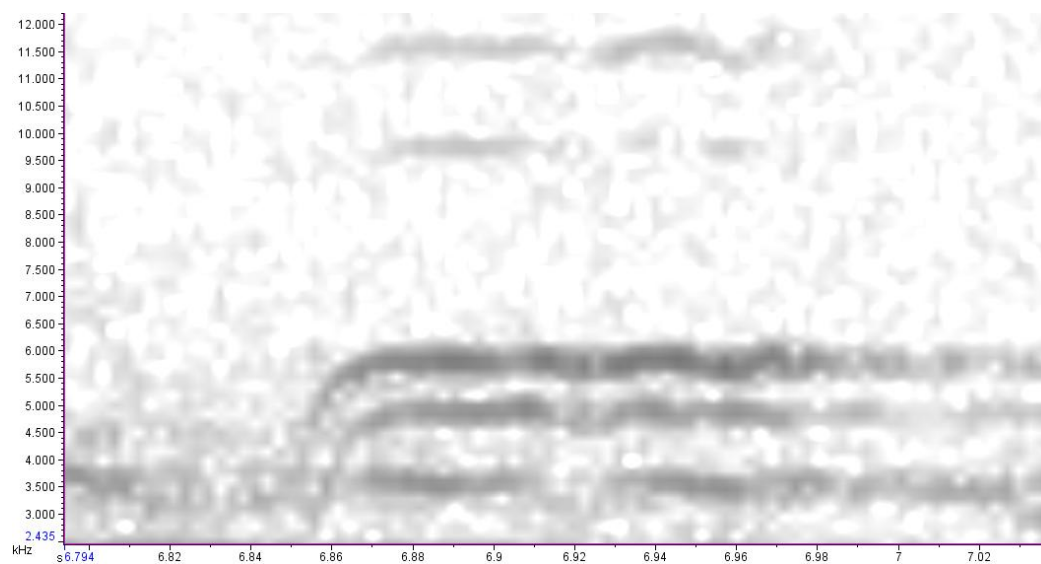
Syllable 243.



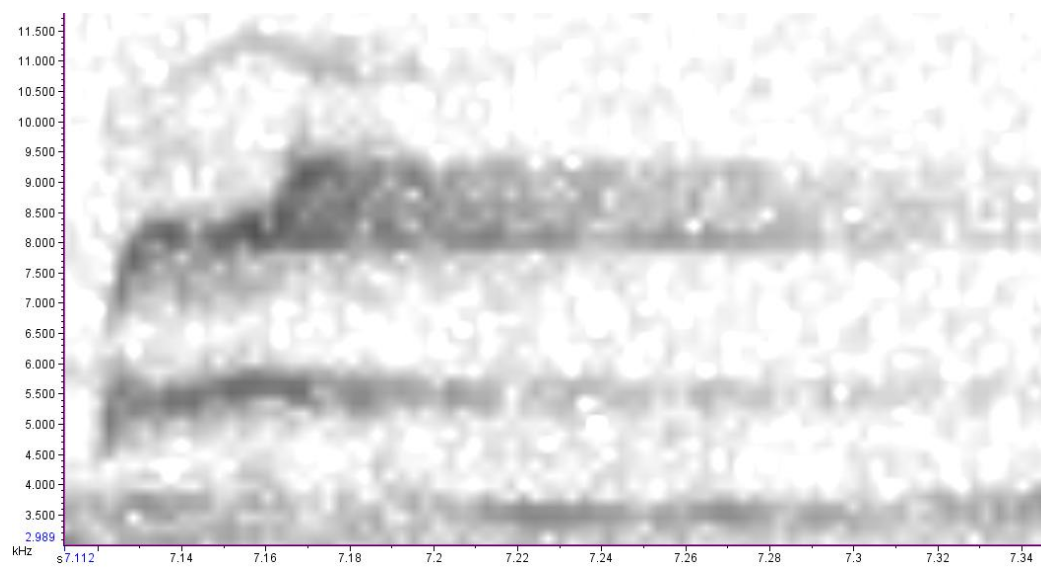
Syllable 244.



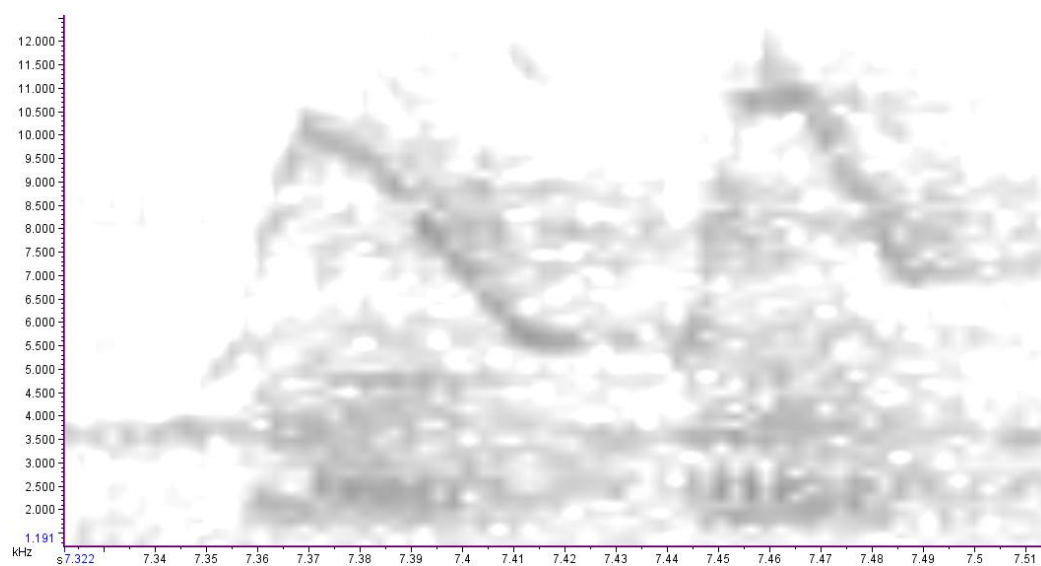
Syllable 245.



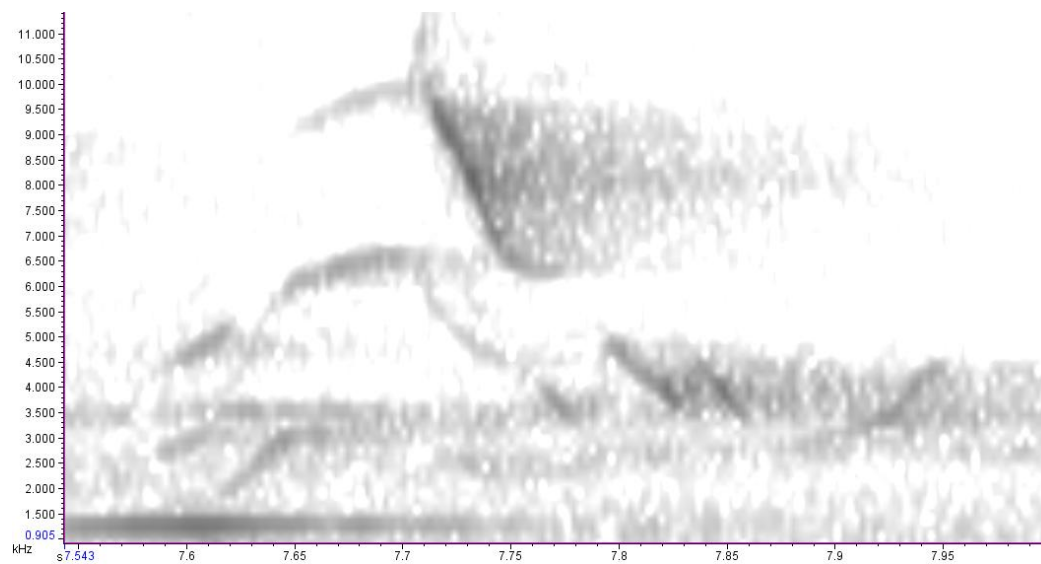
Syllable 246



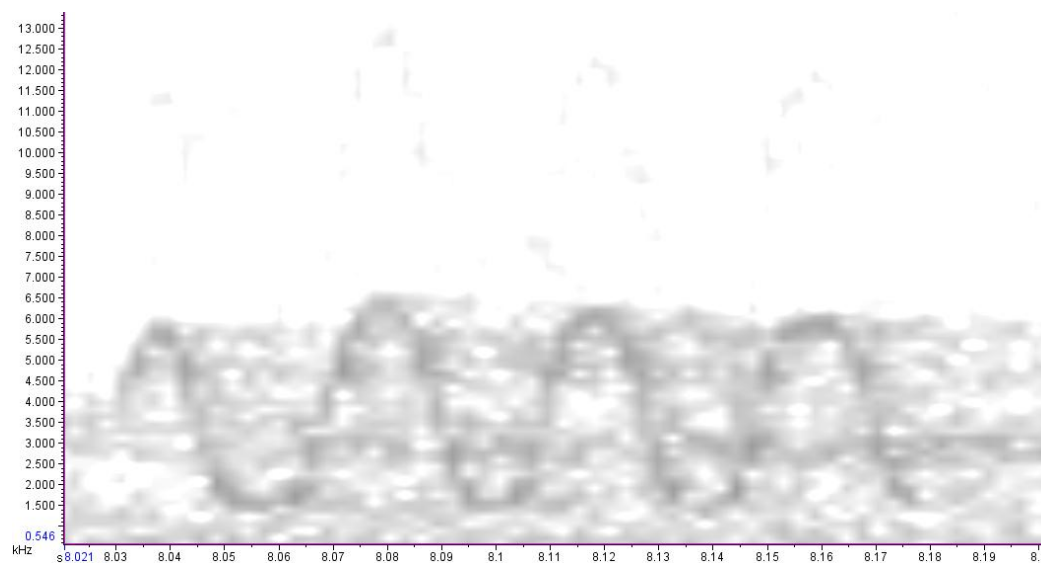
Syllable 247.



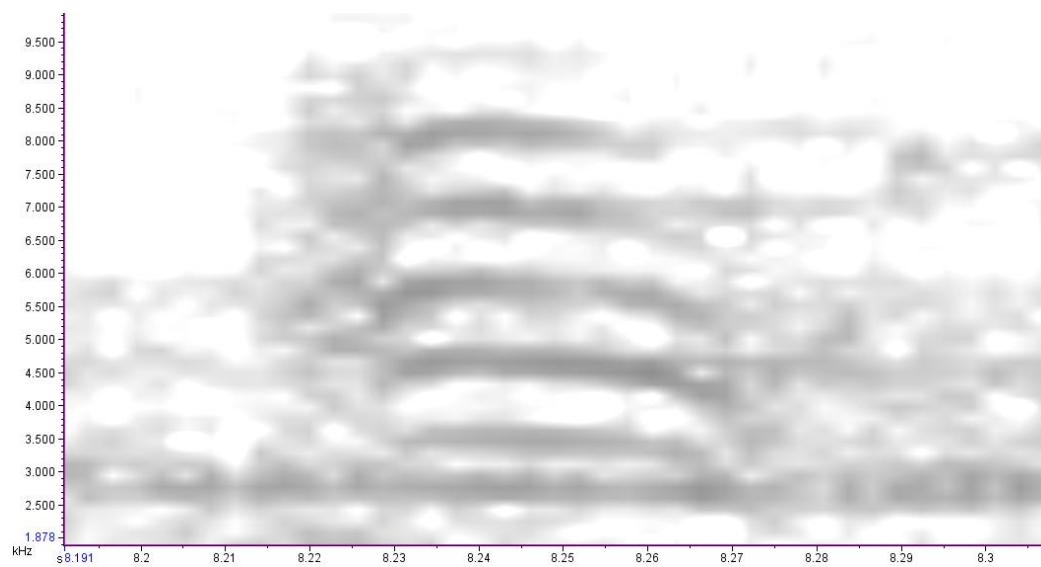
Syllable 248.



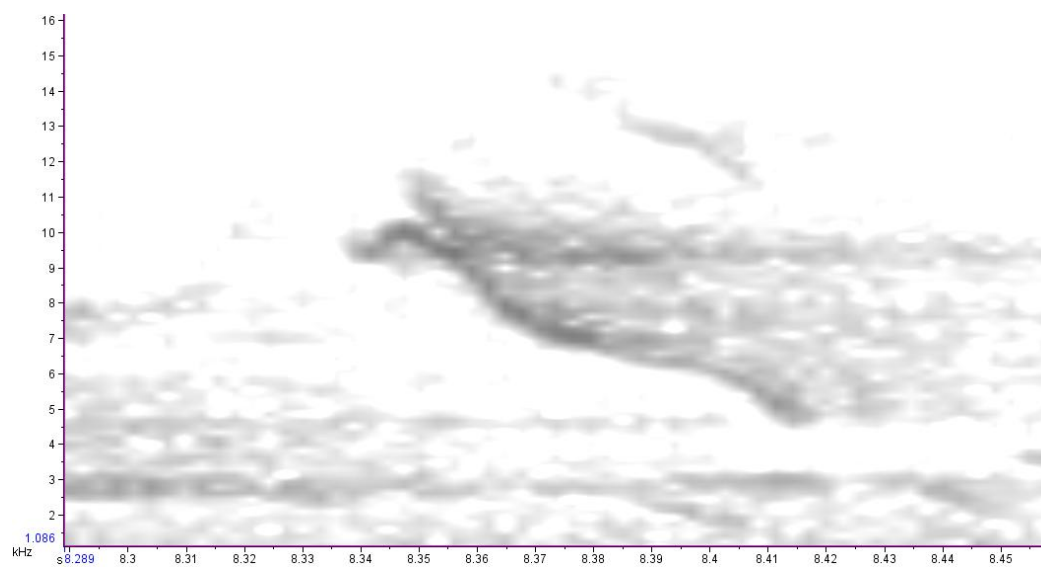
Repeated



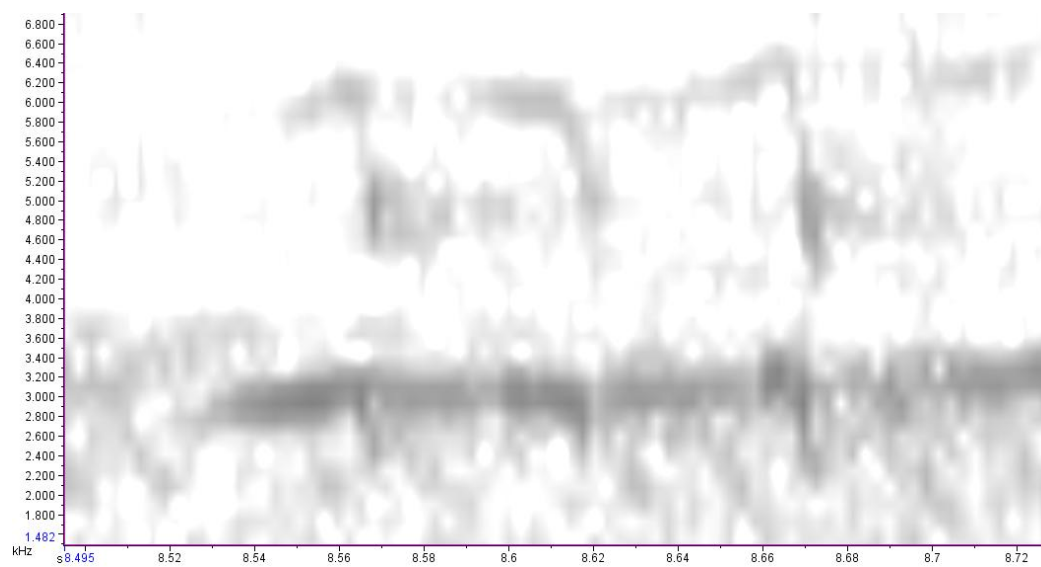
Repeated.



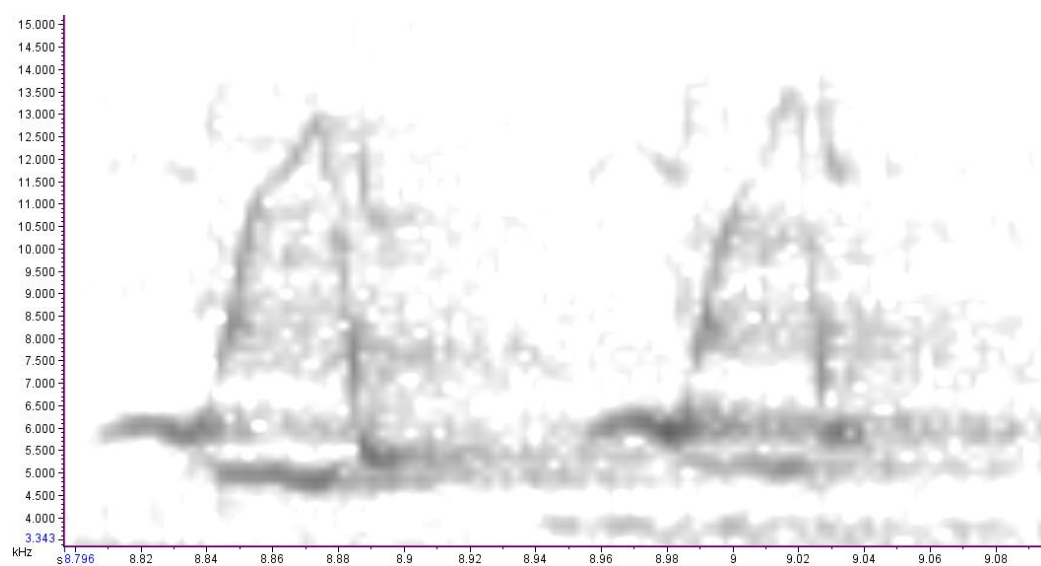
Repeated.



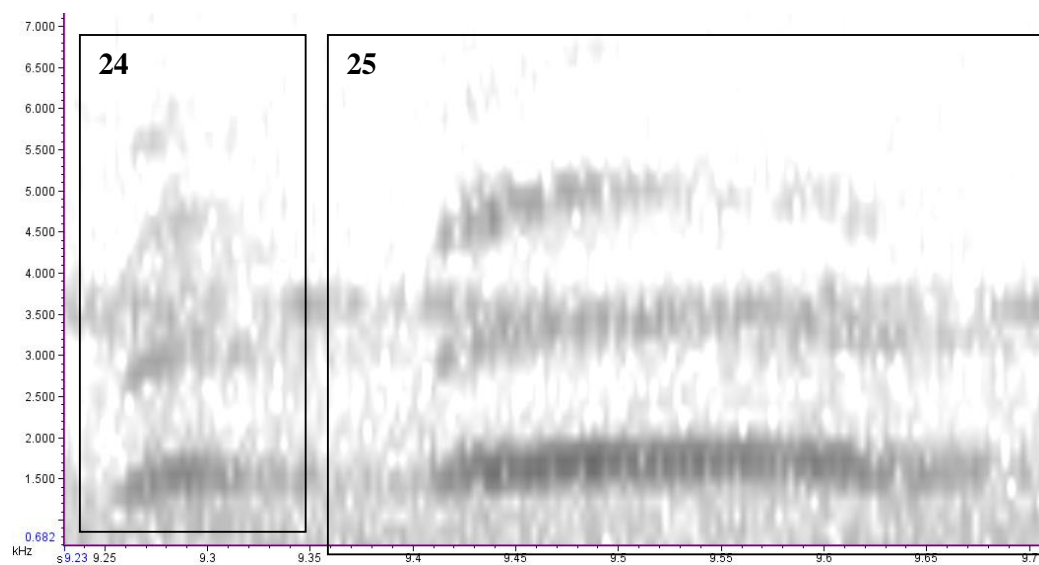
Repeated.



Repeated

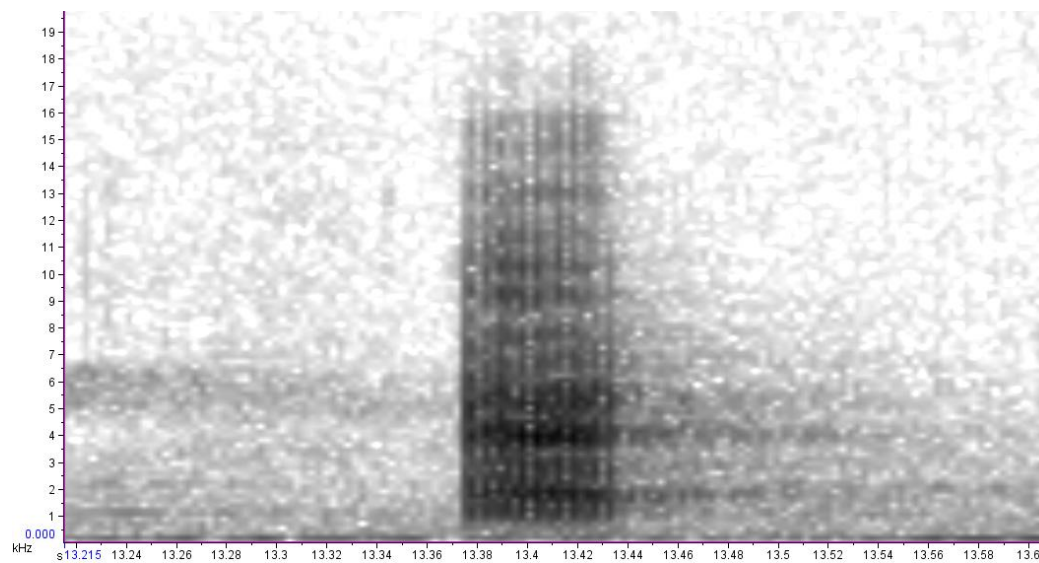


Syllables 249 and 250.

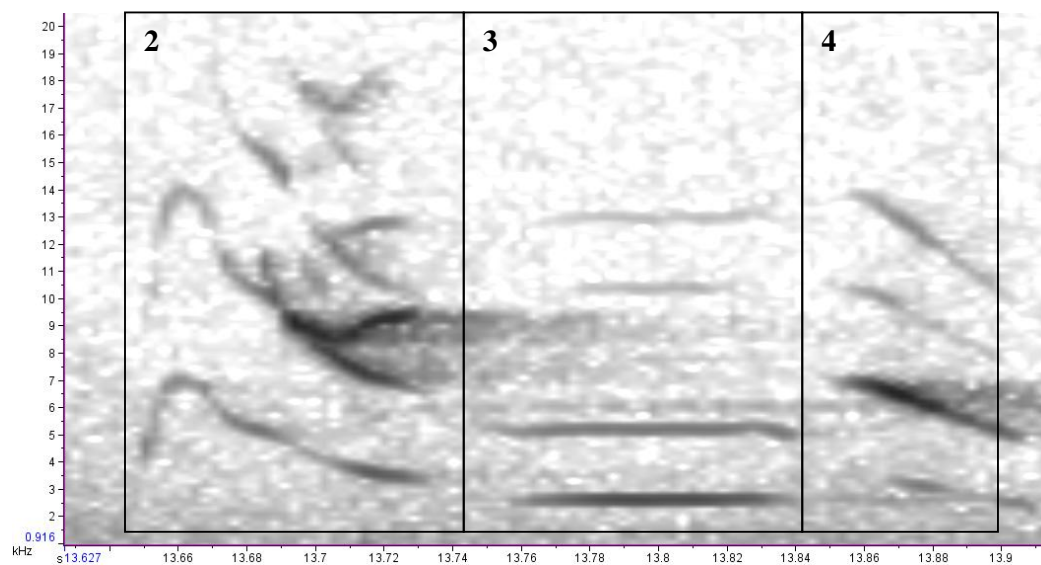


Song 30 - 027-2010-11-23 22_14_11. Long

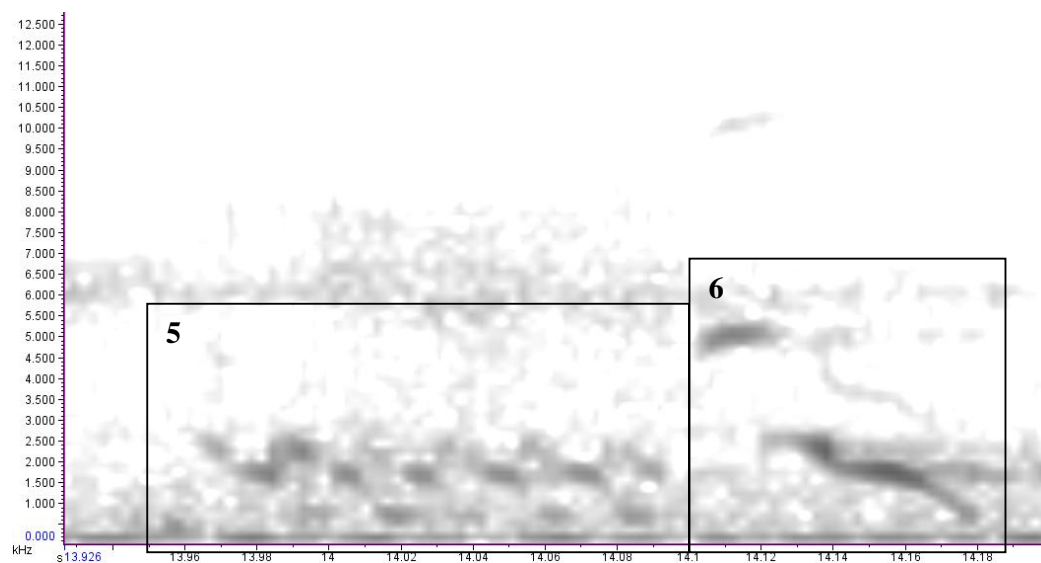
Repeated.



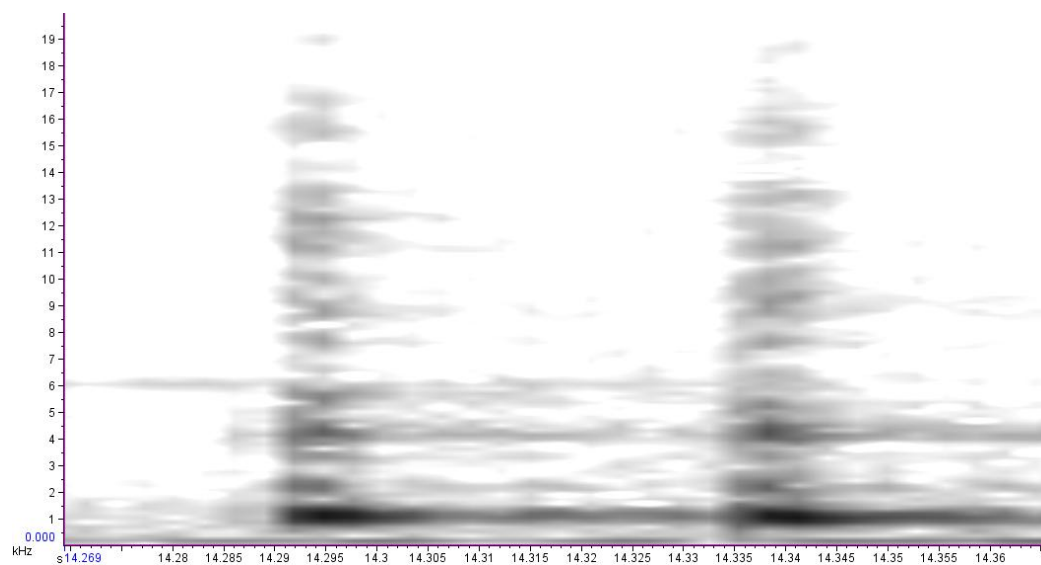
Repeated x3



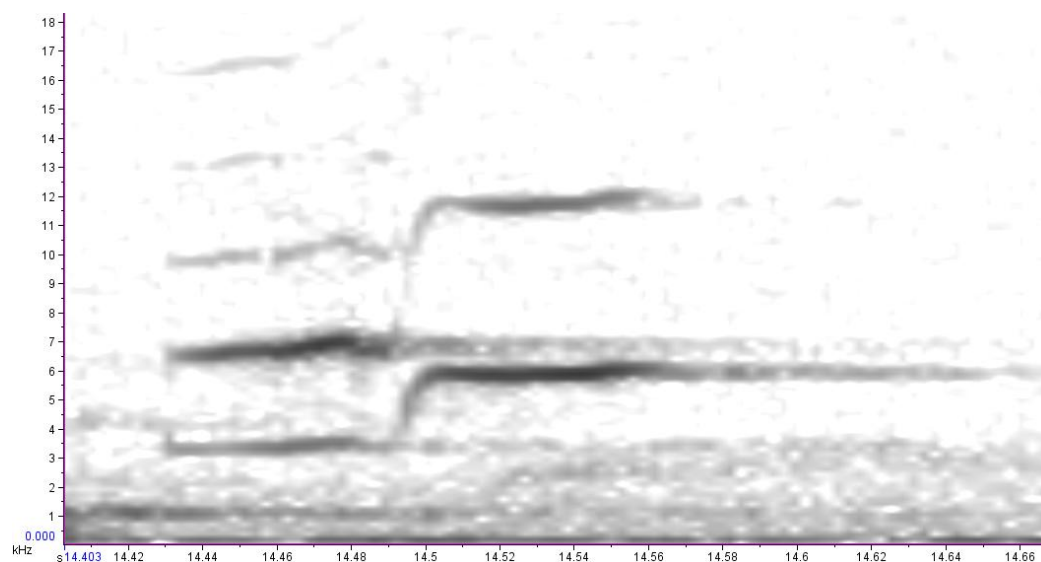
Syllables 251 and 252.



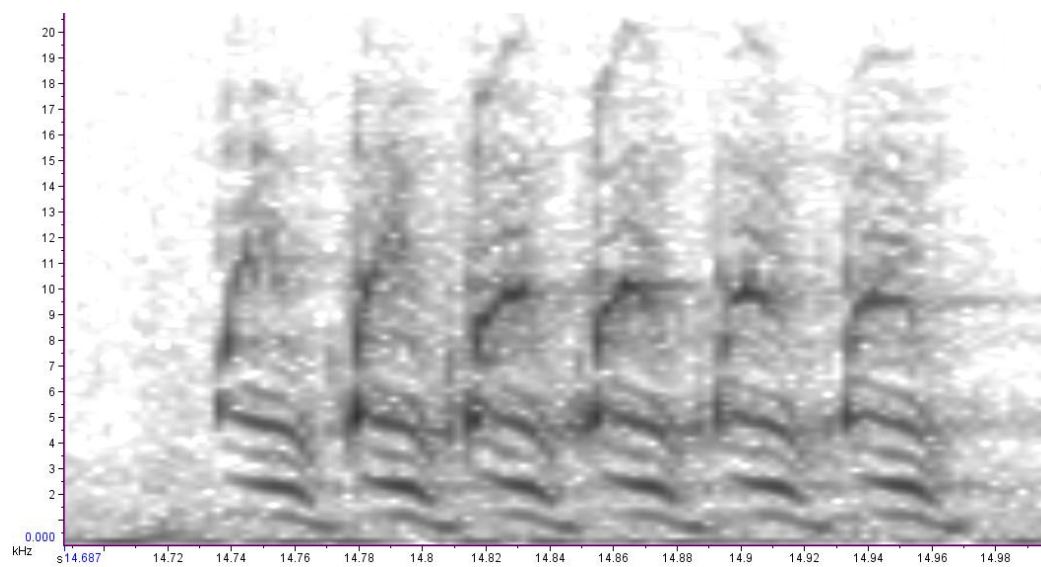
Repeated. A double-knock syllable.



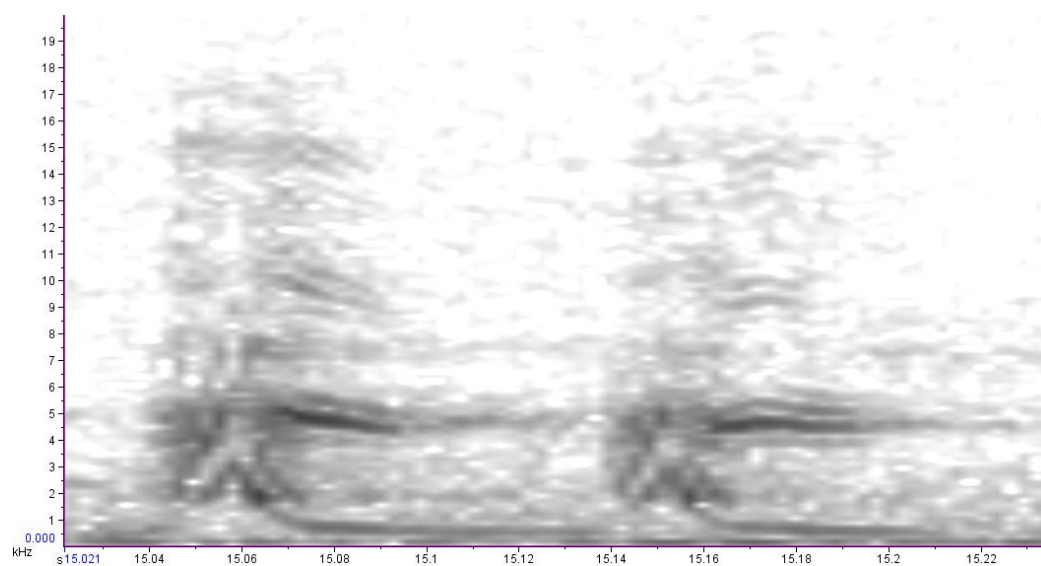
Repeated.



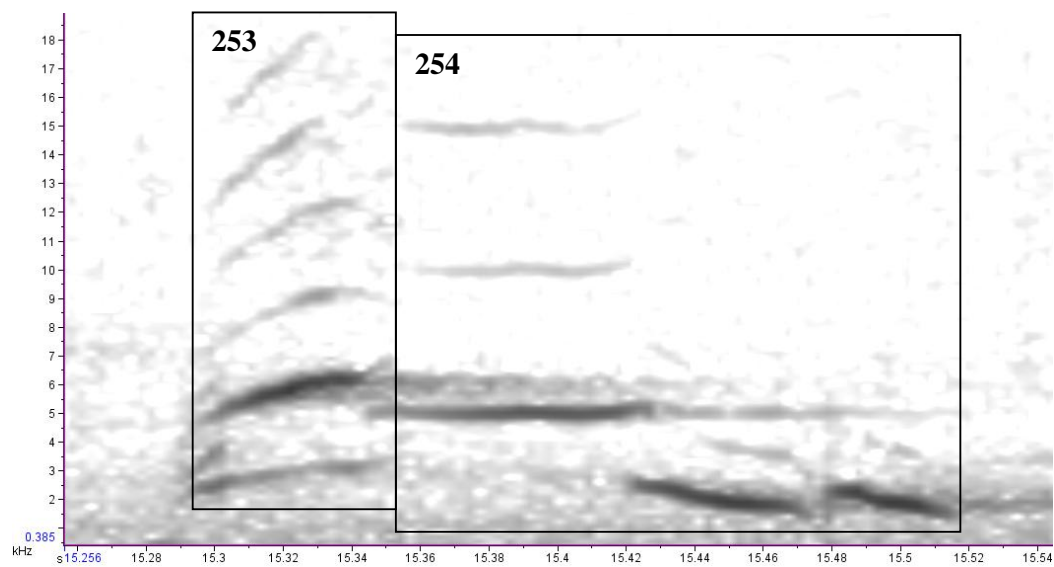
Repeated.



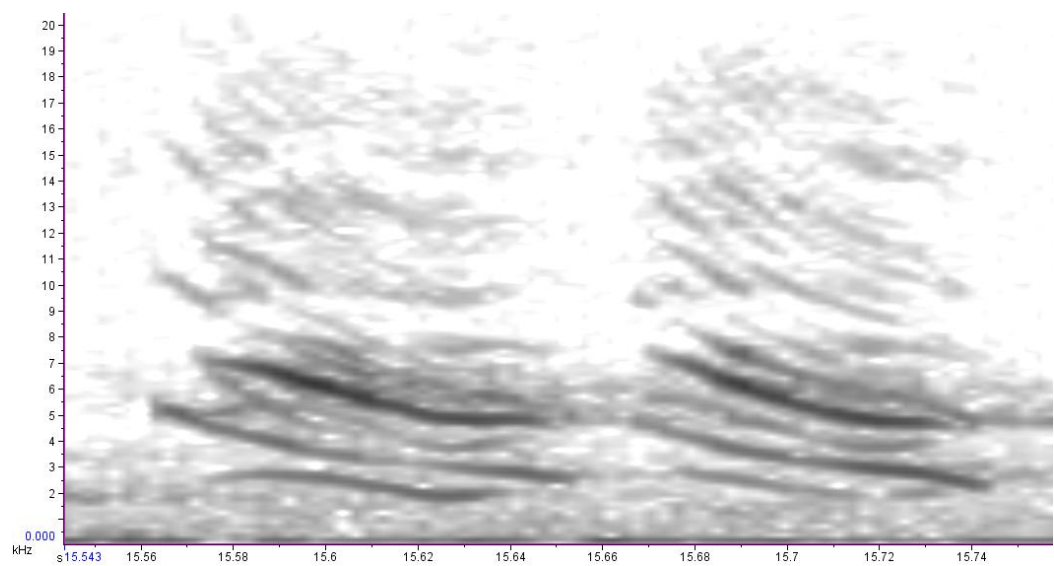
Repeated.



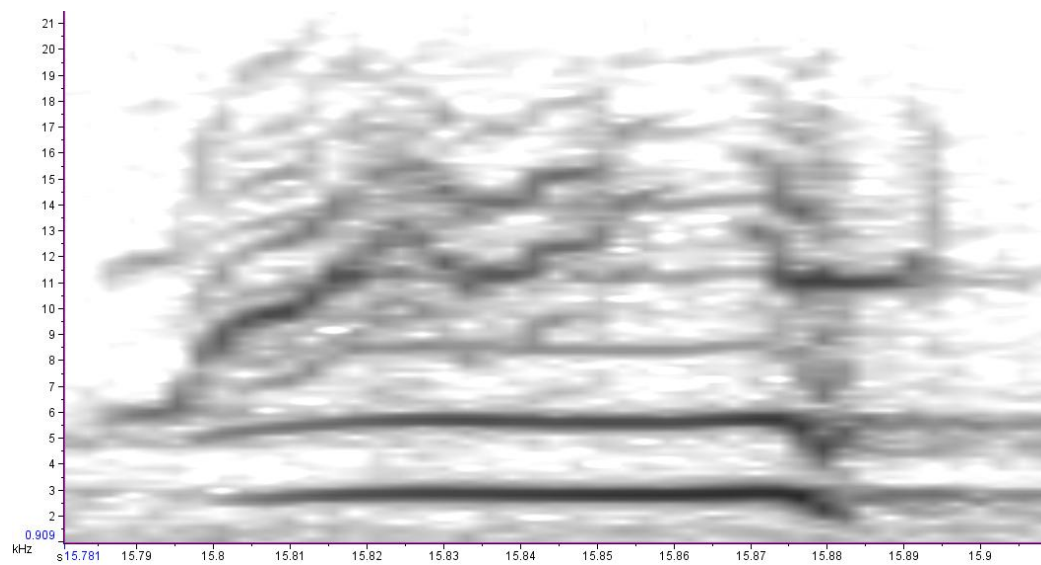
Syllables 253 and 254. Syllable 12 overlaps so considered one syllable.



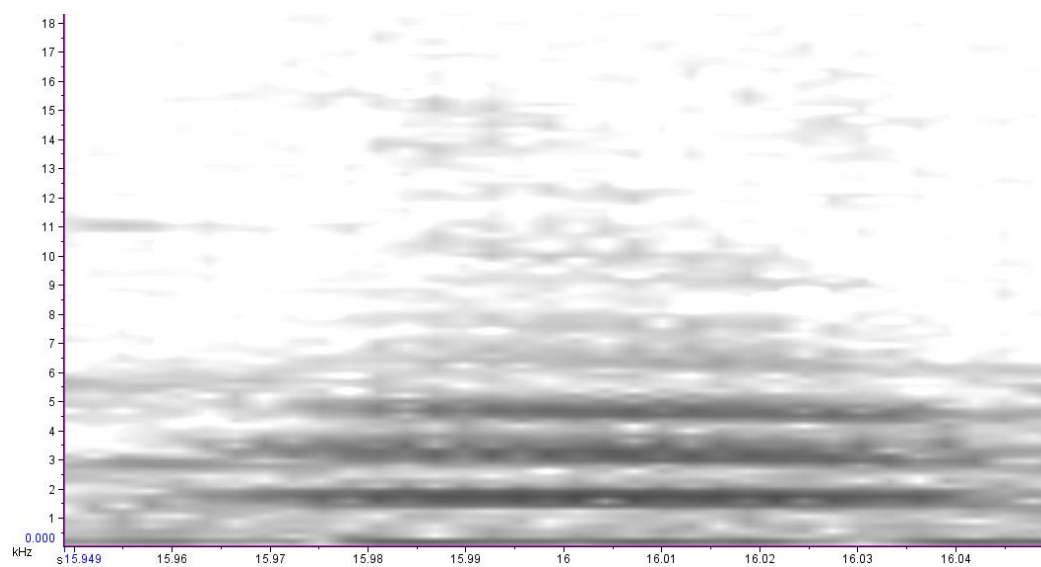
Syllable 255.



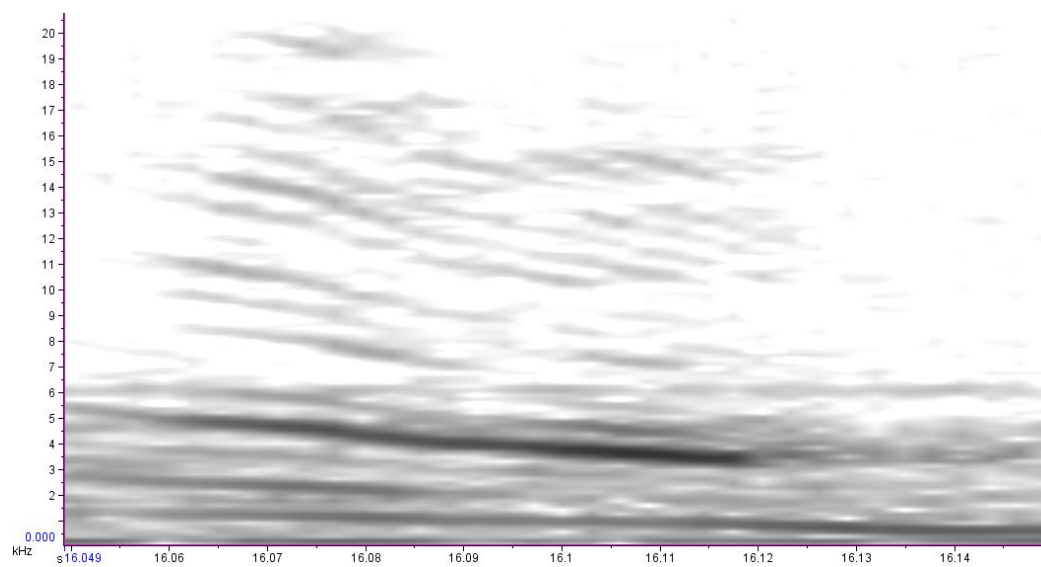
Repeated.



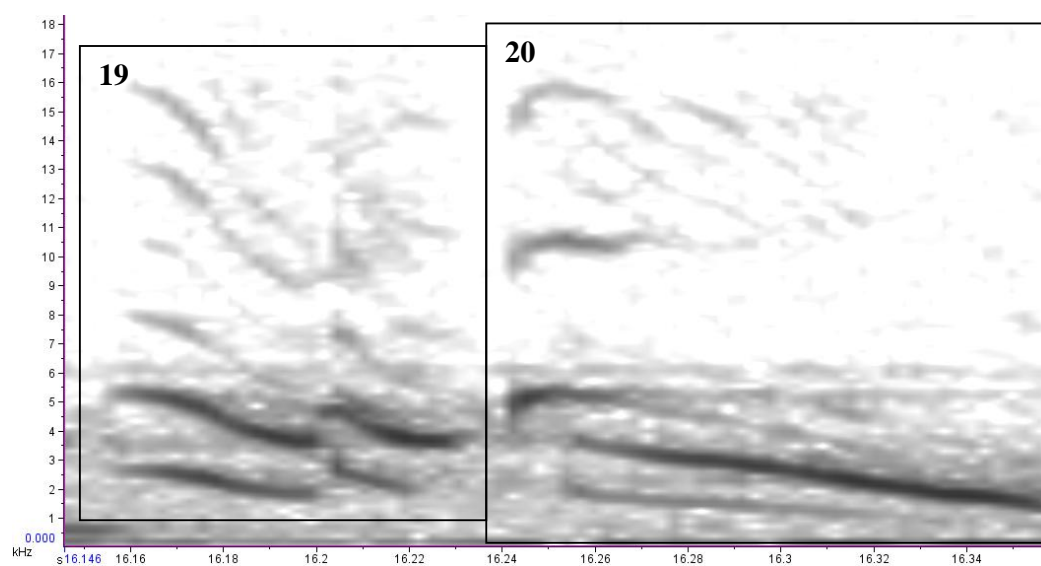
Syllable 256.



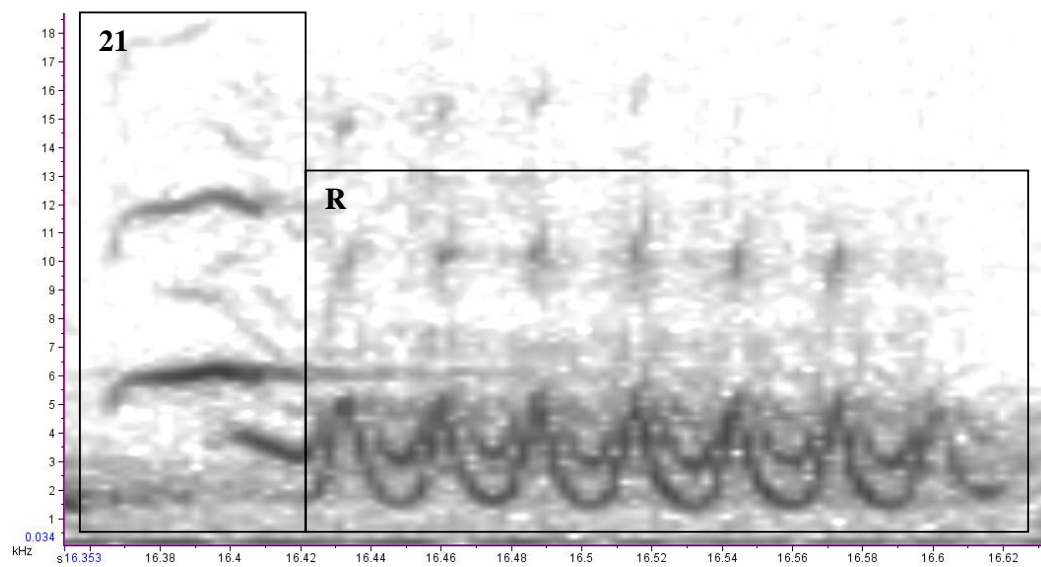
Syllable 257.



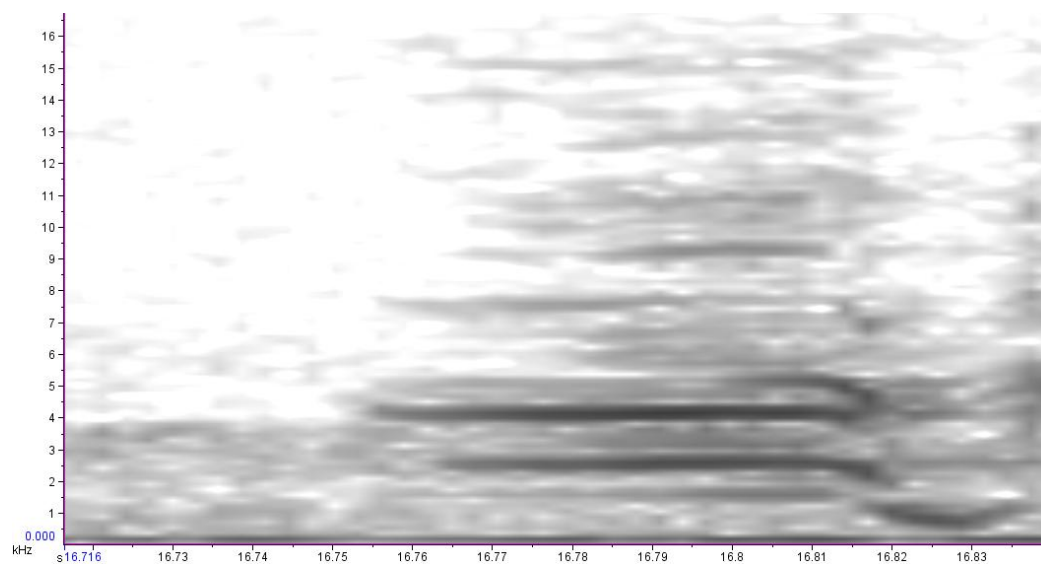
Syllables 258 and 259.



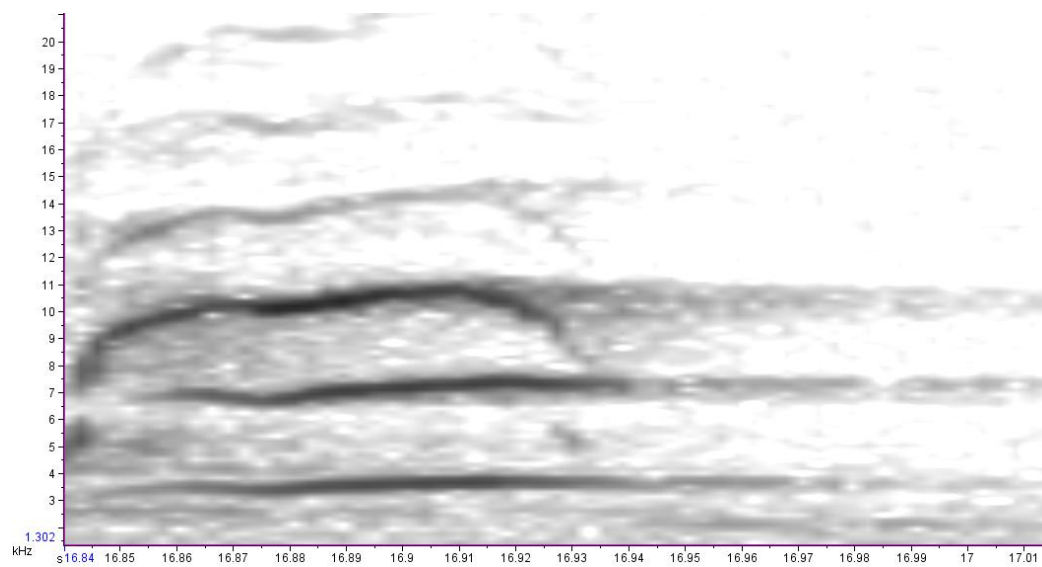
Syllable 260 and 261.



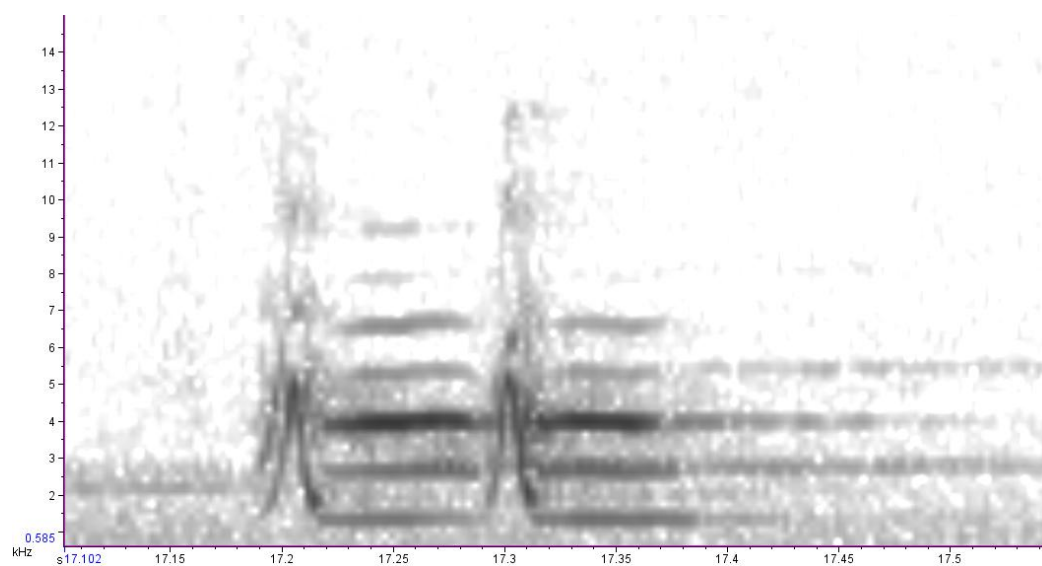
Repeated.



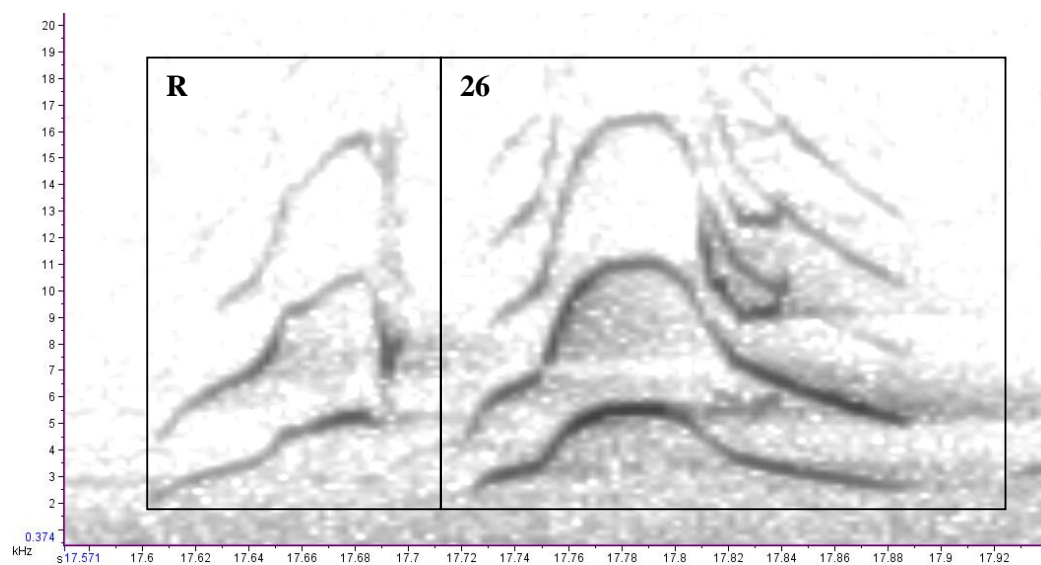
Repeated.



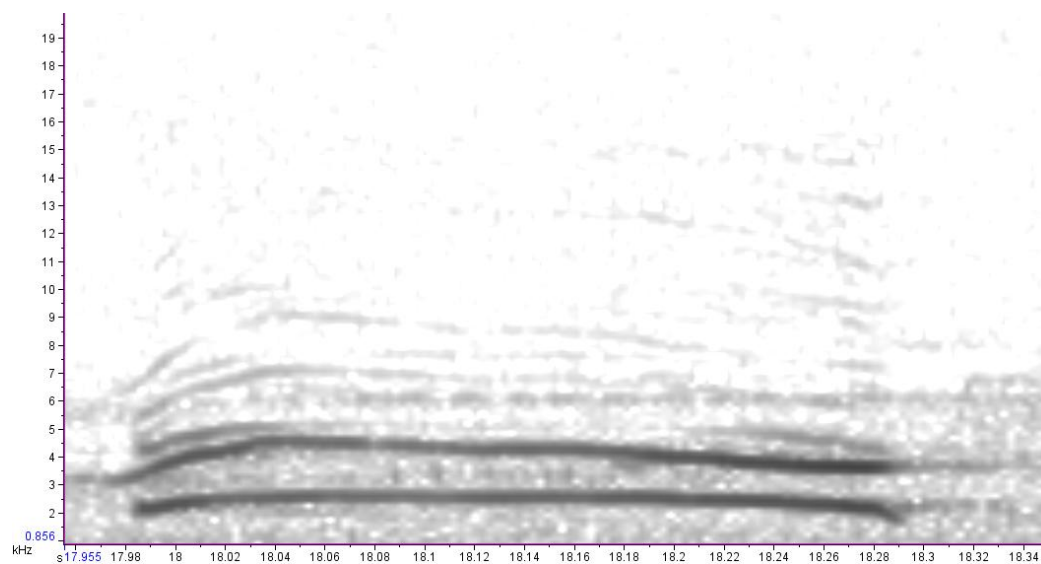
Repeated.



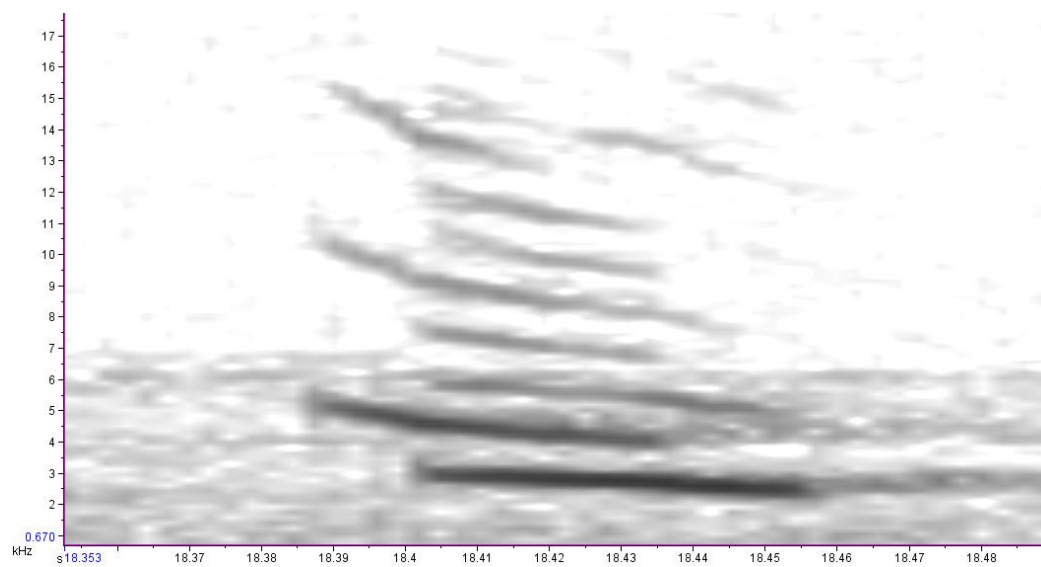
Syllables R and 262.



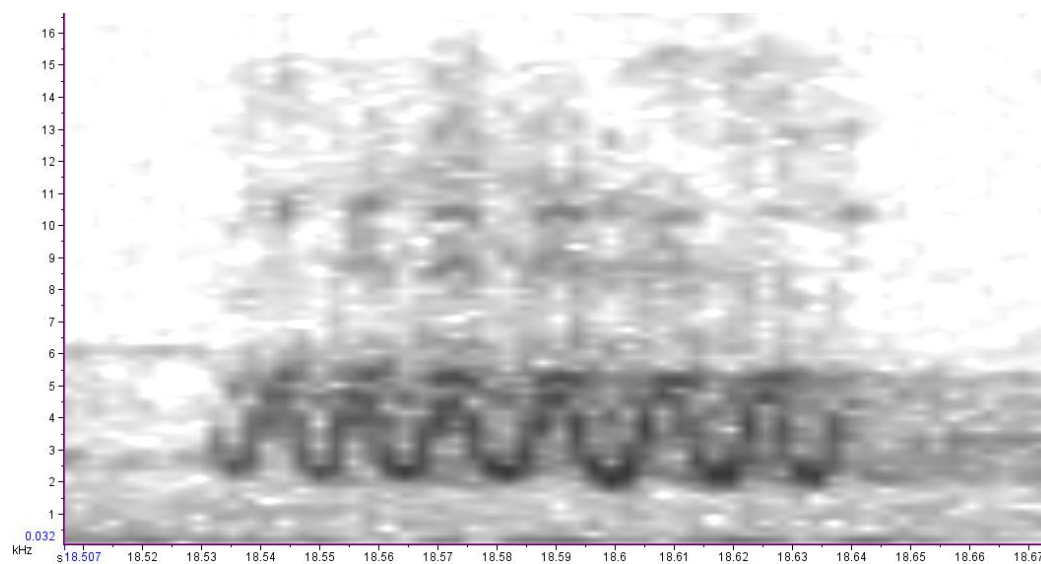
Repeated.



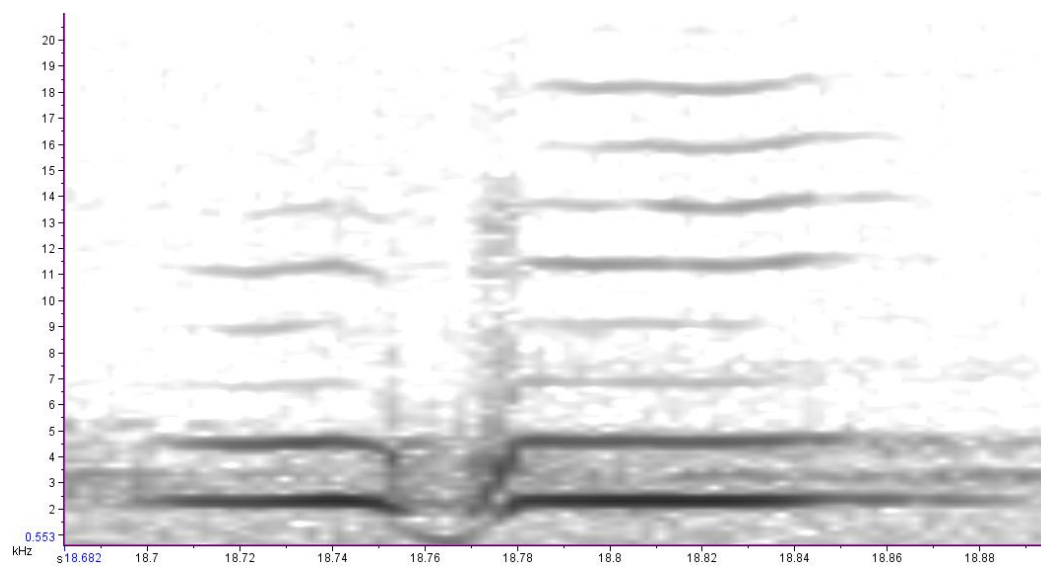
Repeated.



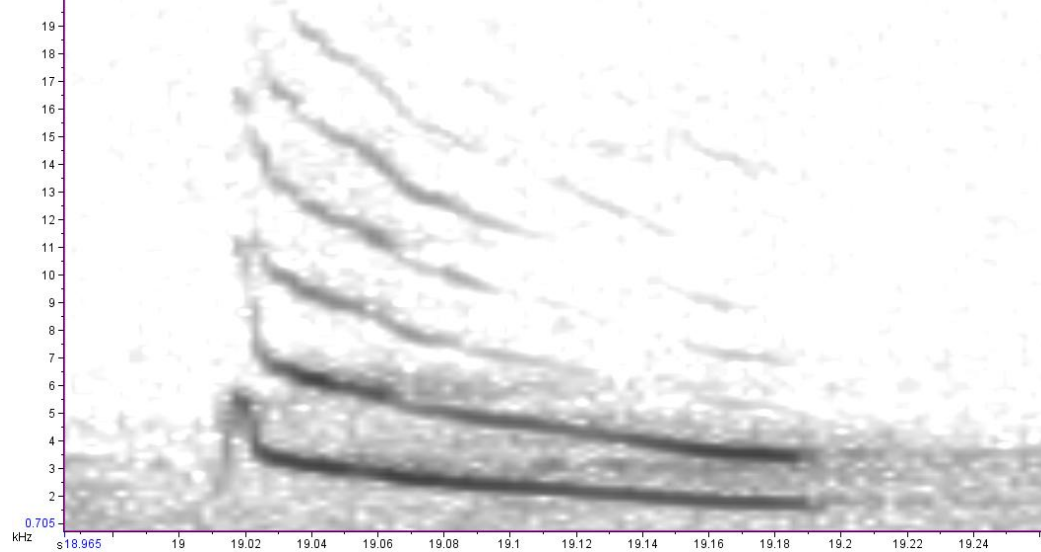
Repeated.



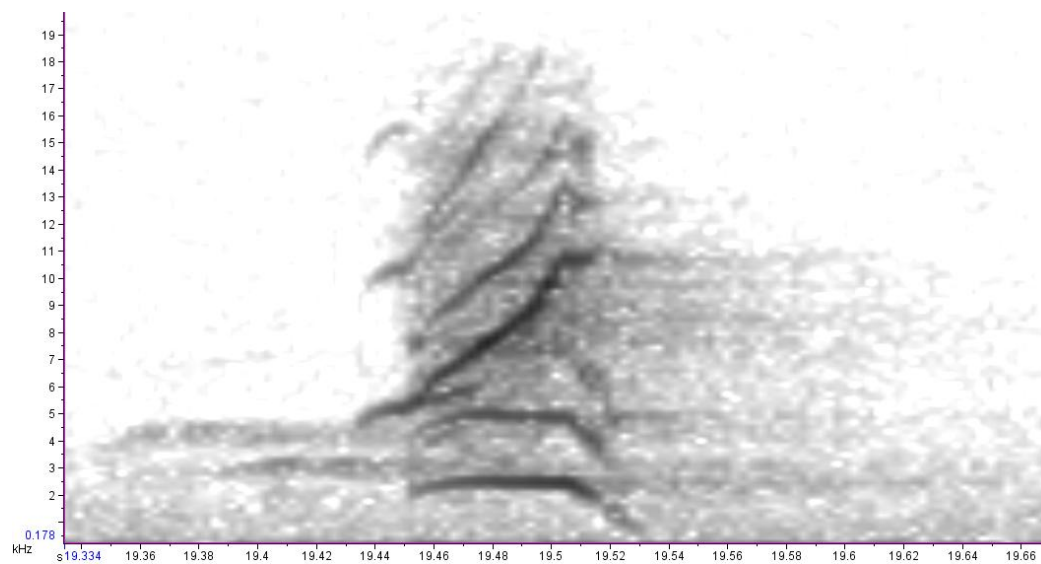
Repeated.



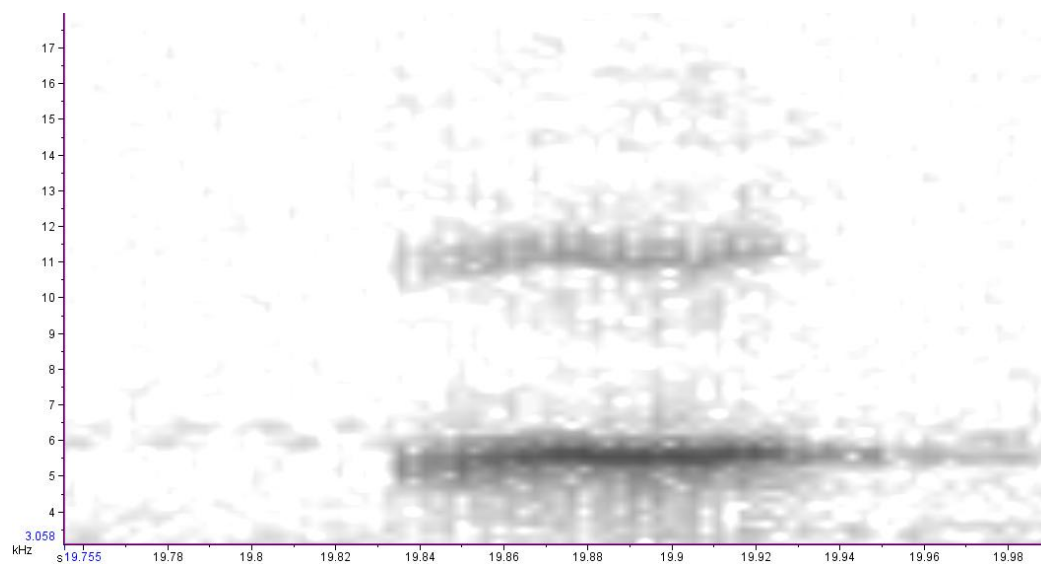
Repeated.



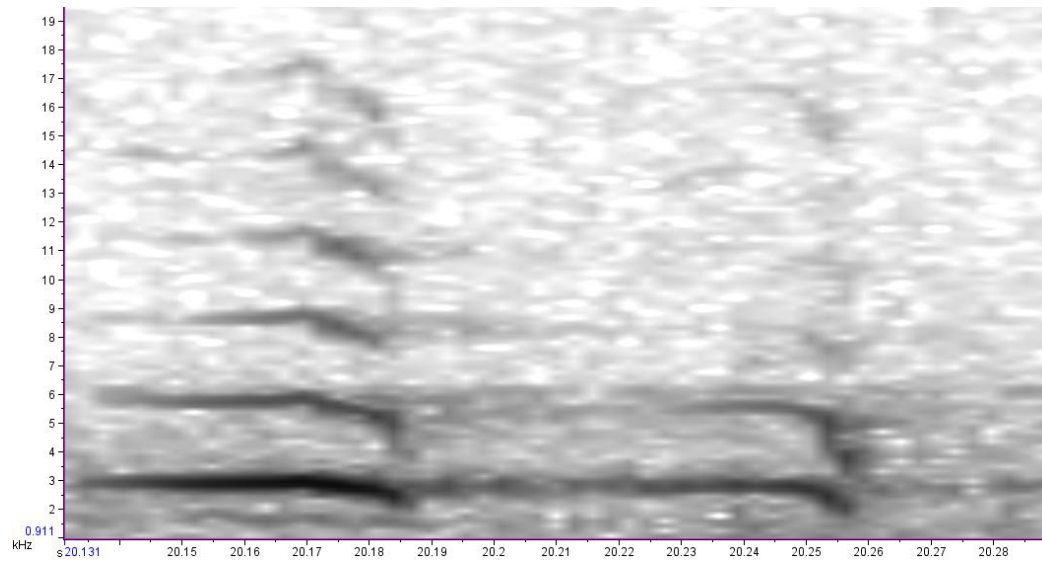
Repeated.



Syllable 263.

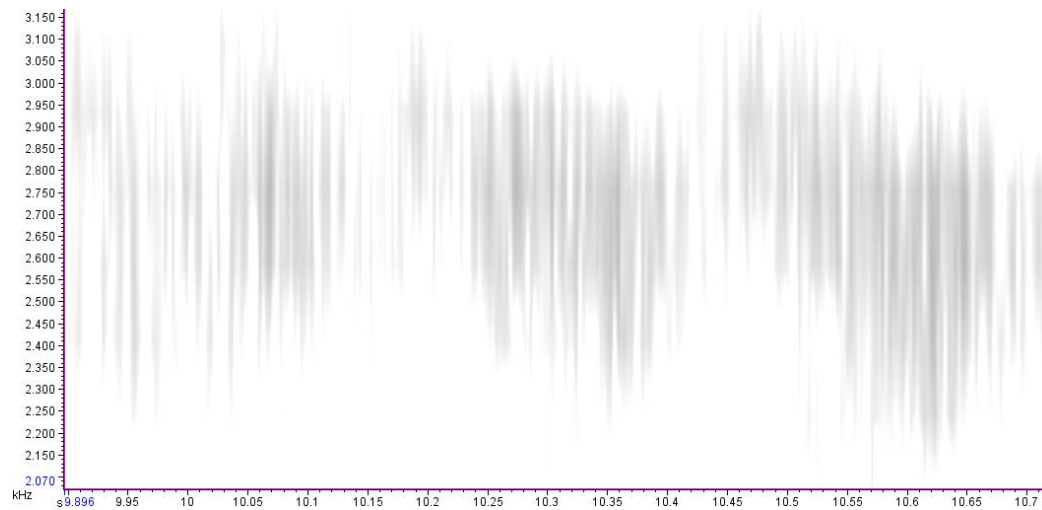


Syllable 264. Conjoined.

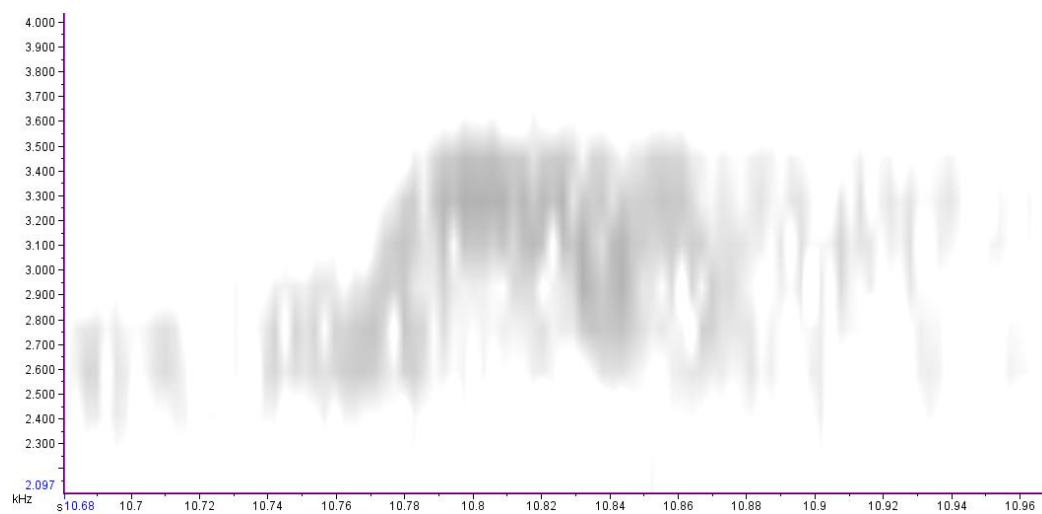


Song 31 – 1006(1) November 30th 2010. Short

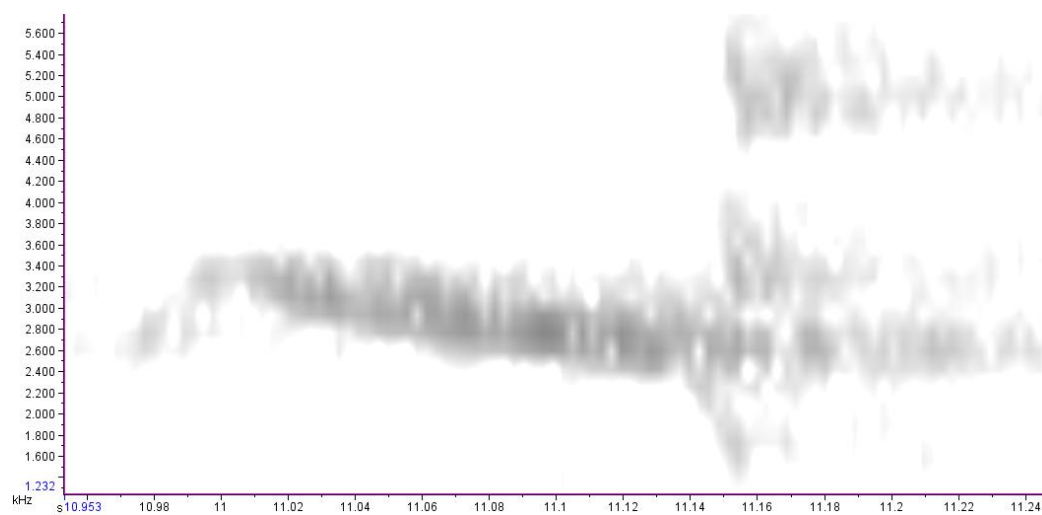
Syllable 1. Part of the ascending crescendo preceding the main part of the song.



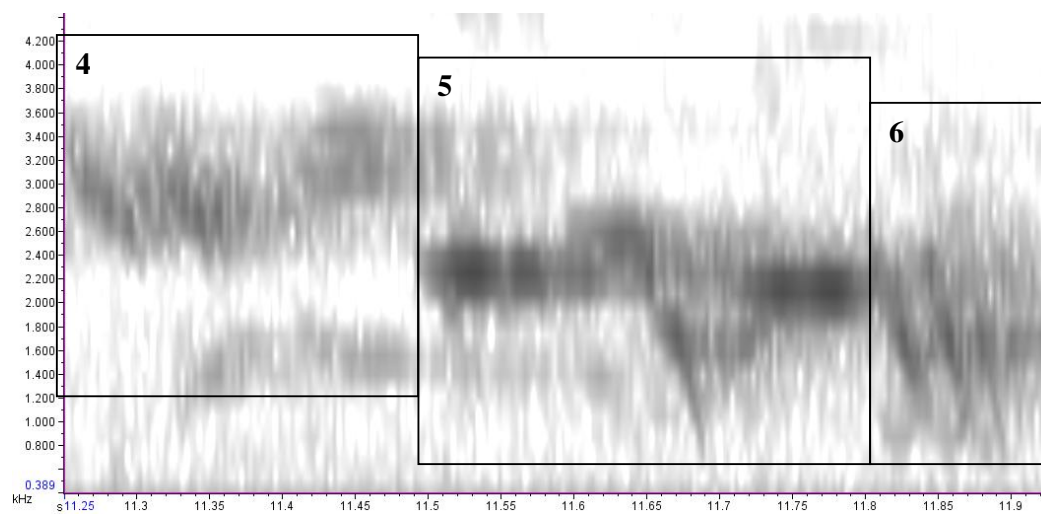
Syllable 2.



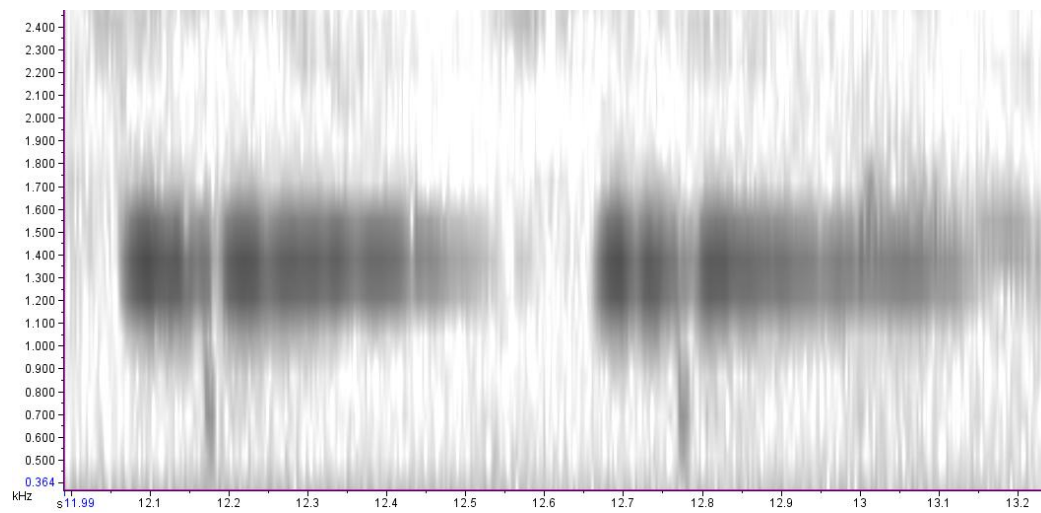
Syllable 3.



Syllables 4-6.

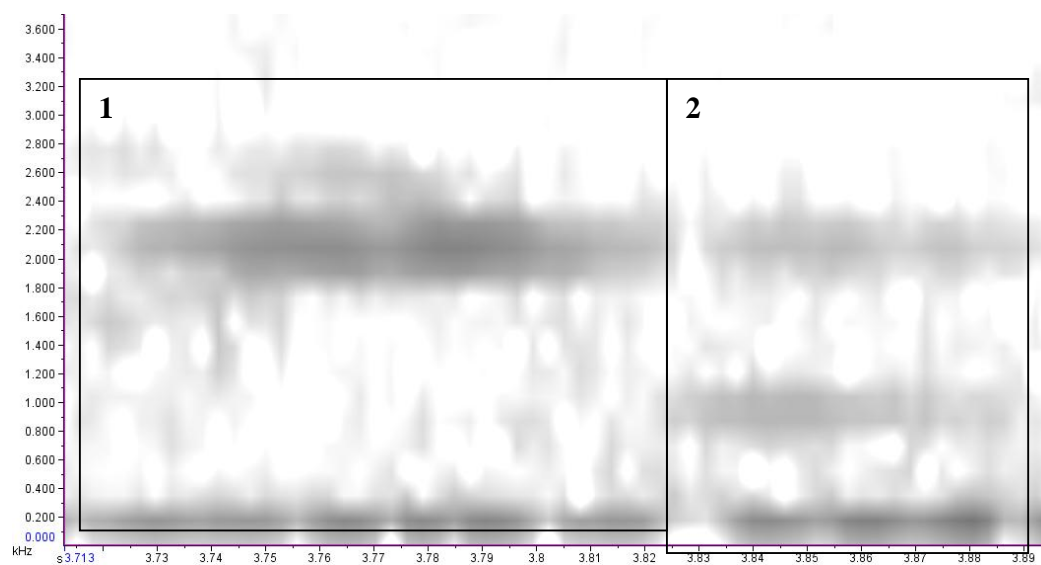


Syllable 7. 2 syllable 7s.

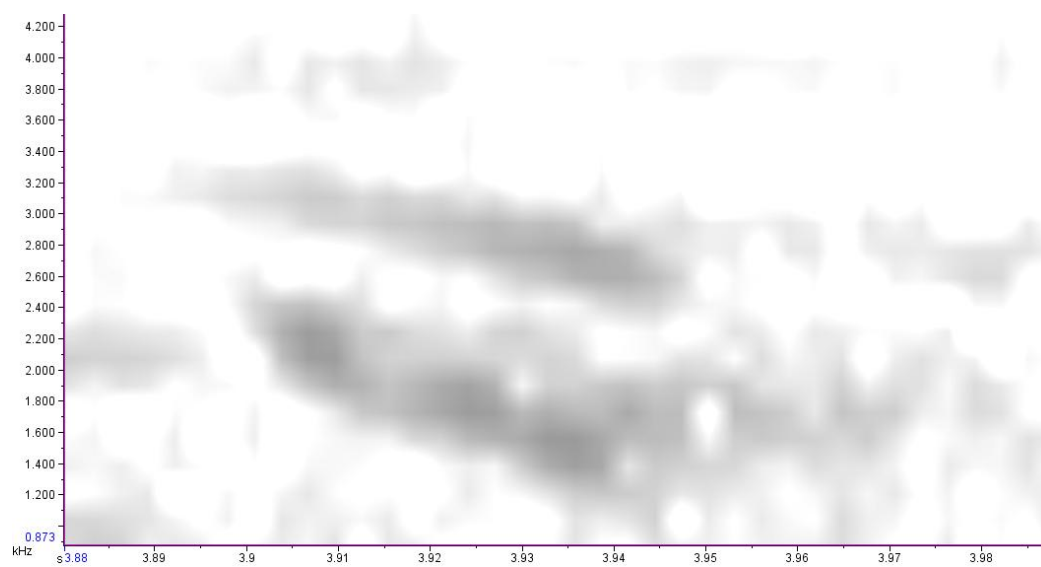


Song 32 - 002-2010-11-23 22_55_00. Short

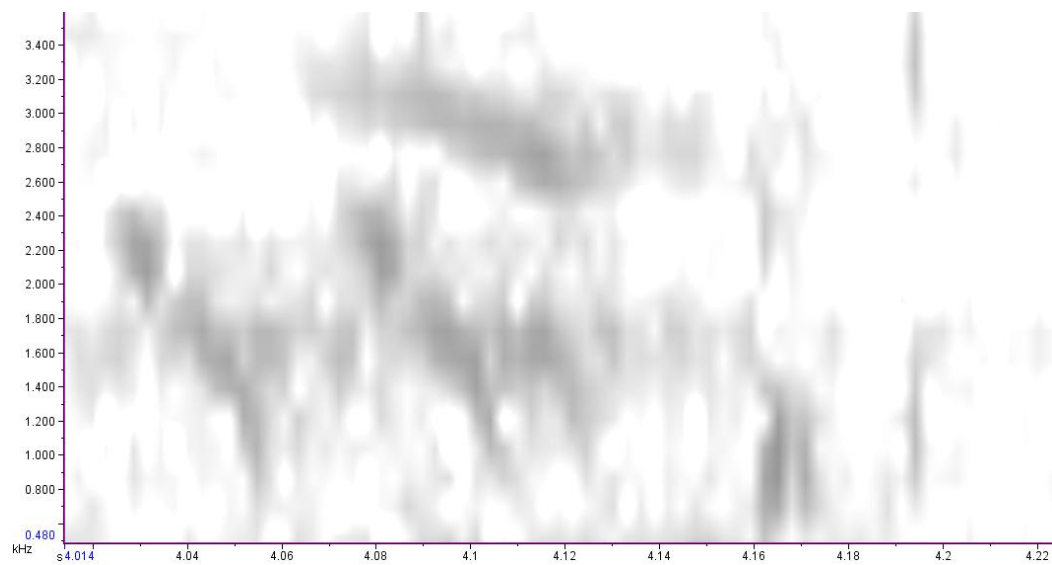
Syllables 1 and 2.



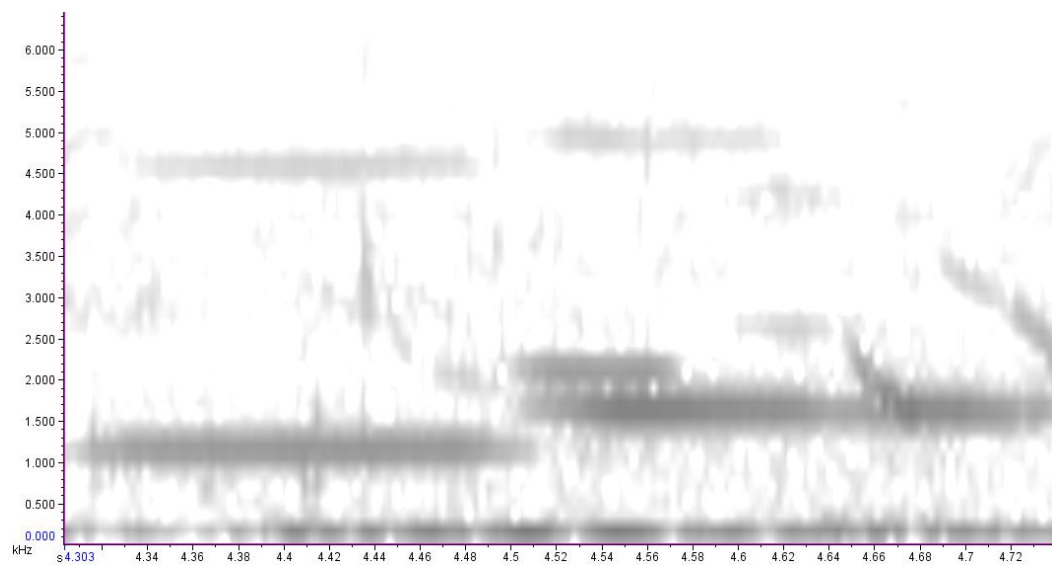
Syllable 3.



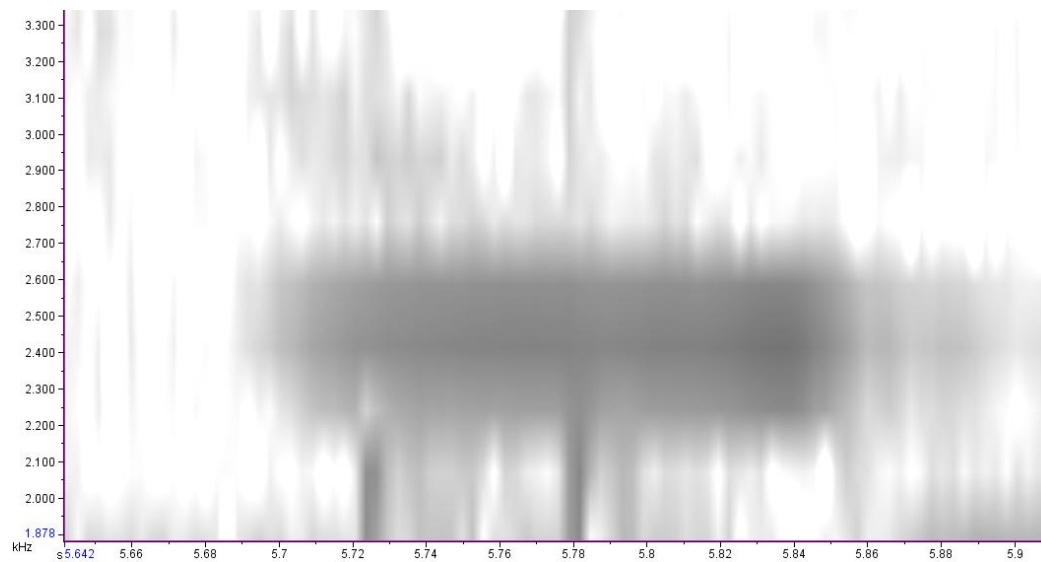
Syllable 4.



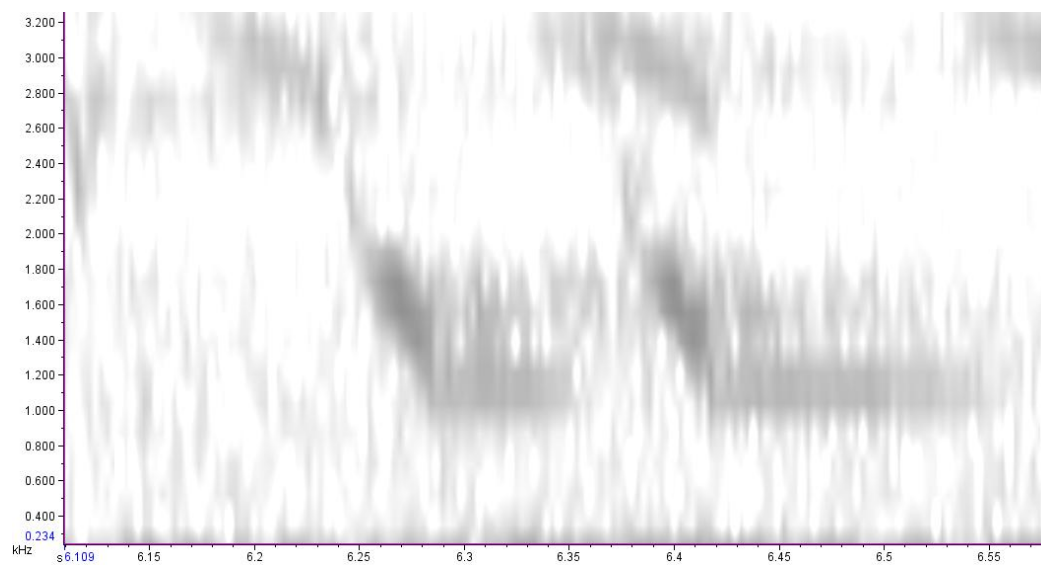
Syllable 5. Overlapping components, so considered one syllable.



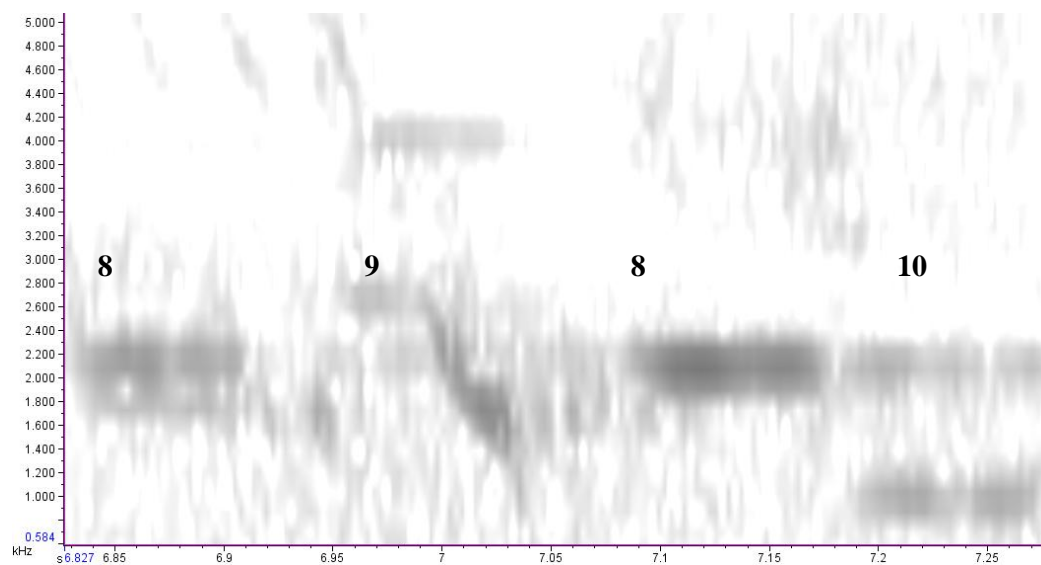
Syllable 6.



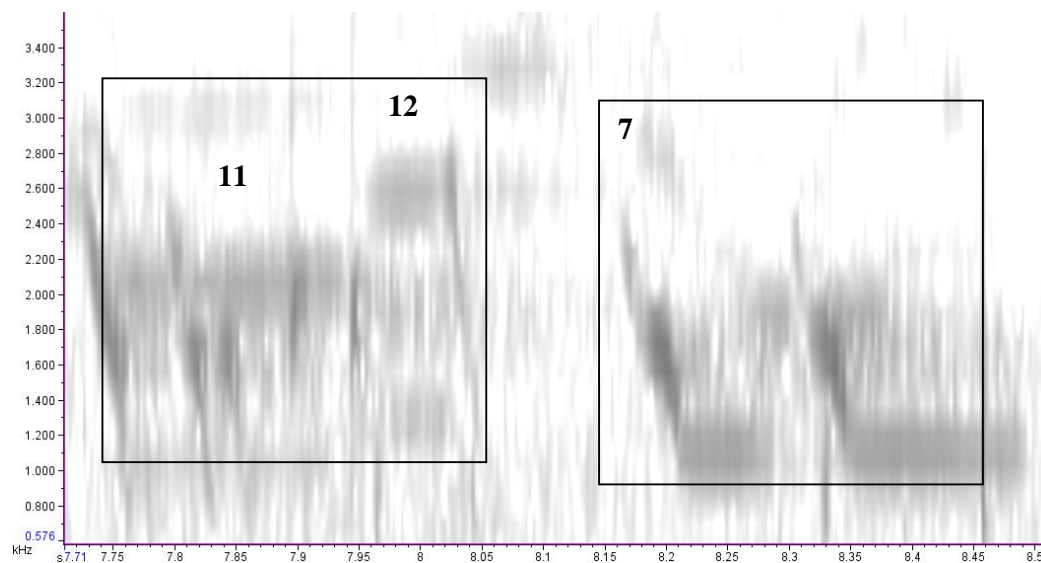
Syllable 7.



Syllables 8-10.

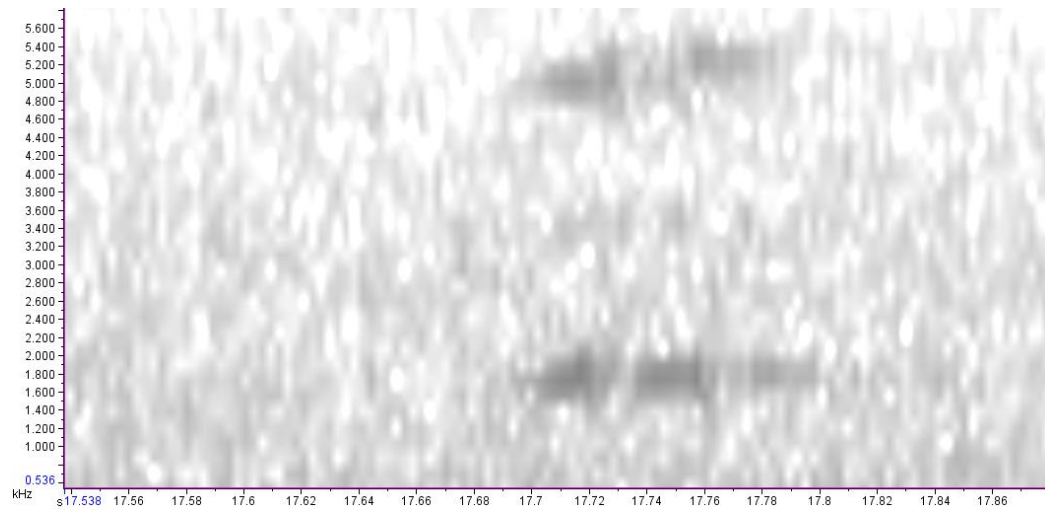


Syllables 11 and 12 and a repeat of syllable 7.

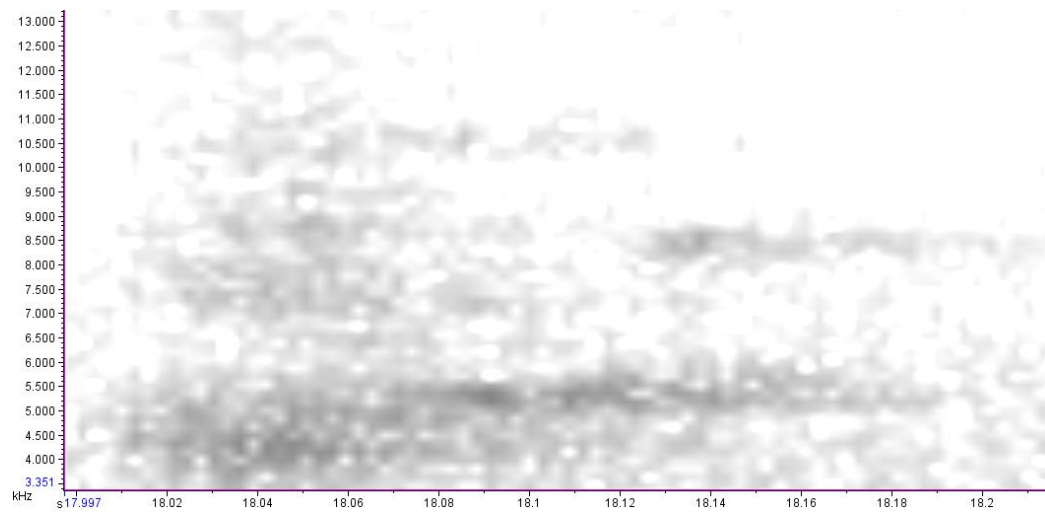


Song 33 – 1023 (December 9th). Long

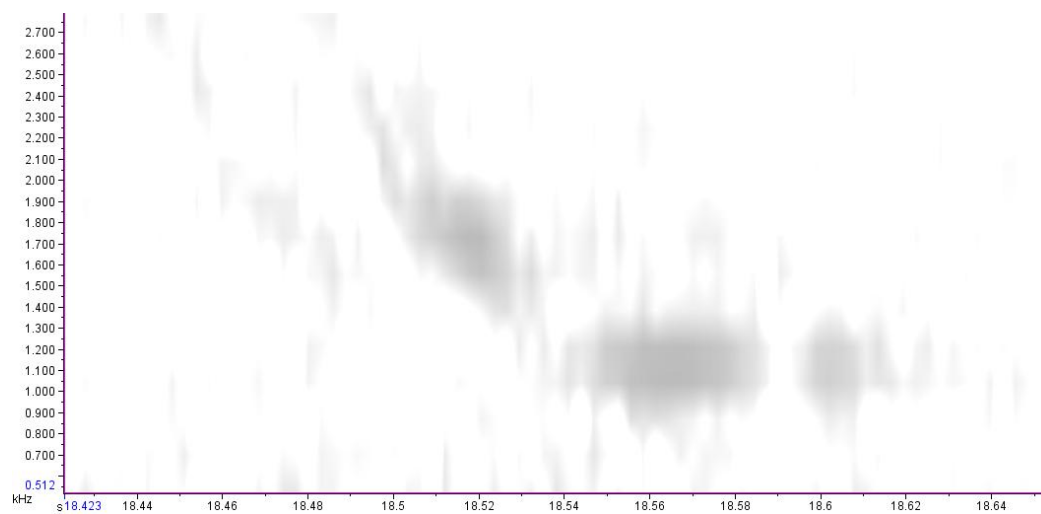
Syllable 1.



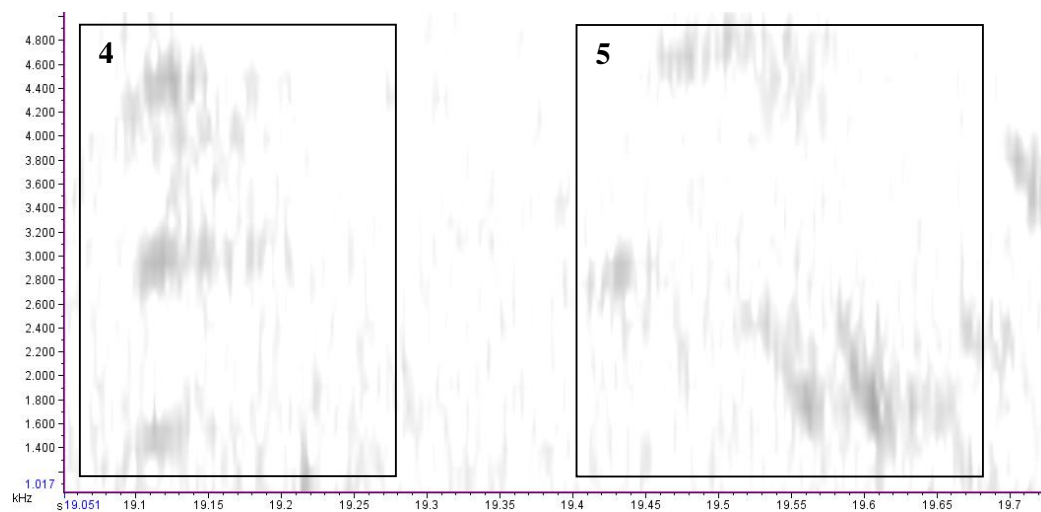
Syllable 2.



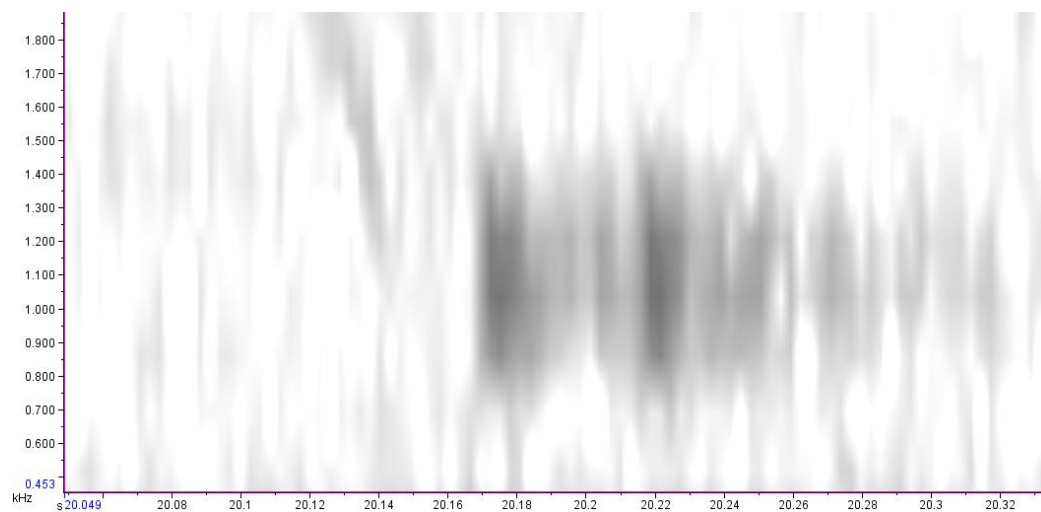
Syllable 3.



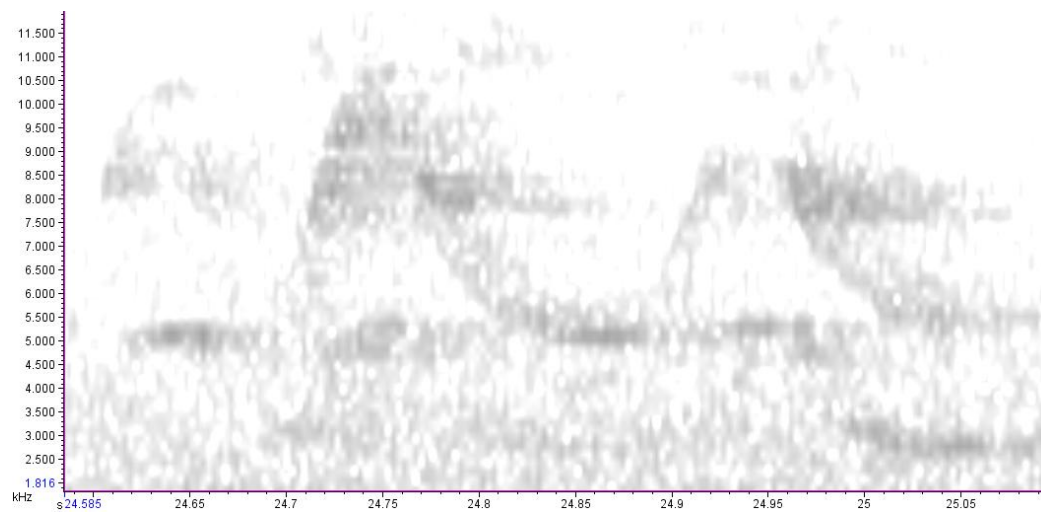
Syllable 4 and 5. Wolf-whistle syllables.



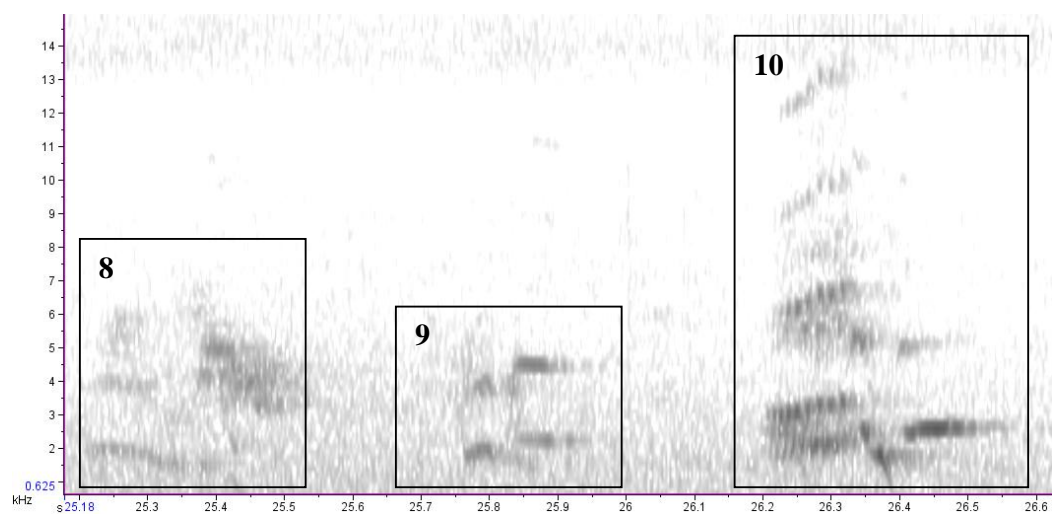
Syllable 6. A double-knock syllable.



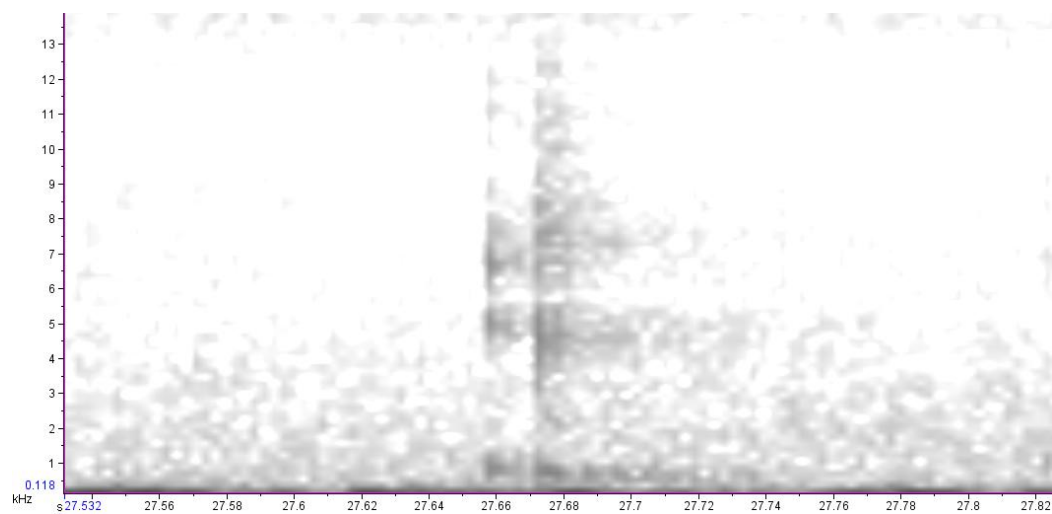
Syllable 7.



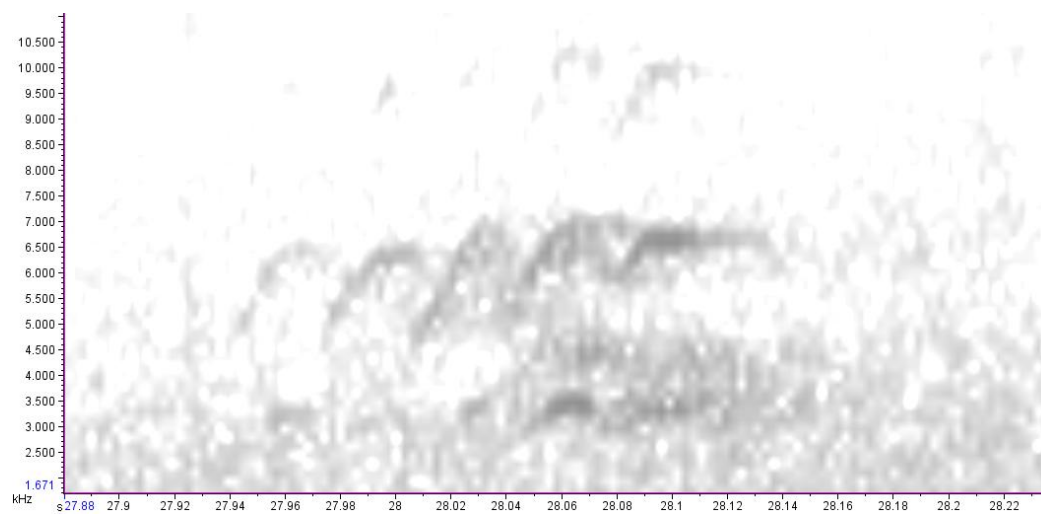
Syllables 8-10. Syllables 8 and 9 are common Jones Bay syllables (part of the Jones Bay ‘homogeneous’ region).



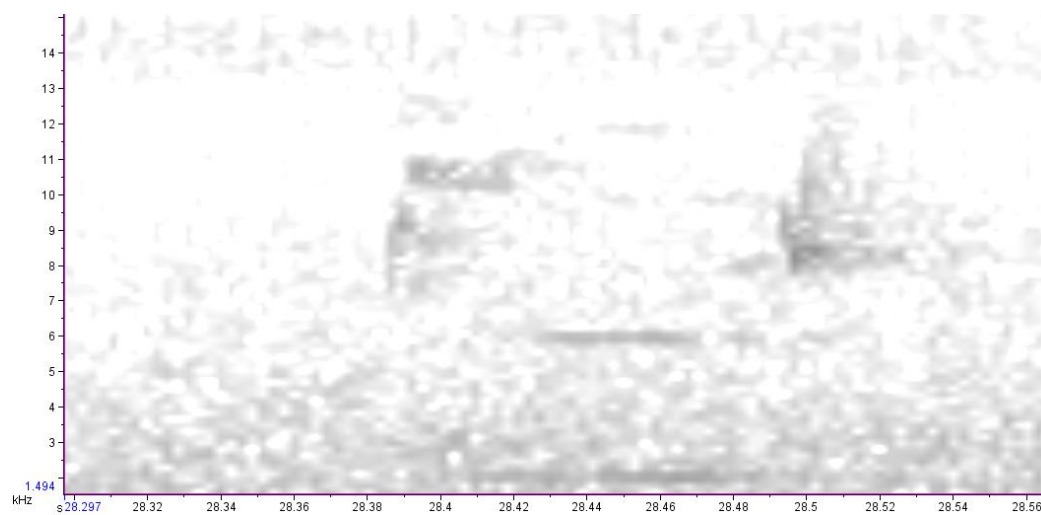
Syllable 11.



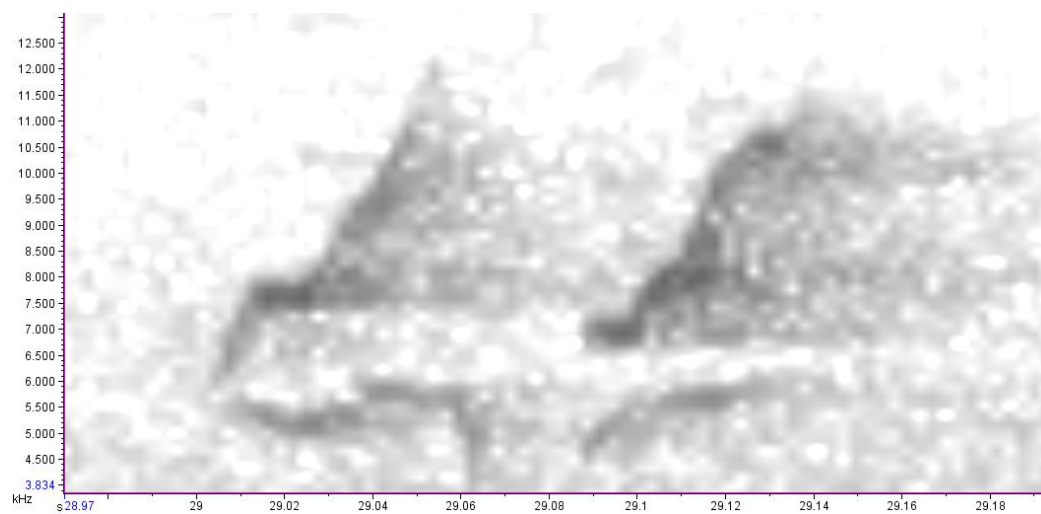
Syllable 12.



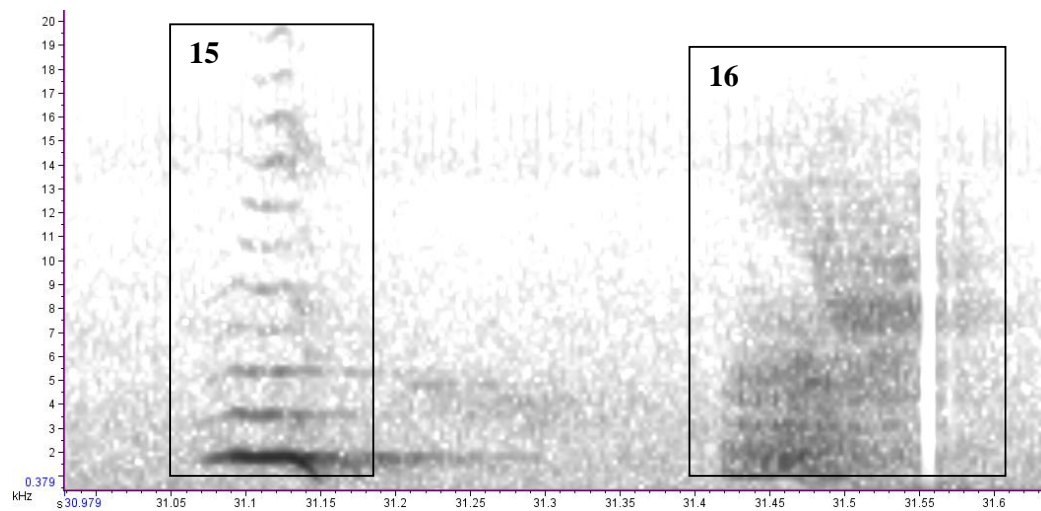
Syllable 13.



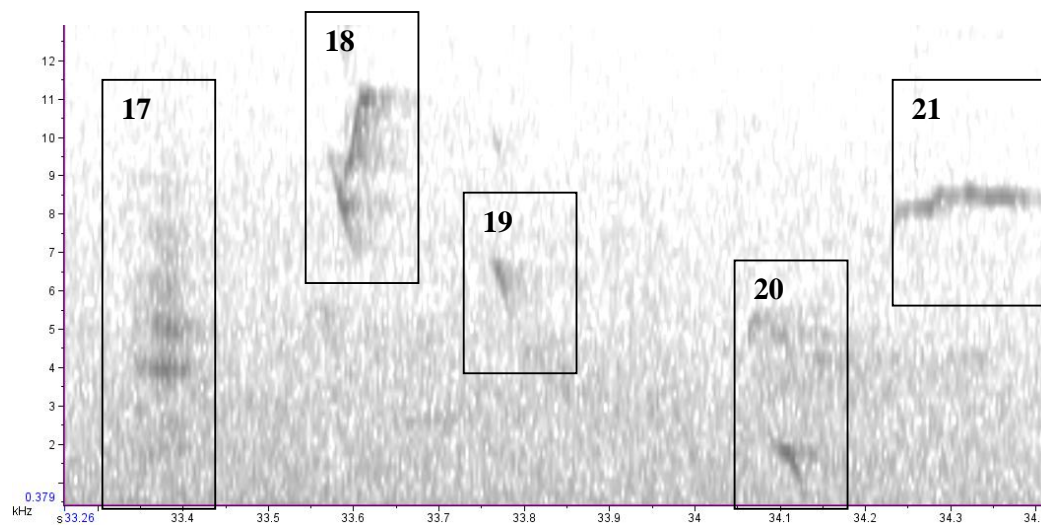
Syllable 14.



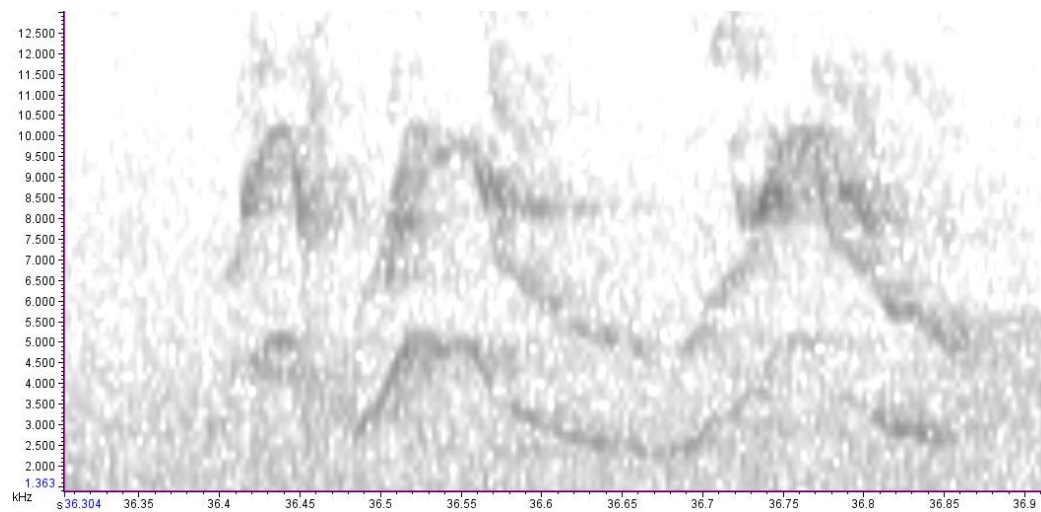
Syllables 15 and 16. Common syllables. Often terminal syllables.



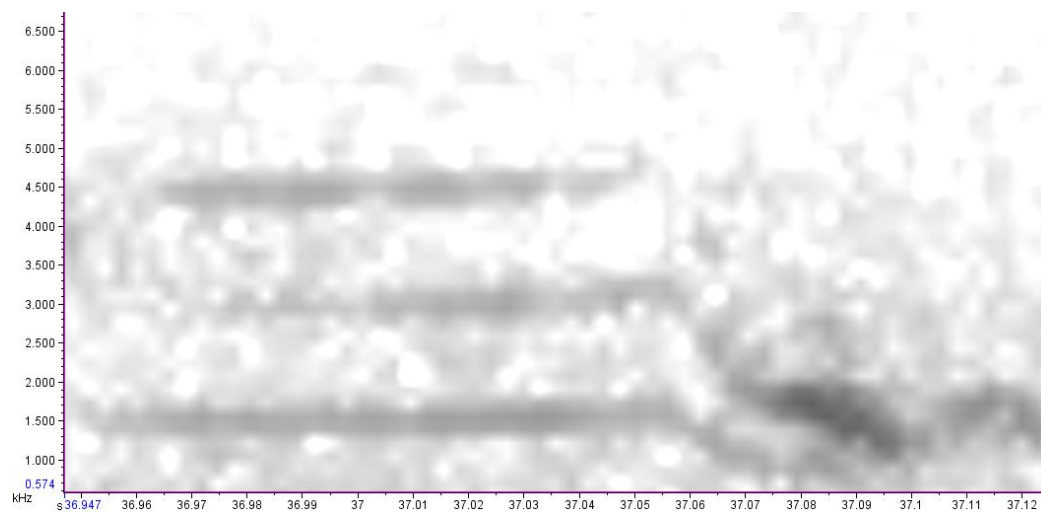
Syllables 17-21.



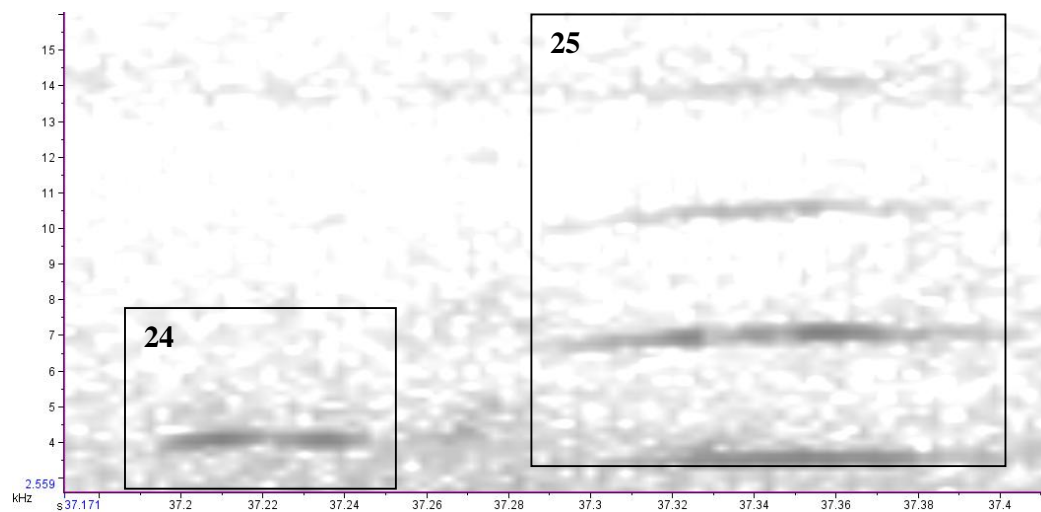
Syllable 22.



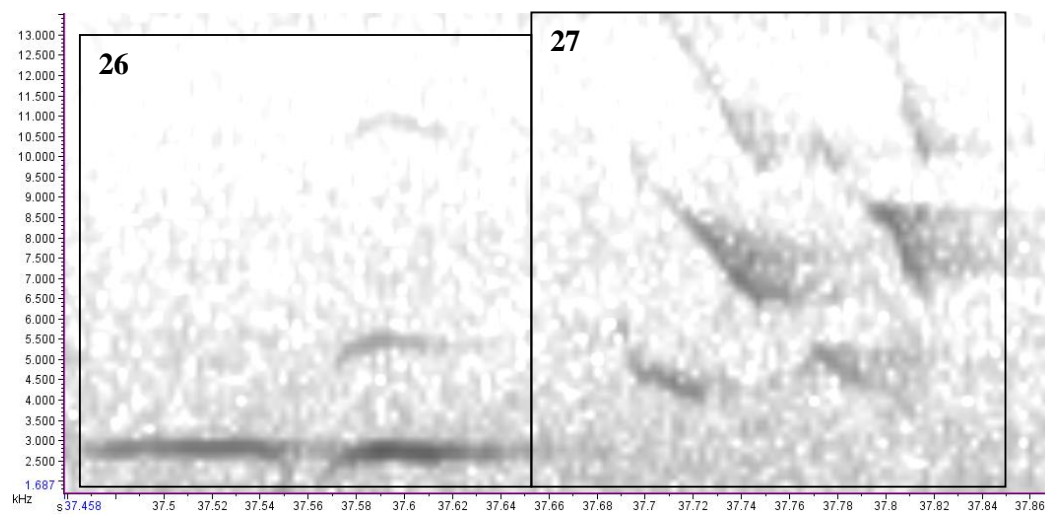
Syllable 23.



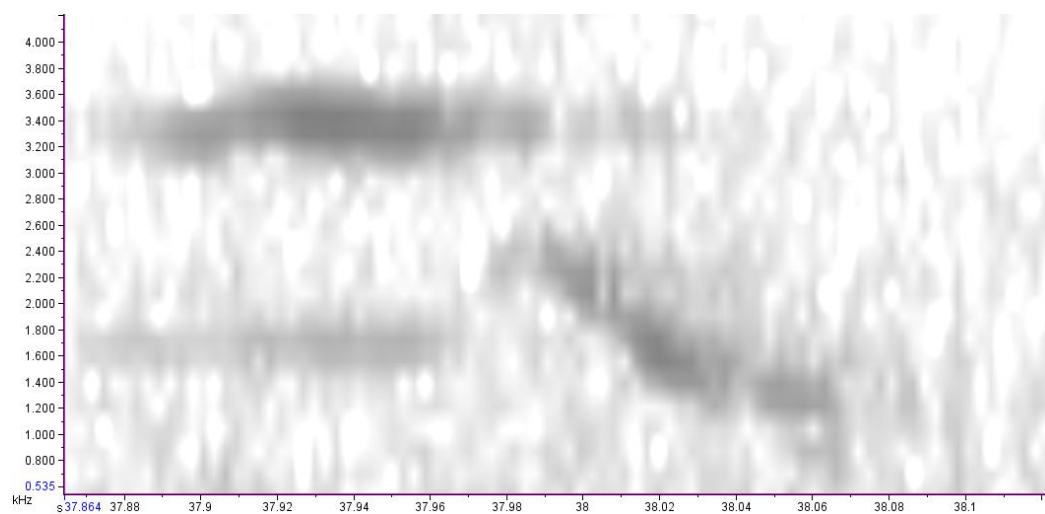
Syllables 24 and 25. Syllable 25 a harmonic.



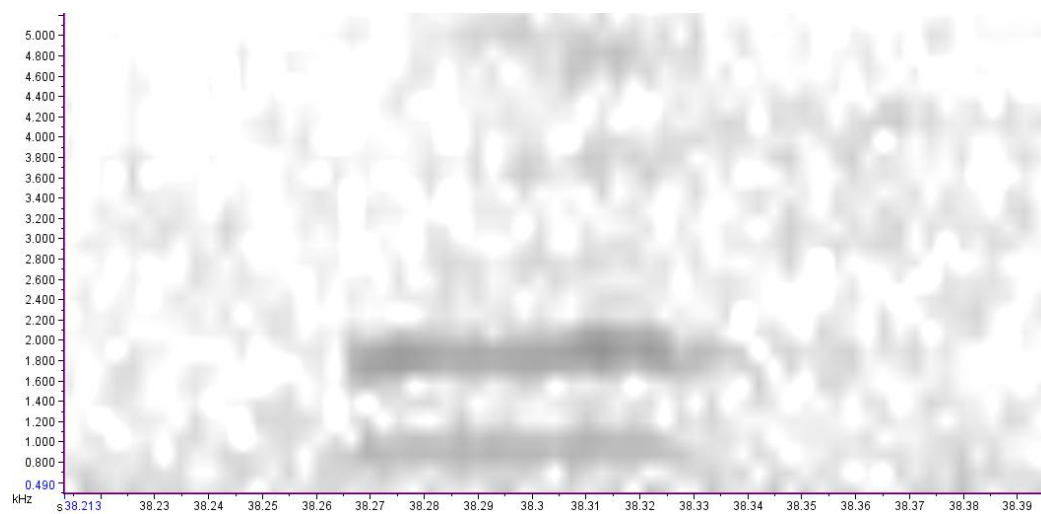
Syllables 26 and 27.



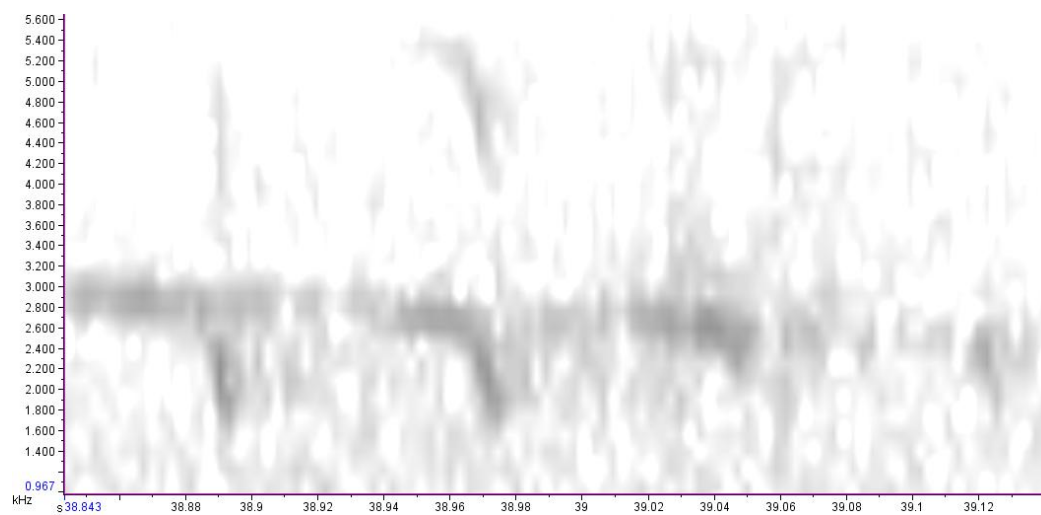
Syllable 28.



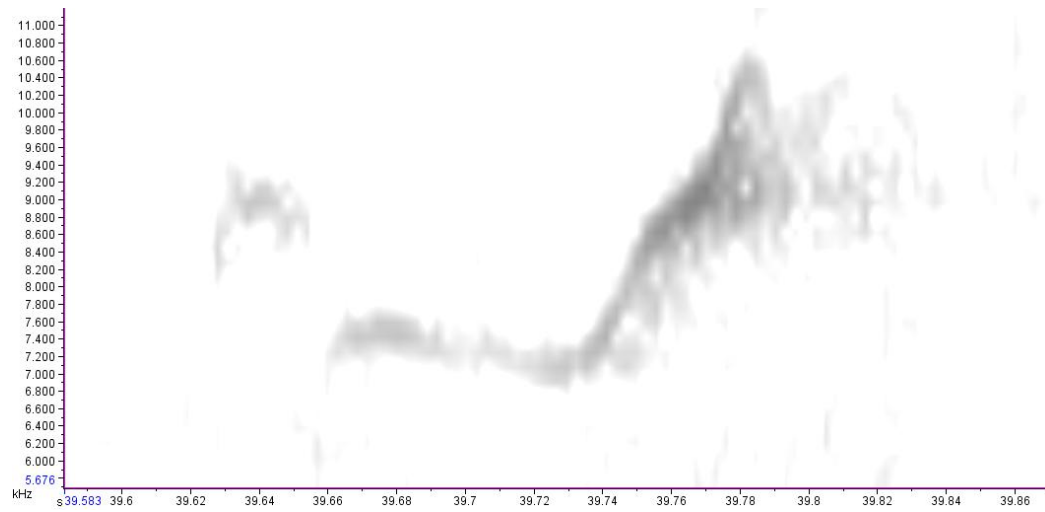
Syllable 29.



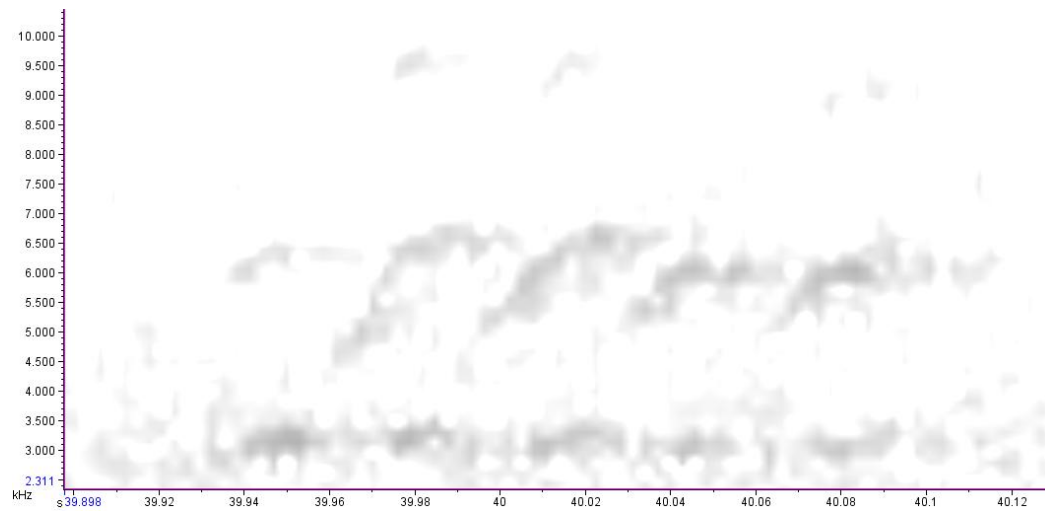
Syllable 30.



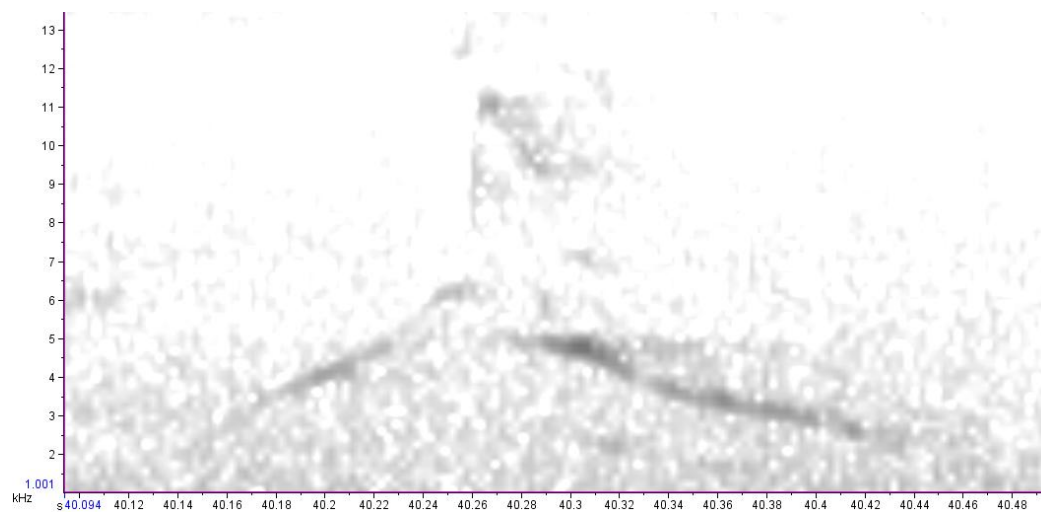
Syllable 31.



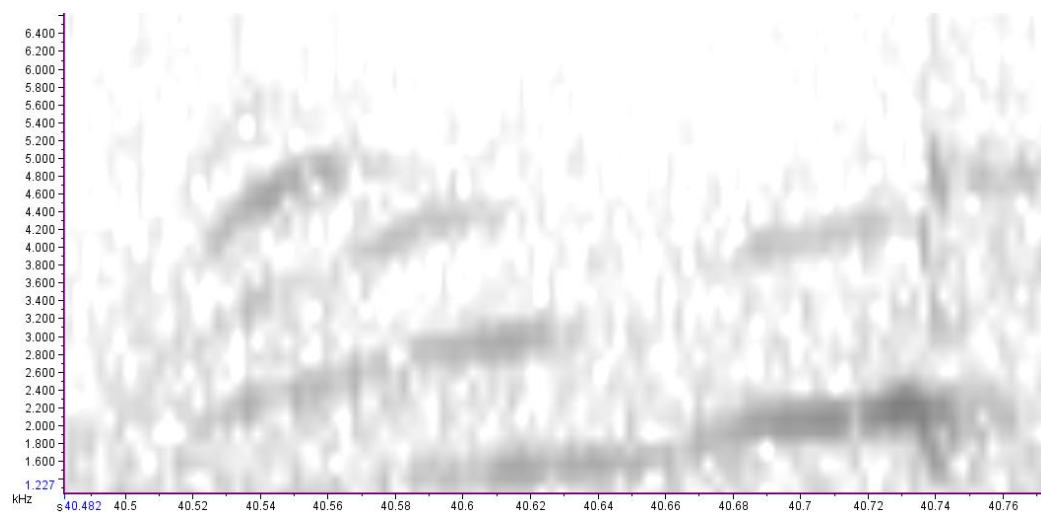
Syllable 32.



Syllable 33.

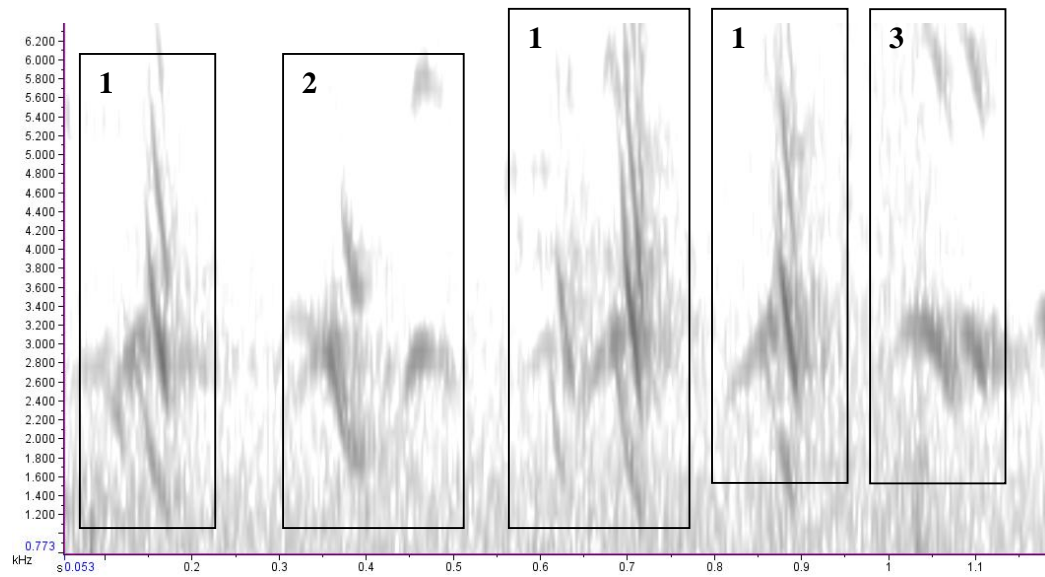


Syllable 34.

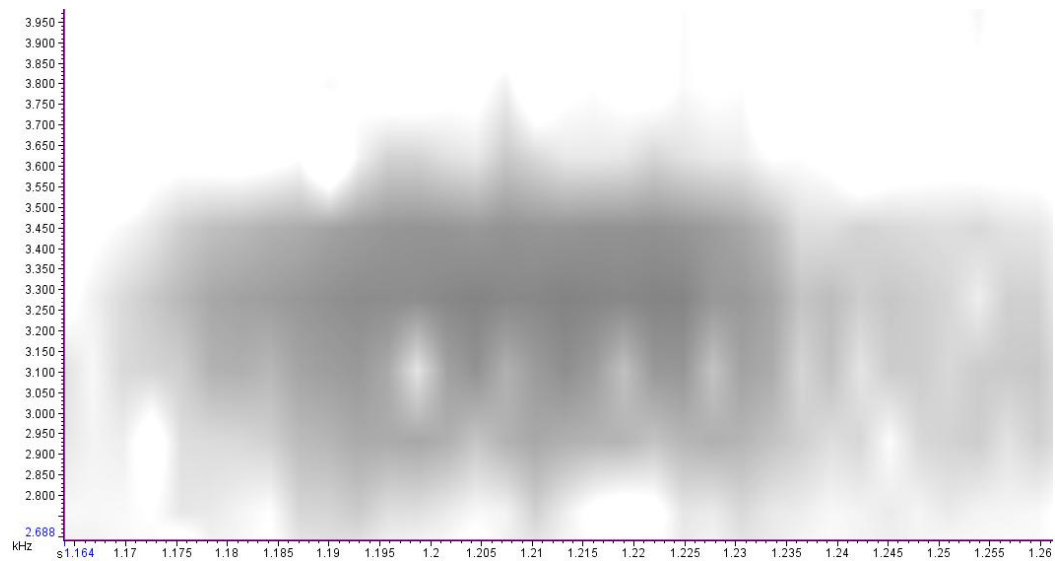


Song 34 - 012-2010-11-23 22_02_31. Short

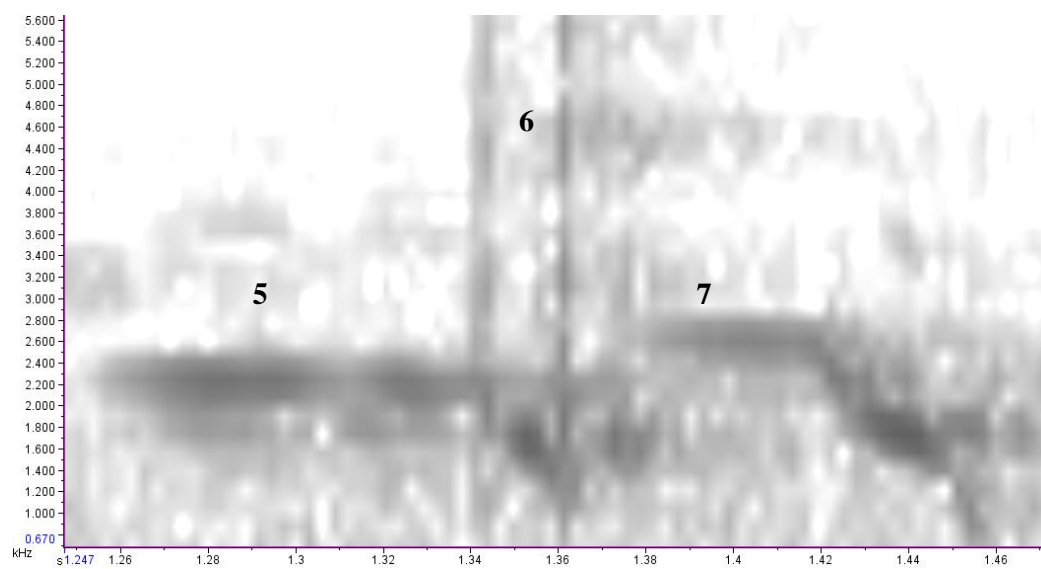
Syllables 1-3. Ascending crescendo preceding main part of song.



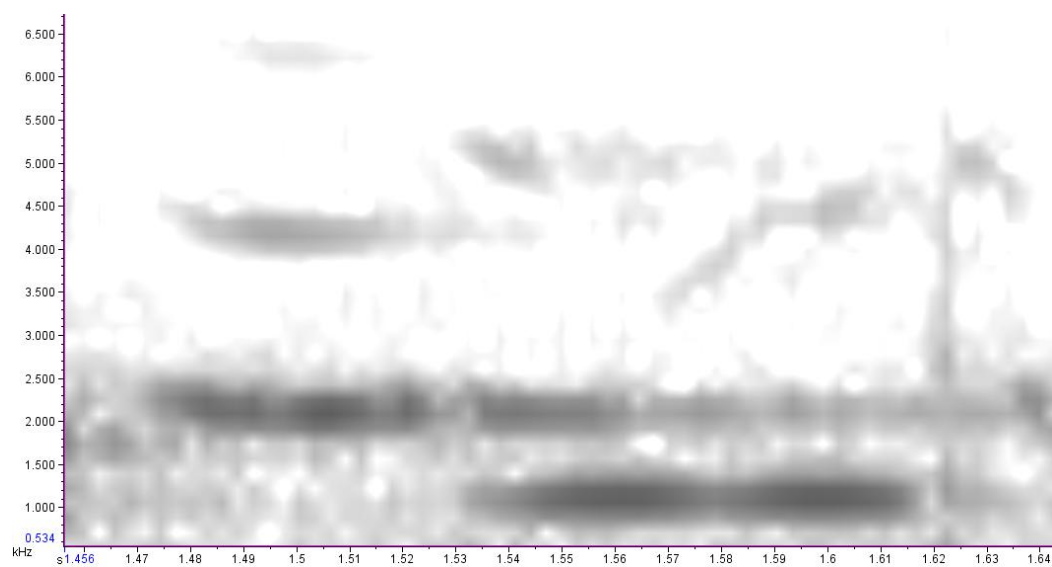
Syllable 4.



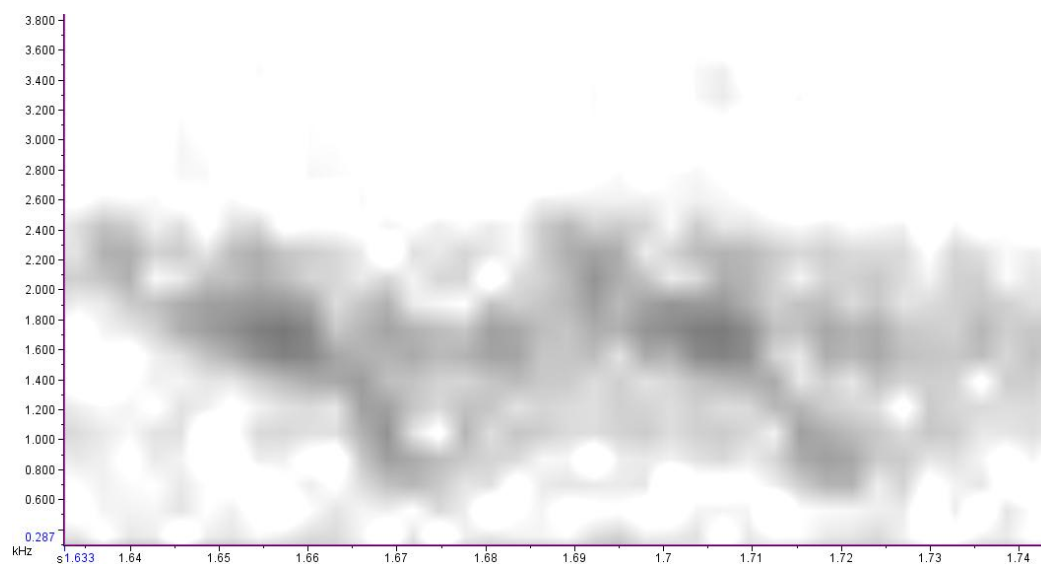
Syllables 5-7.



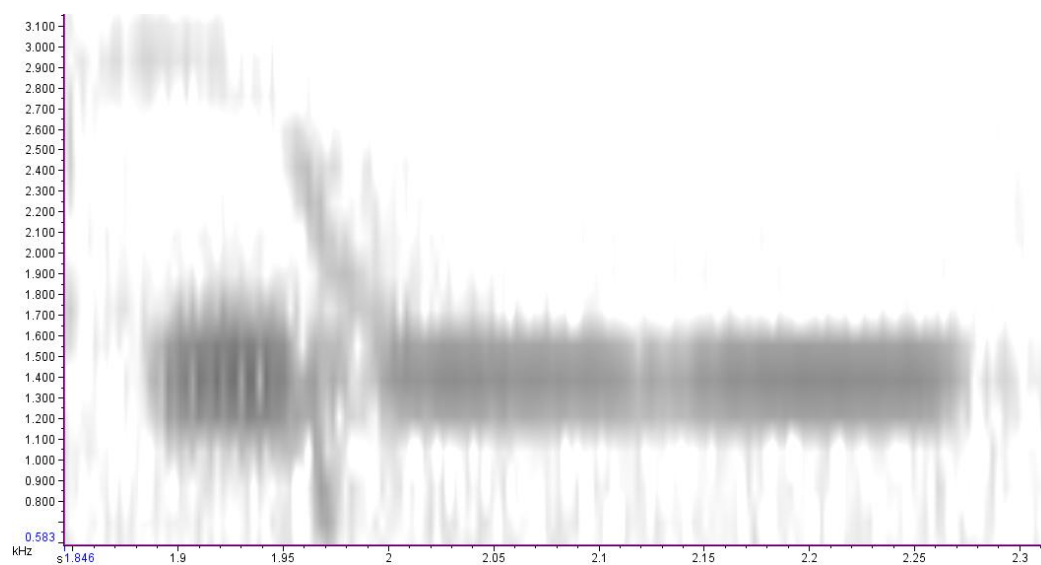
Syllable 8. Conjoined, so considered one syllable.



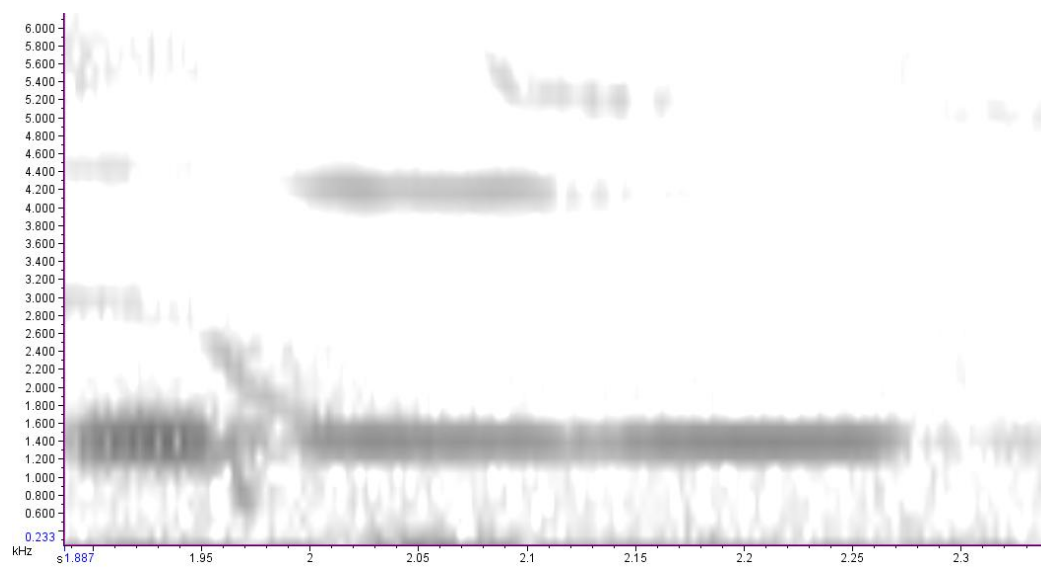
Syllable 9.



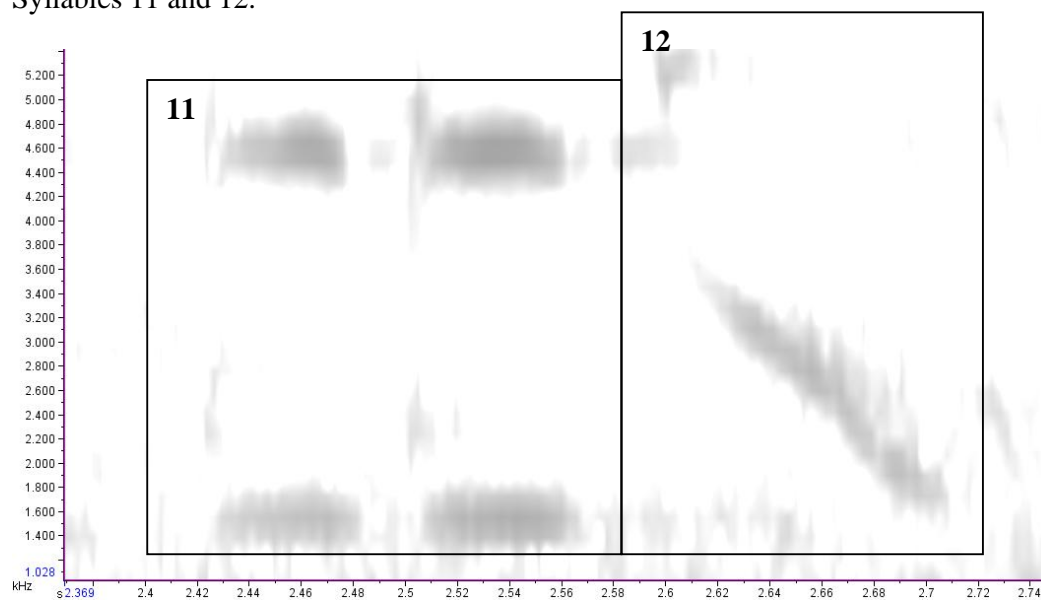
Syllable 10. Same syllable type as syllable 7 of song 31.



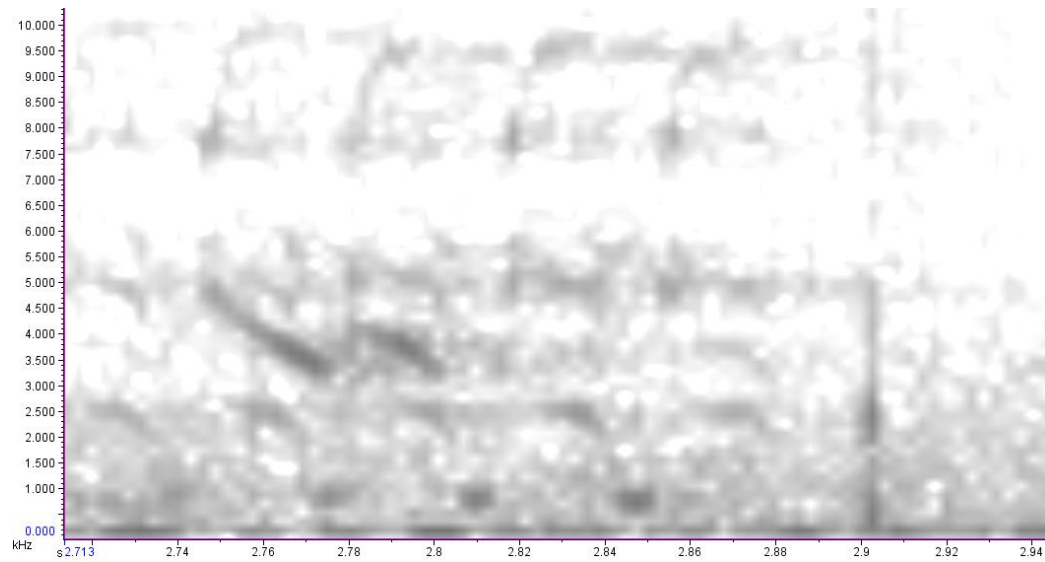
A zoomed-out image of syllable 10.



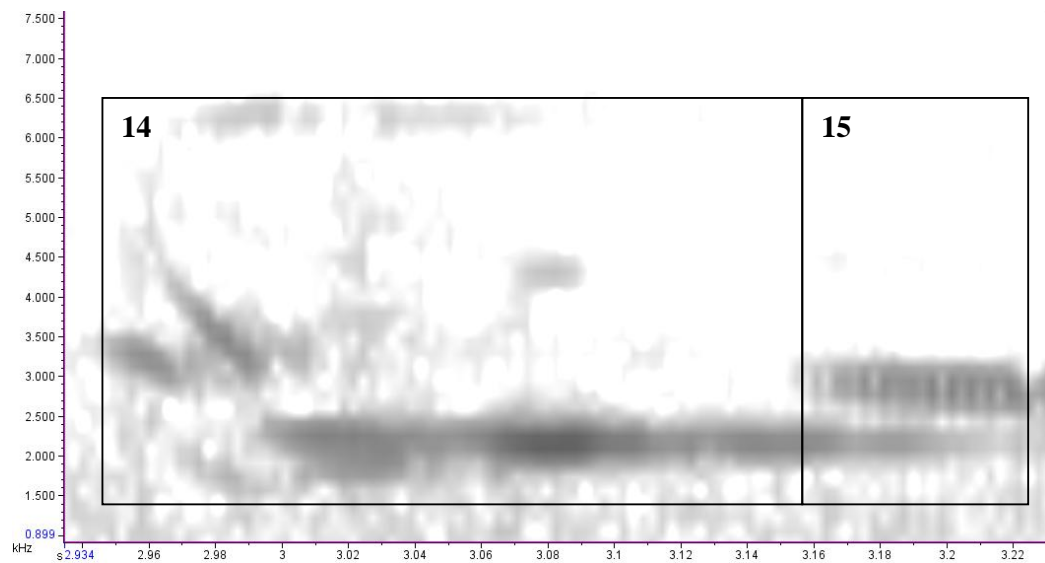
Syllables 11 and 12.



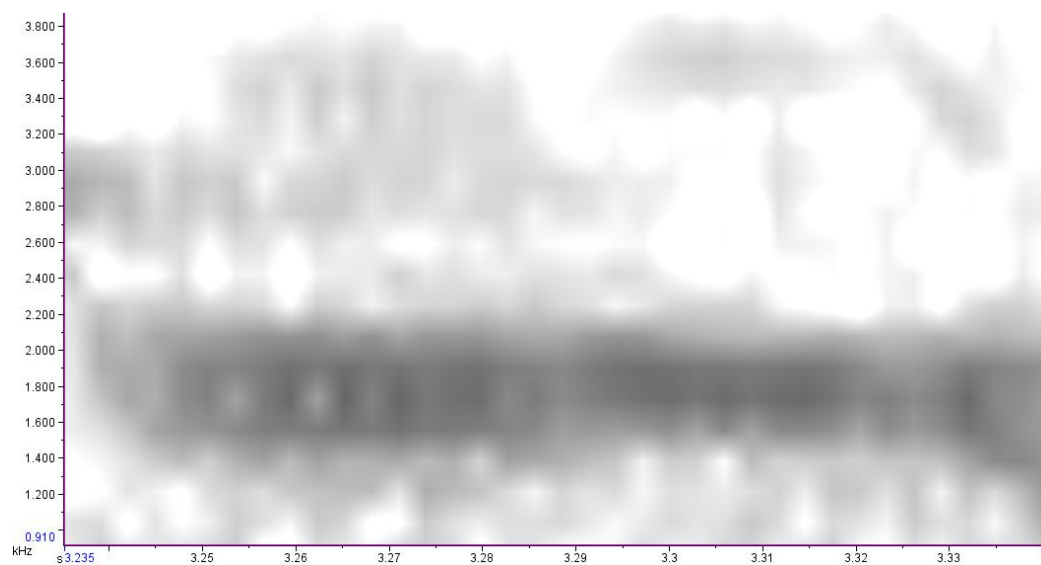
Syllable 13.



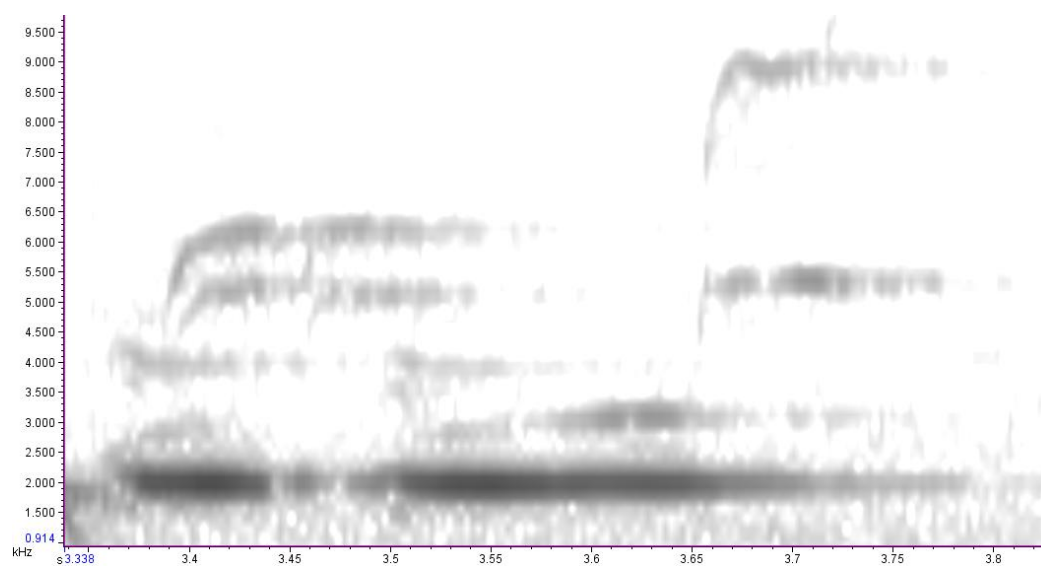
Syllables 14 and 15. Syllable 15 a different syllable due to different structure and sound.



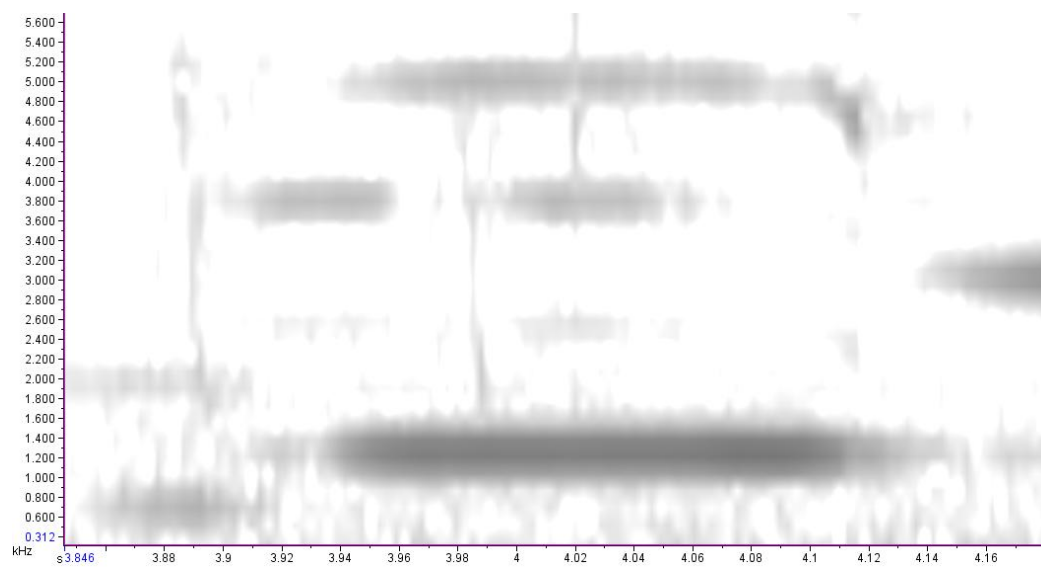
Syllable 16.



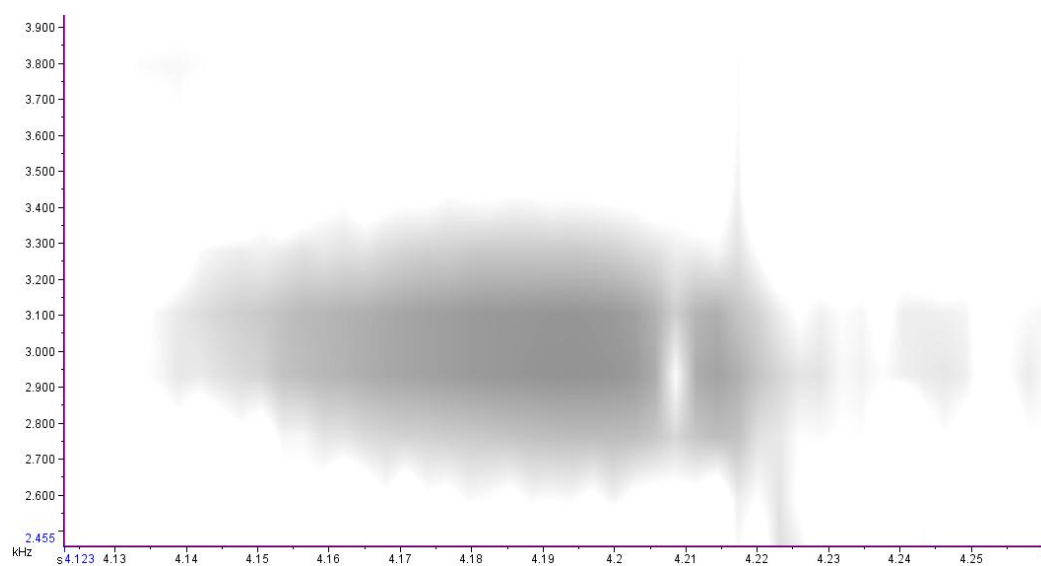
Syllable 17. Very similar to syllable 10 but higher frequency.



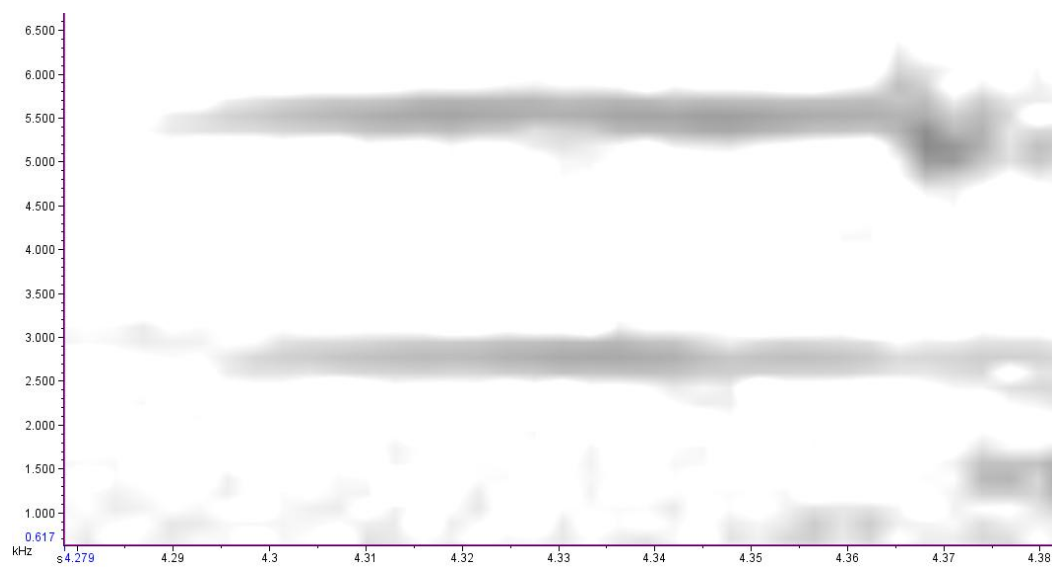
Syllable 18.



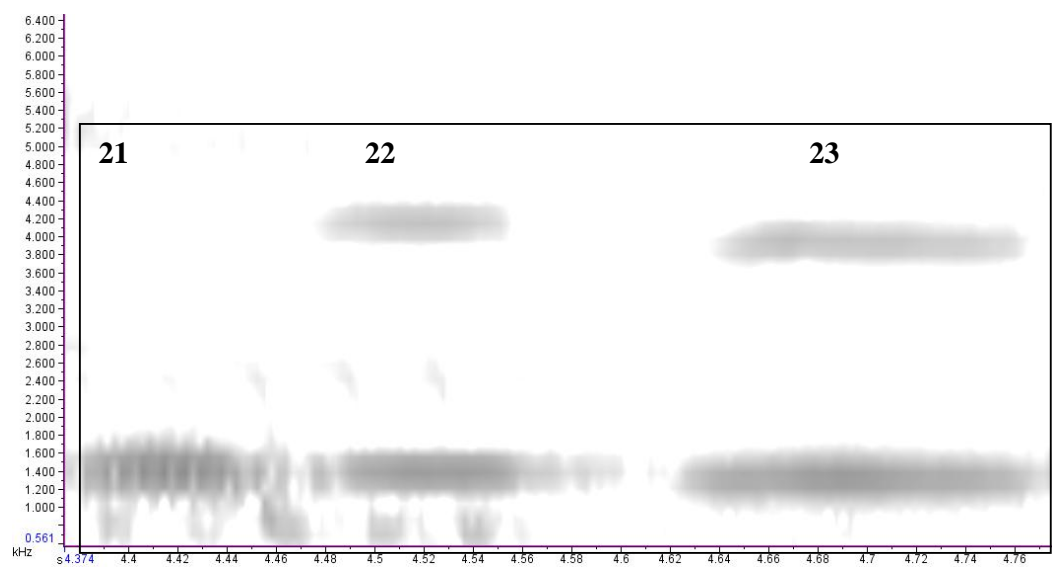
Syllable 19.



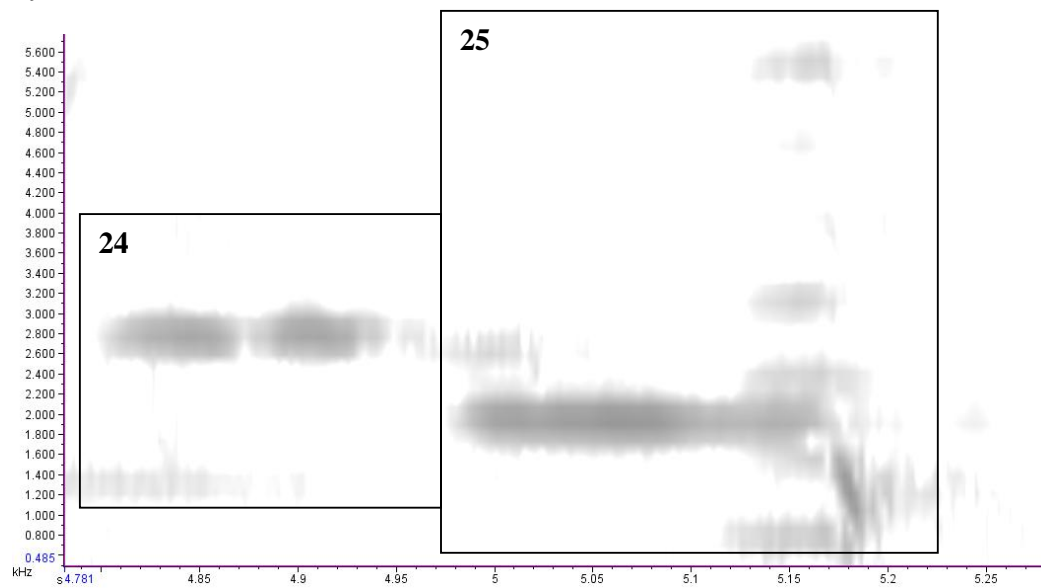
Syllable 20.



Syllable 21-23.

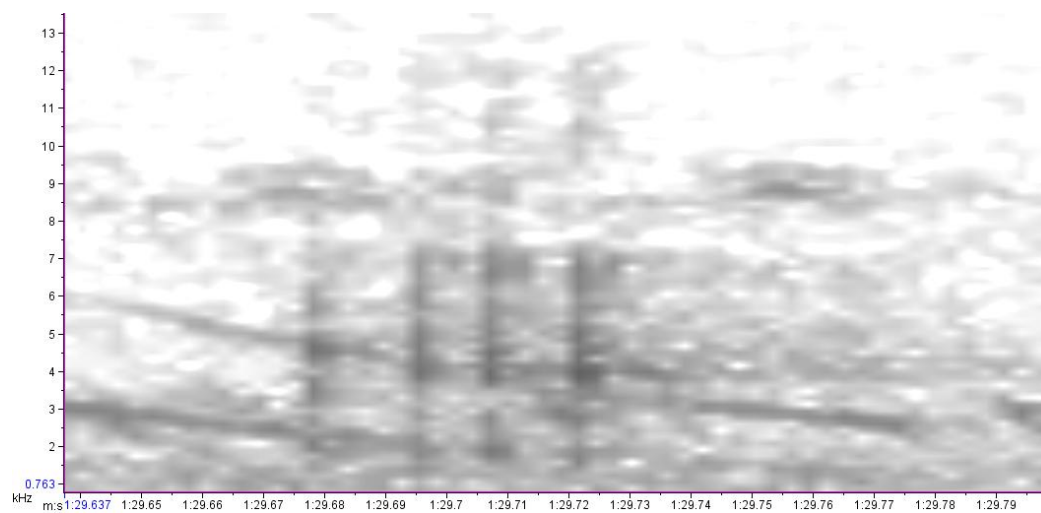


Syllables 24 and 25.

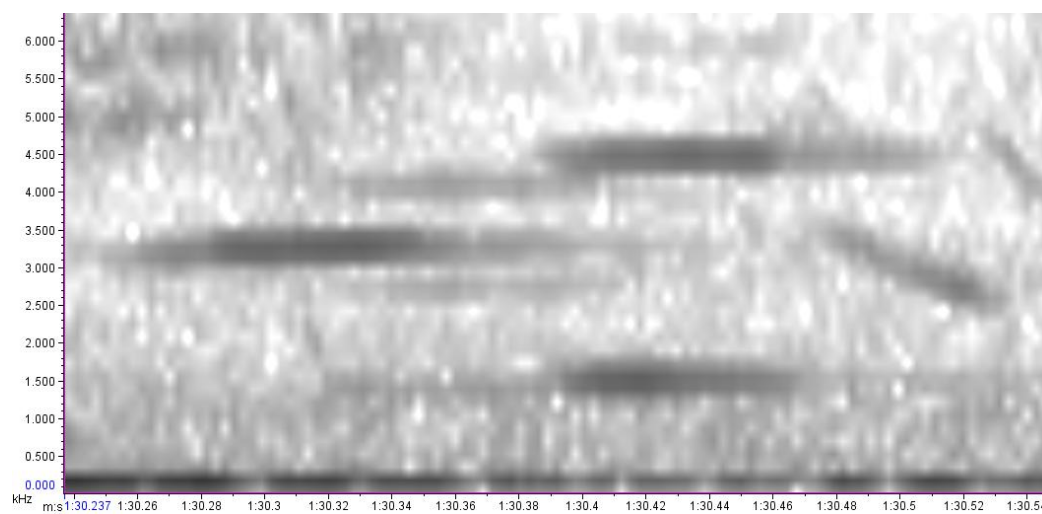


Song 35 – 1021(5) – (November 30th 2010). Long

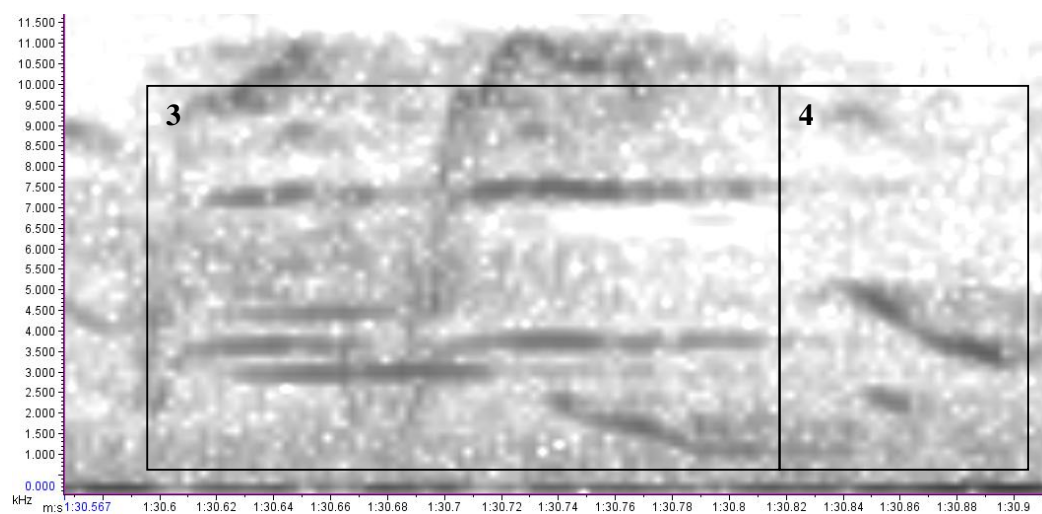
Syllable 1.



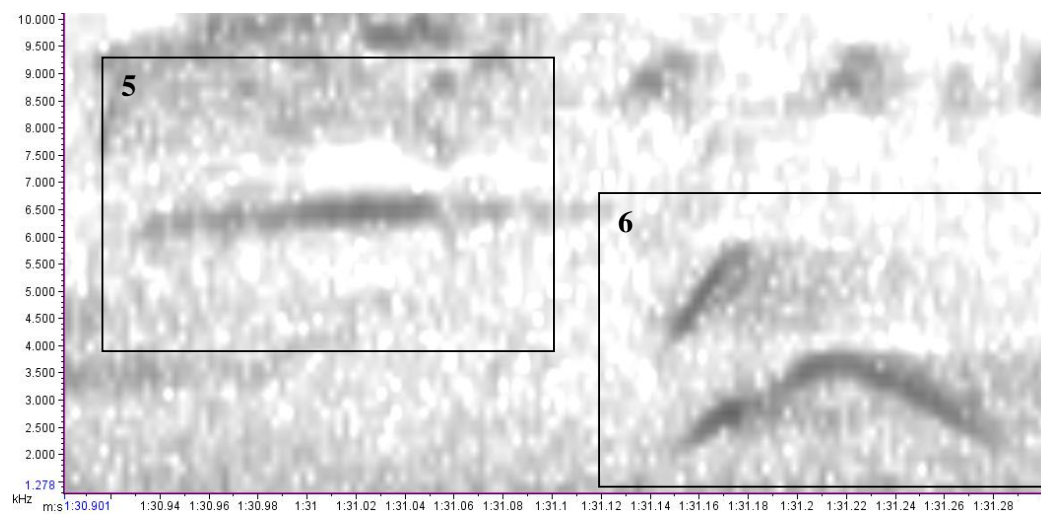
Syllable 2.



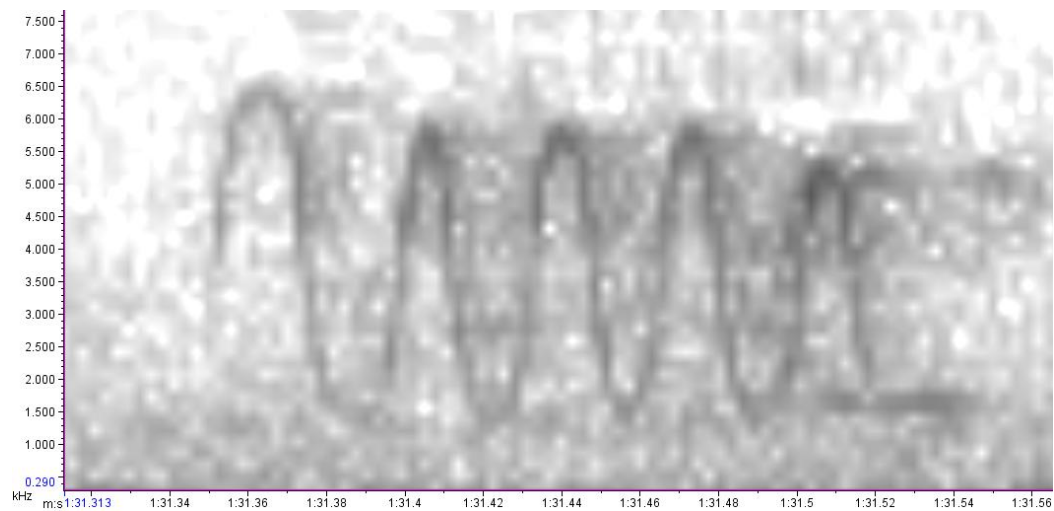
Syllables 3 and 4.



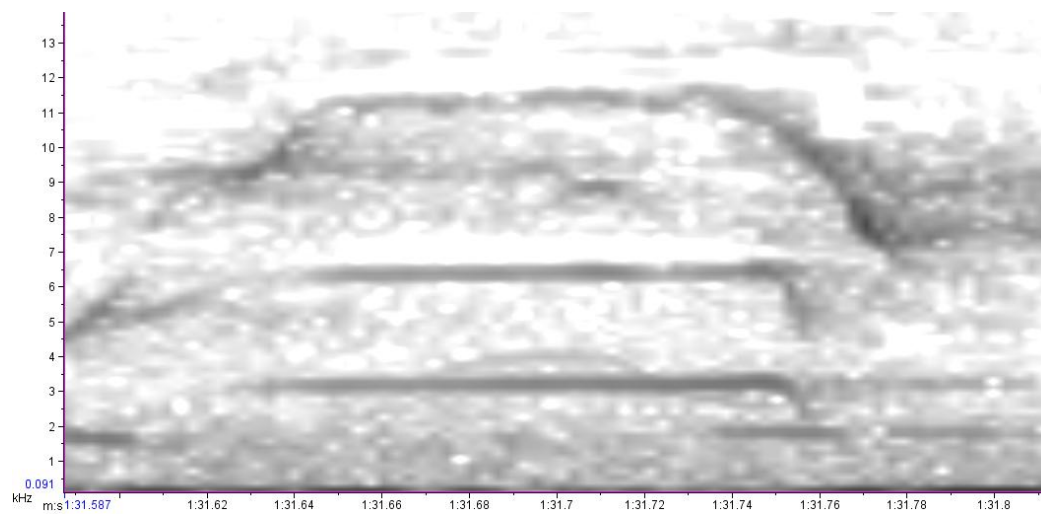
Syllables 5 and 6.



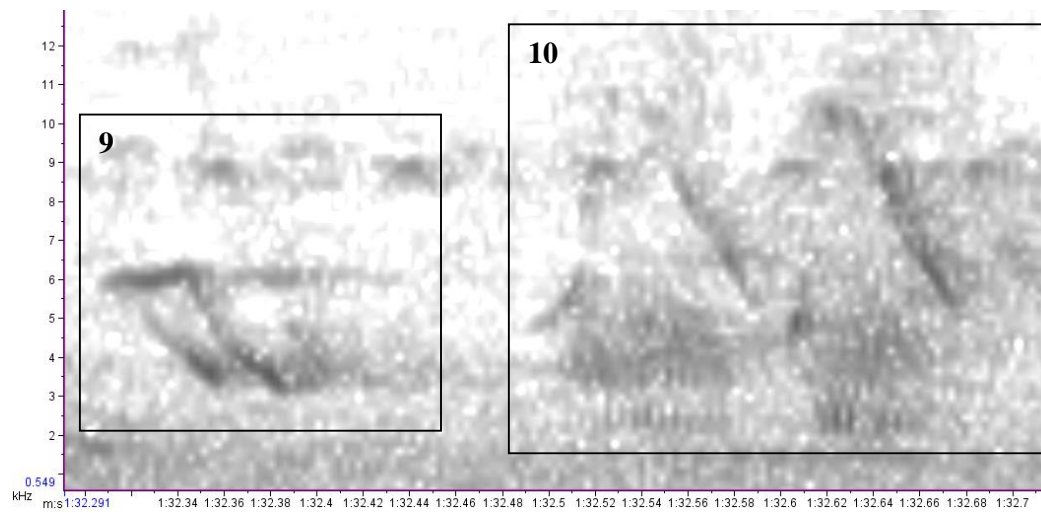
Syllable 7.



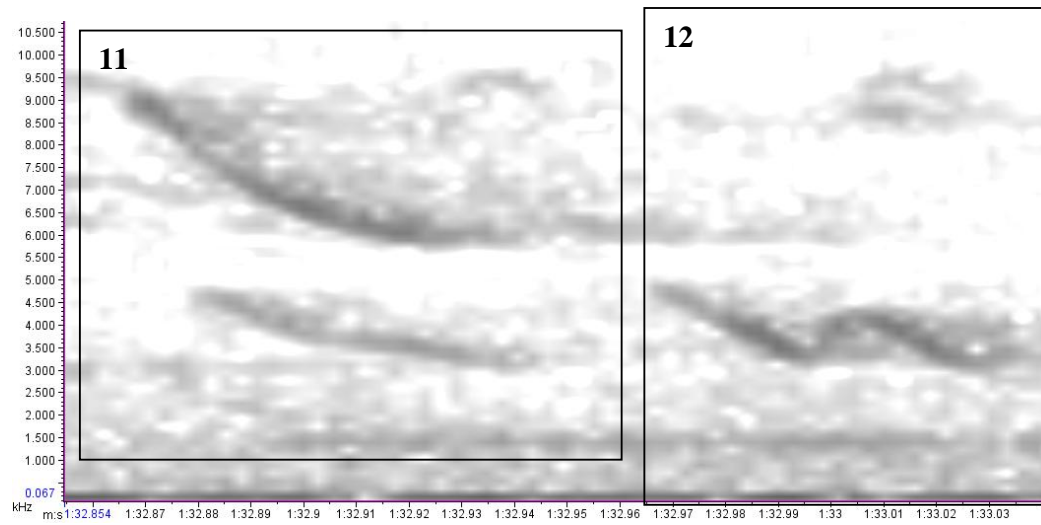
Syllable 8.



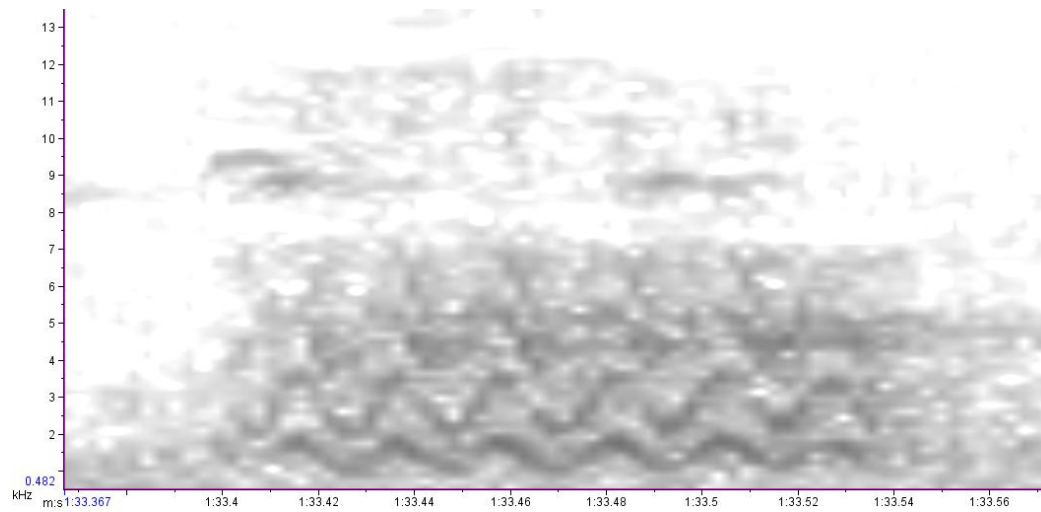
Syllables 9 and 10.



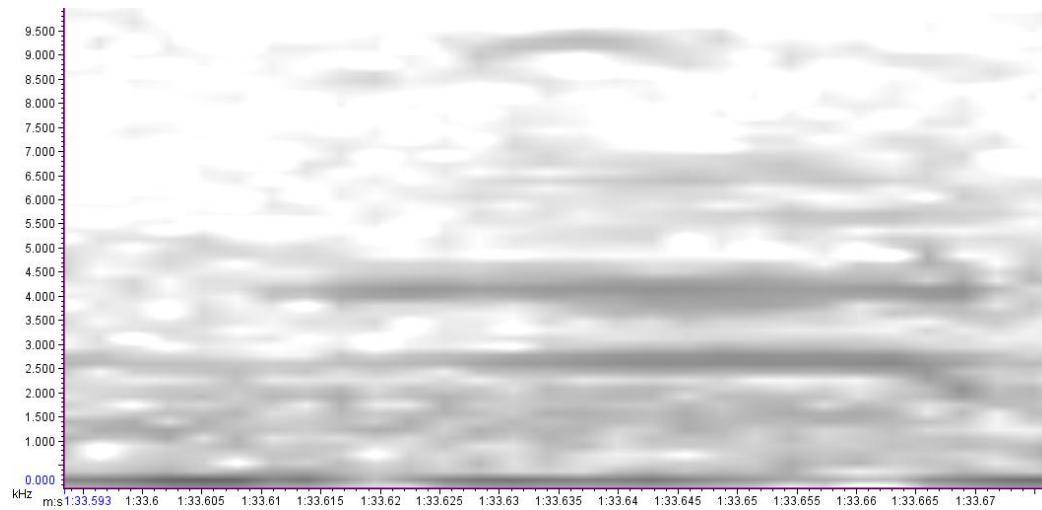
Syllables 11 and 12.



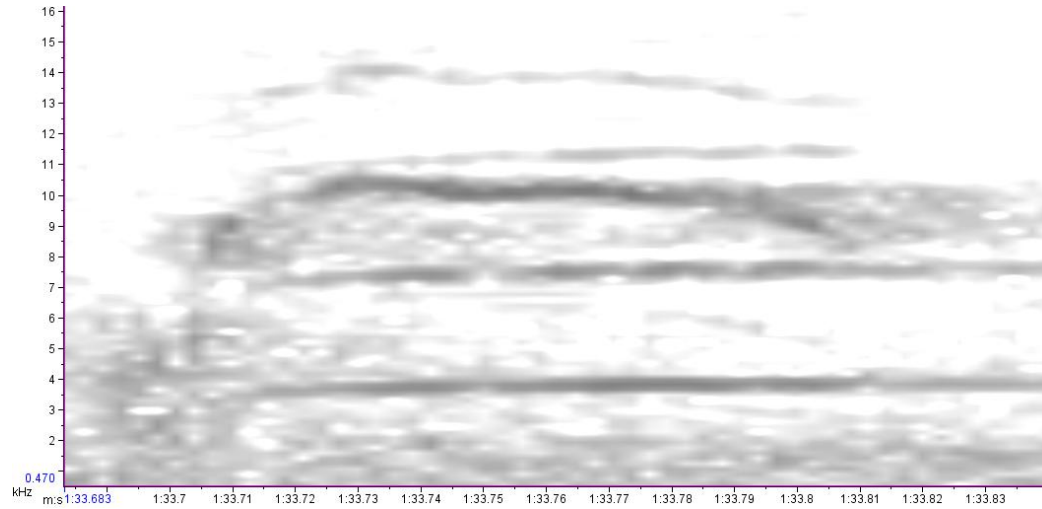
Syllable 13.



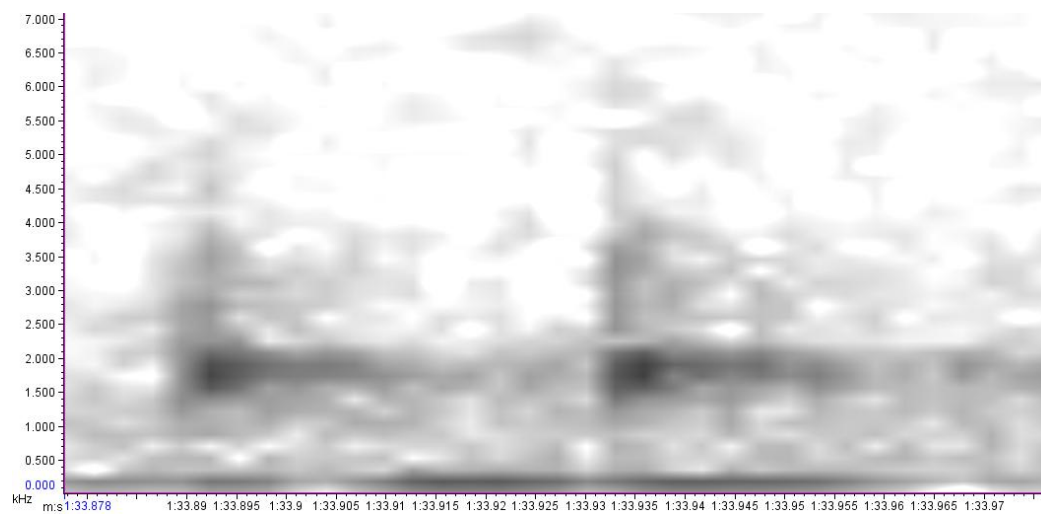
Syllable 14.



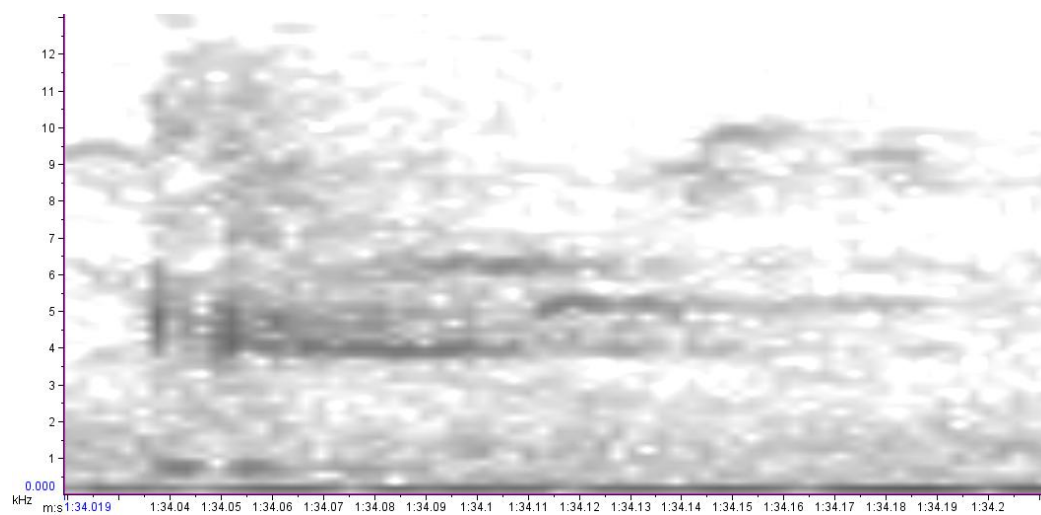
Syllable 15. Identical to syllable 8, just slightly higher overall frequency.



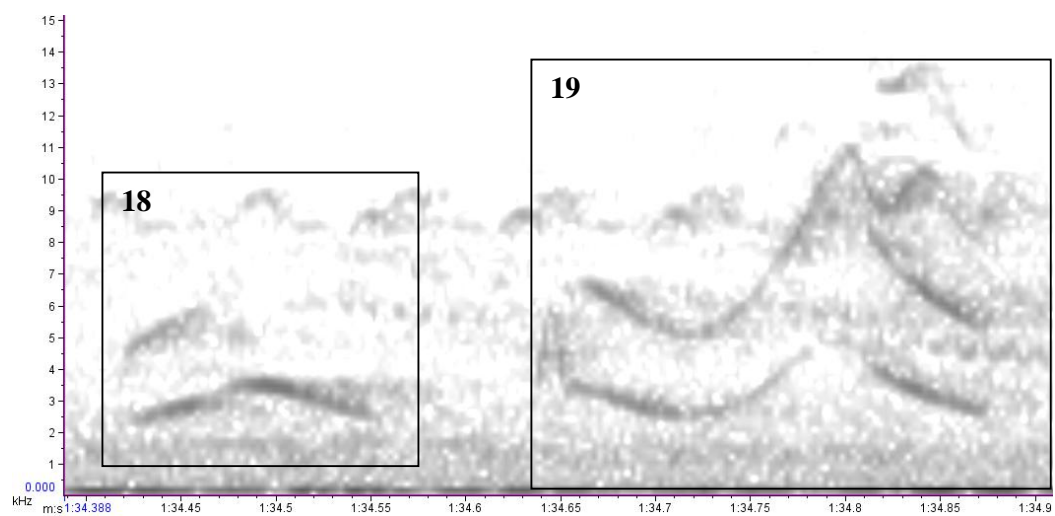
Syllable 16. 2 knock syllables.



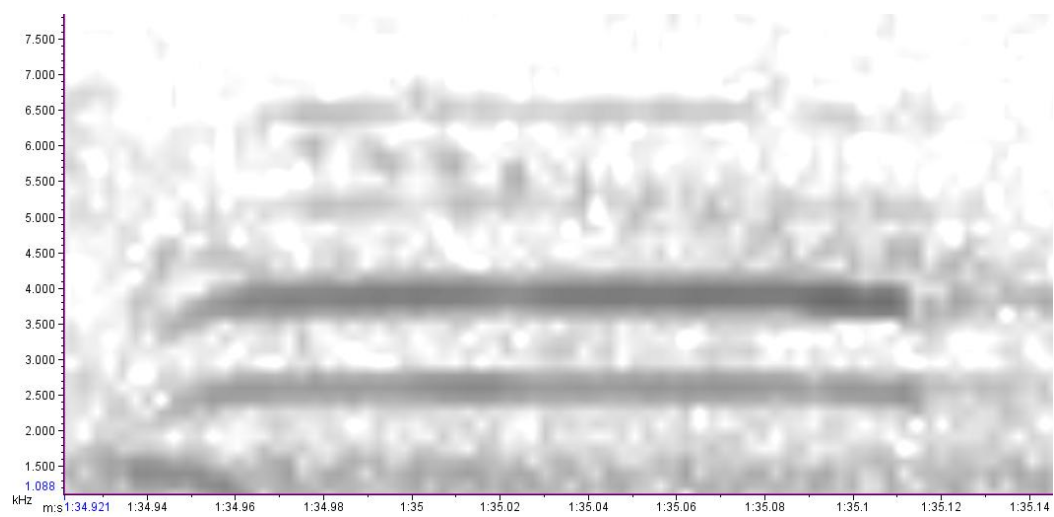
Syllable 17.



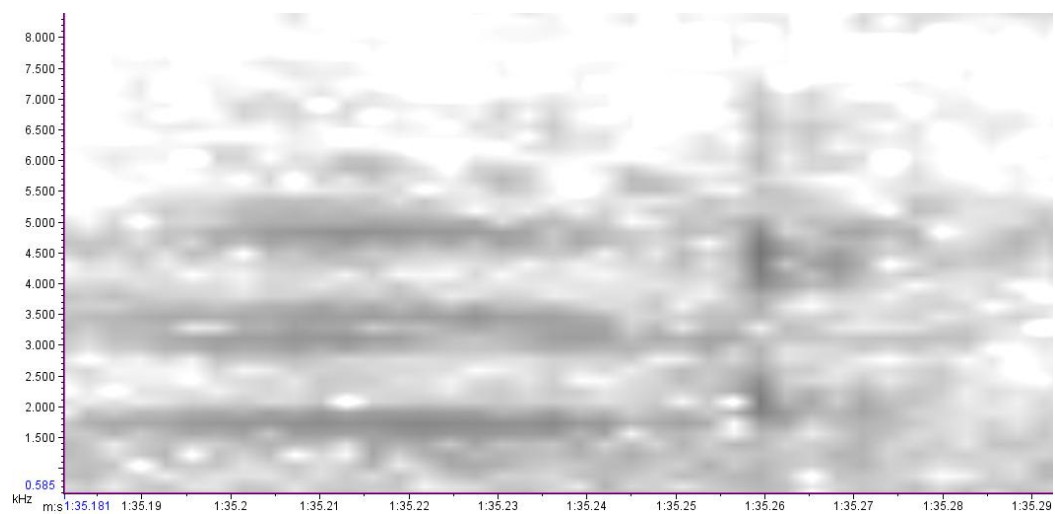
Syllables 18 and 19.



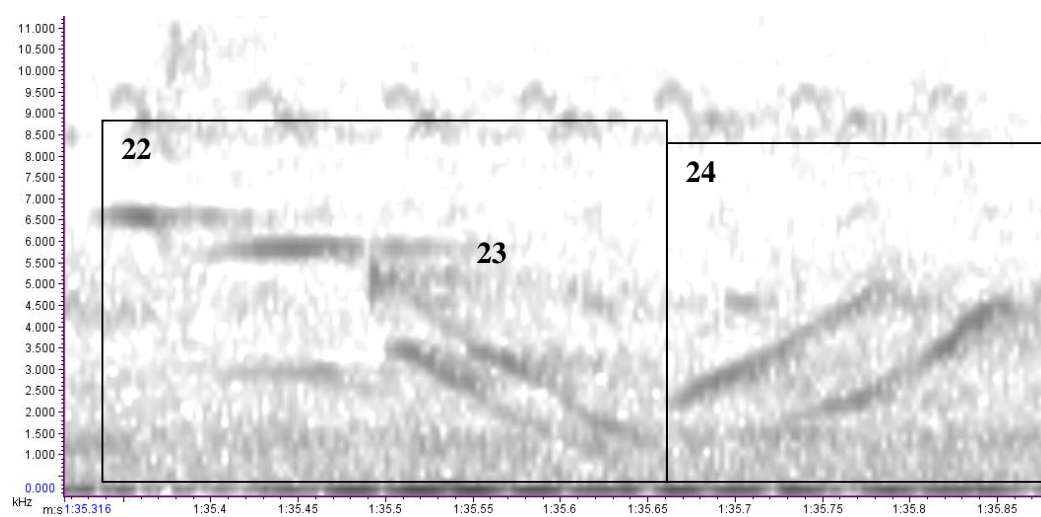
Syllable 20.



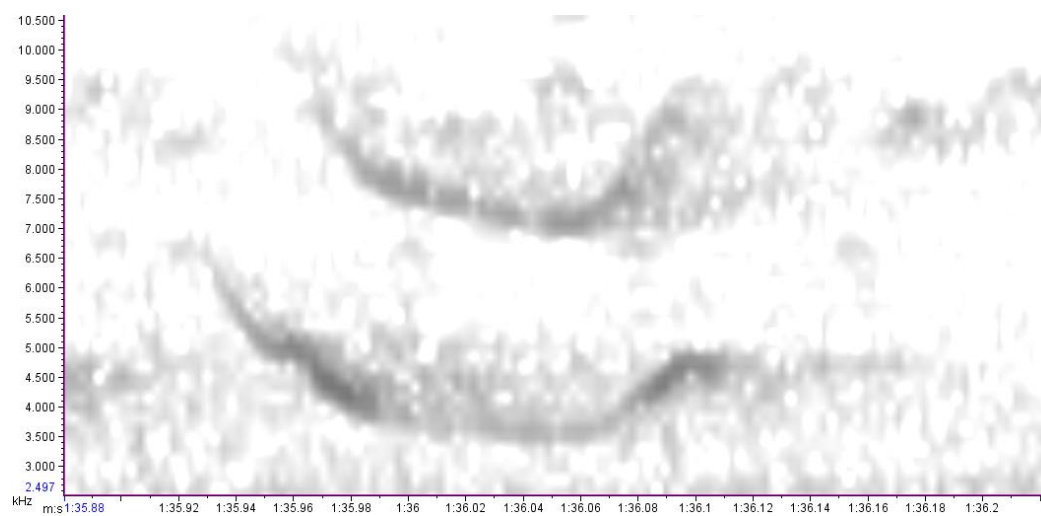
Syllable 21. Bellbird-like syllable.



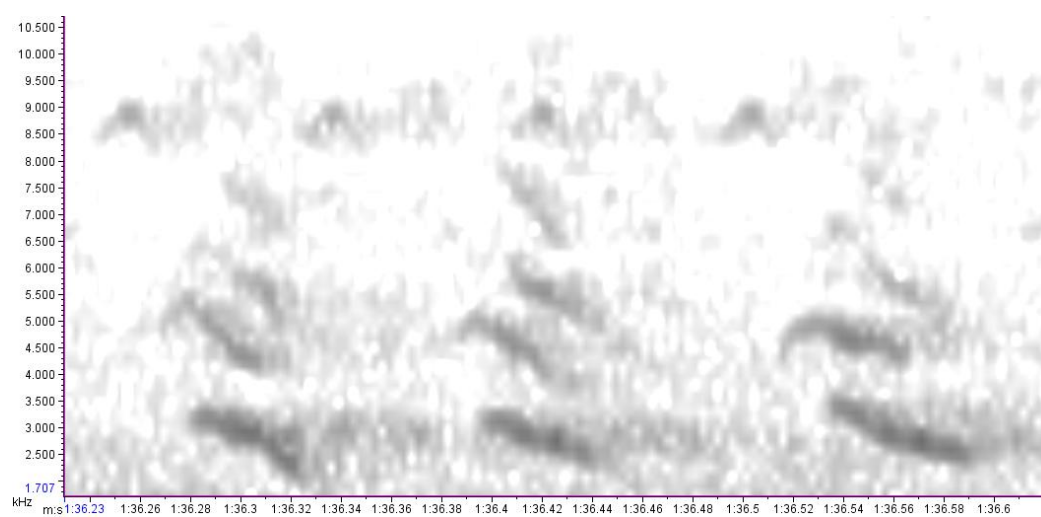
Syllables 22-24.



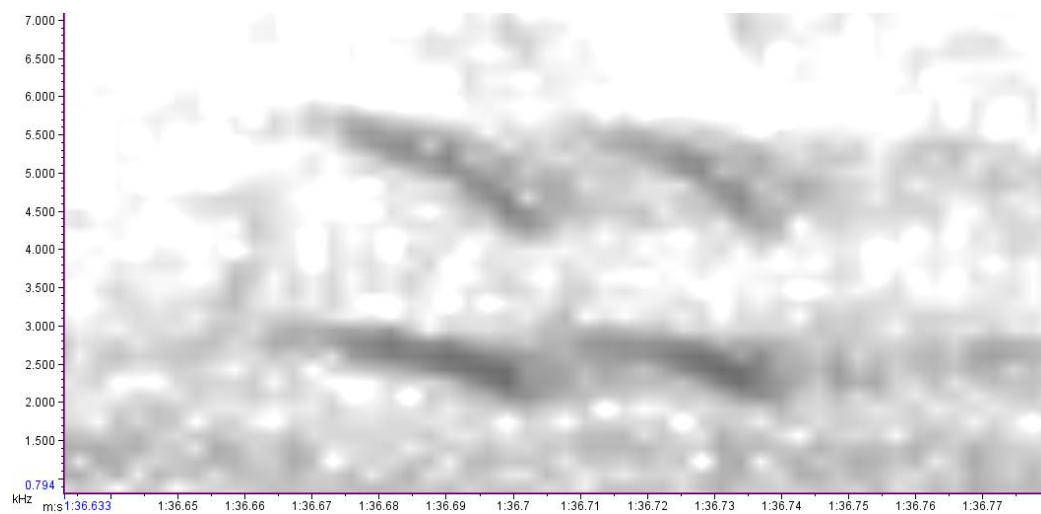
Syllable 25.



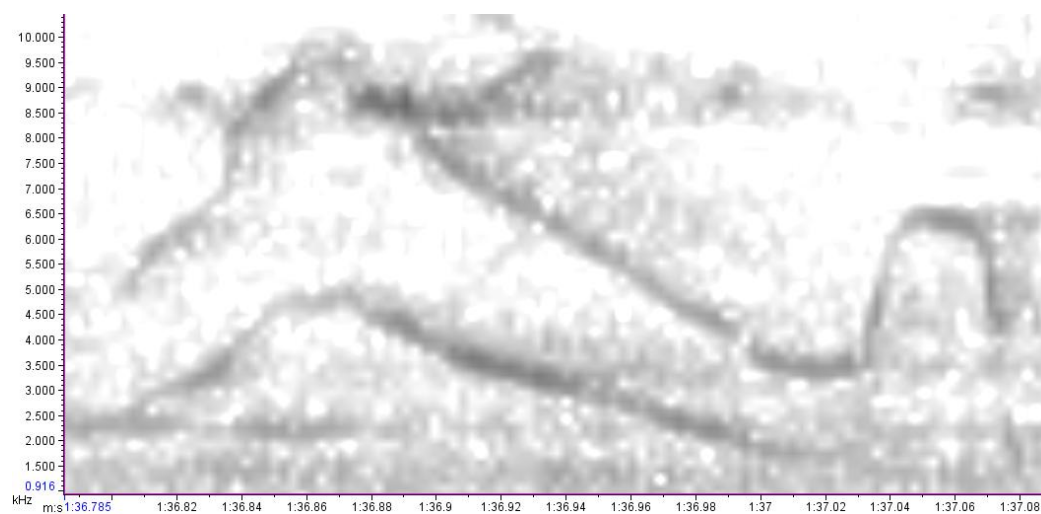
Syllable 26.



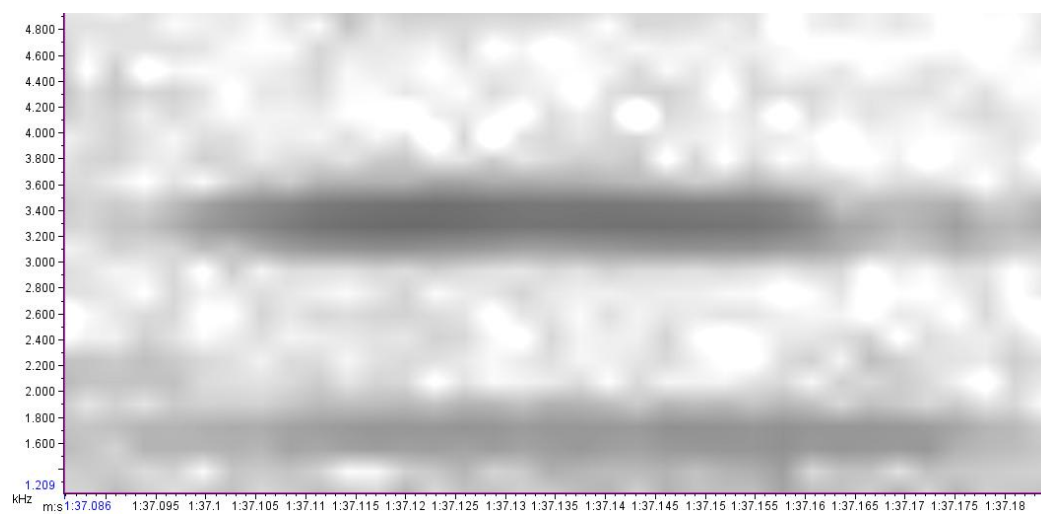
Syllable 27.



Syllable 28.

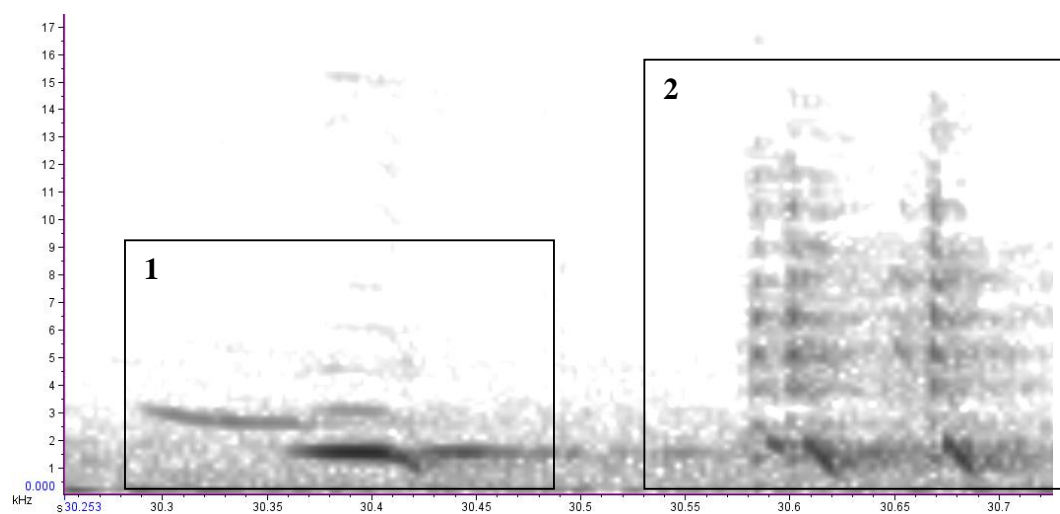


Syllable 29.

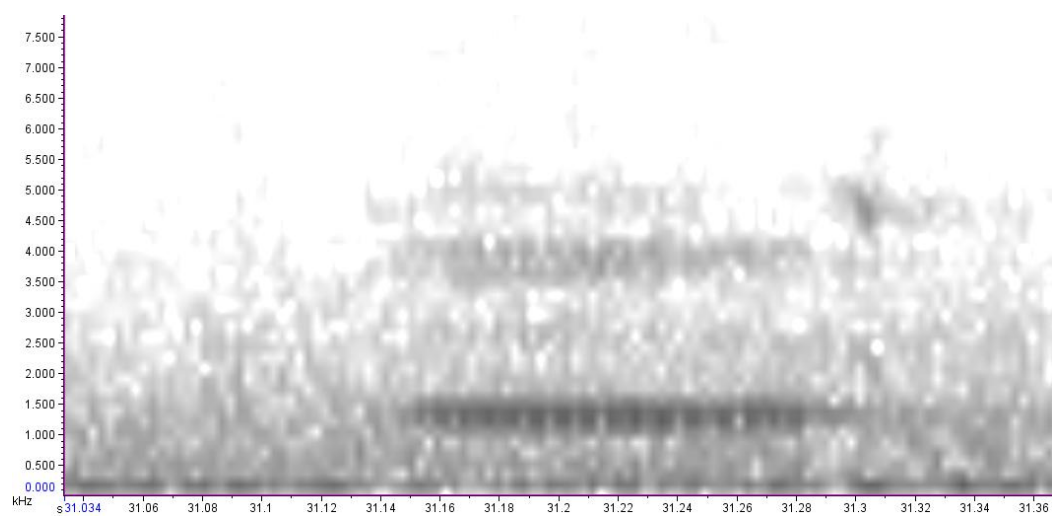


Song 36 – 1024 (November 30th). Long

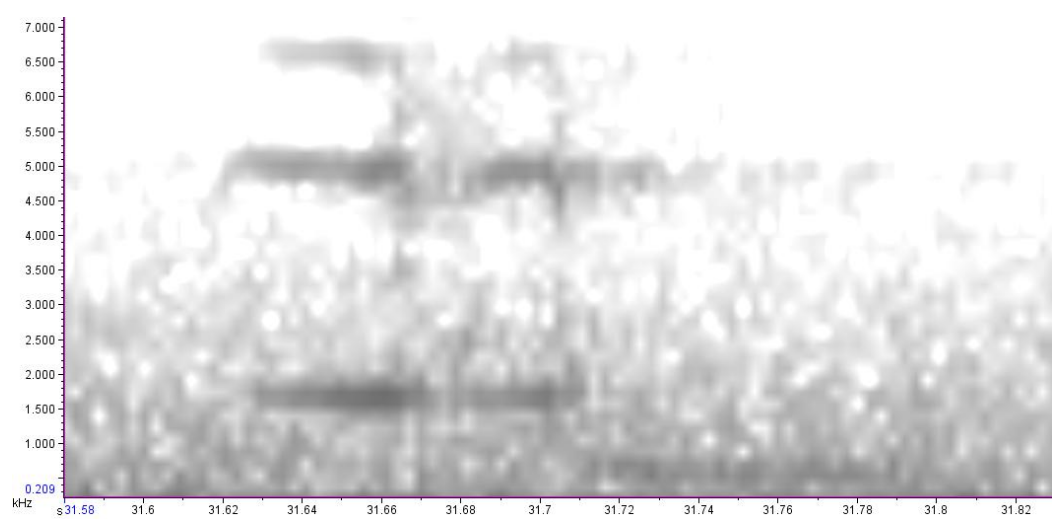
Syllables 1 and 2.



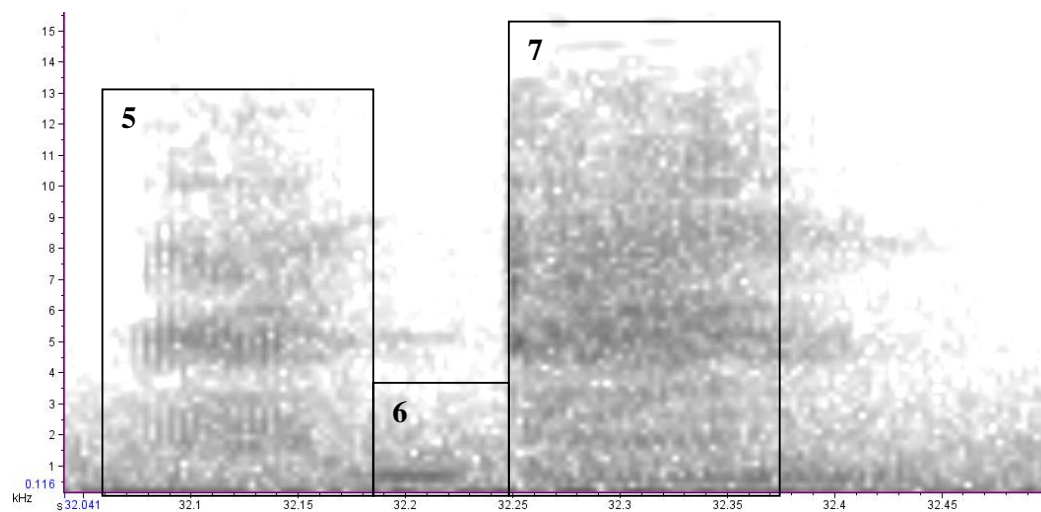
Syllable 3.



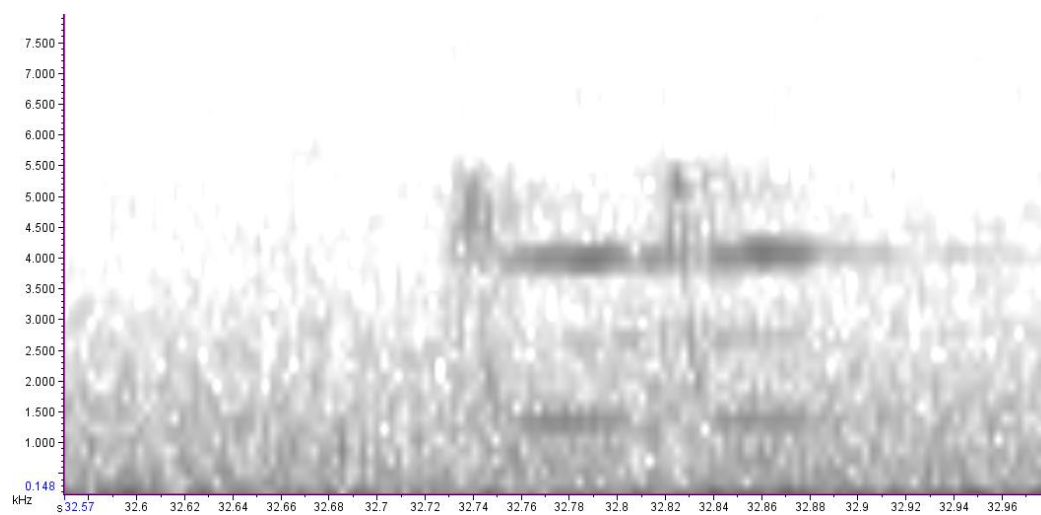
Syllable 4.



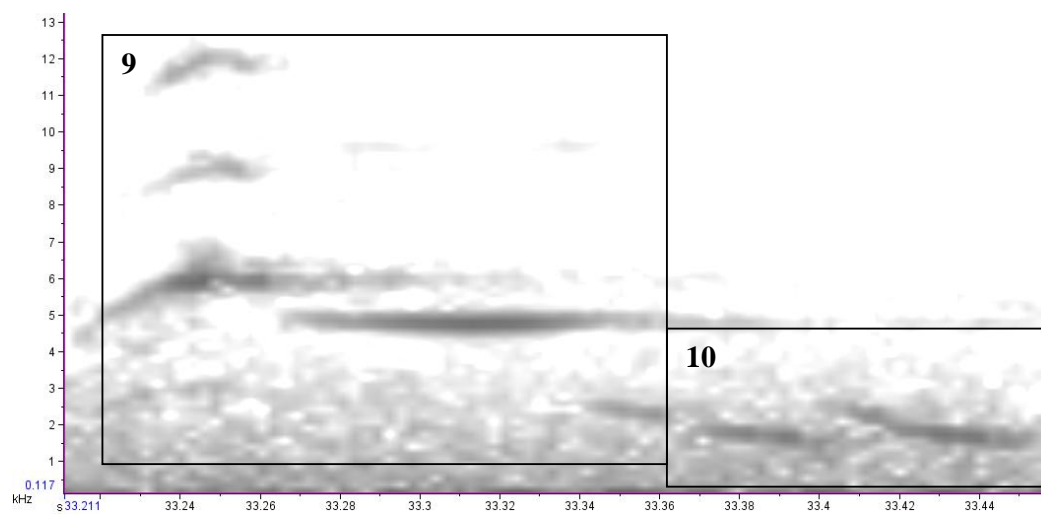
Syllables 5-7.



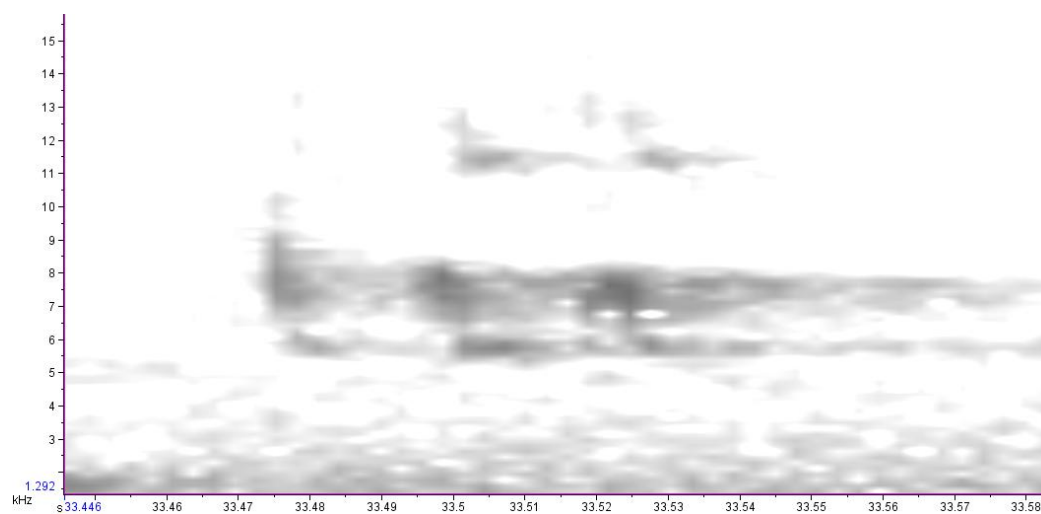
Syllable 8.



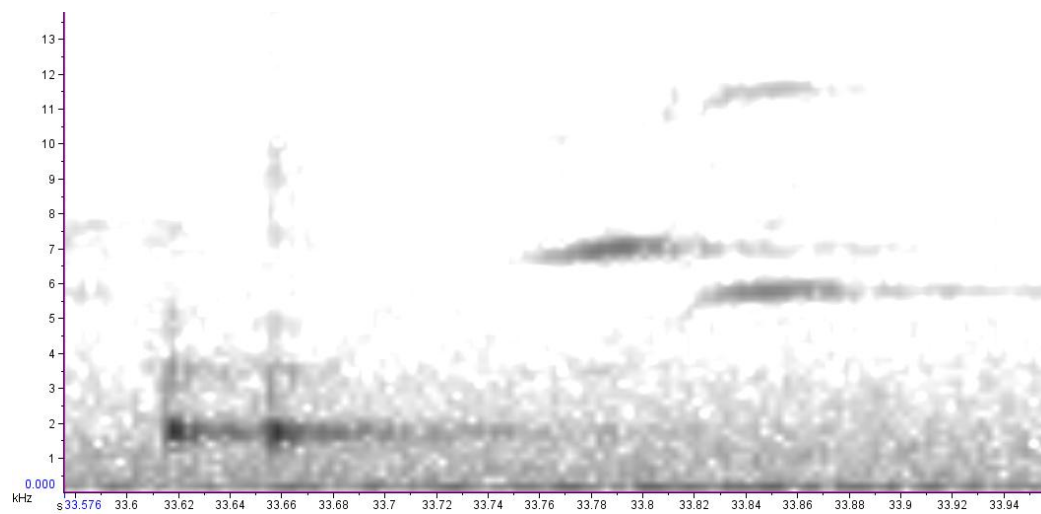
Syllables 9 and 10.



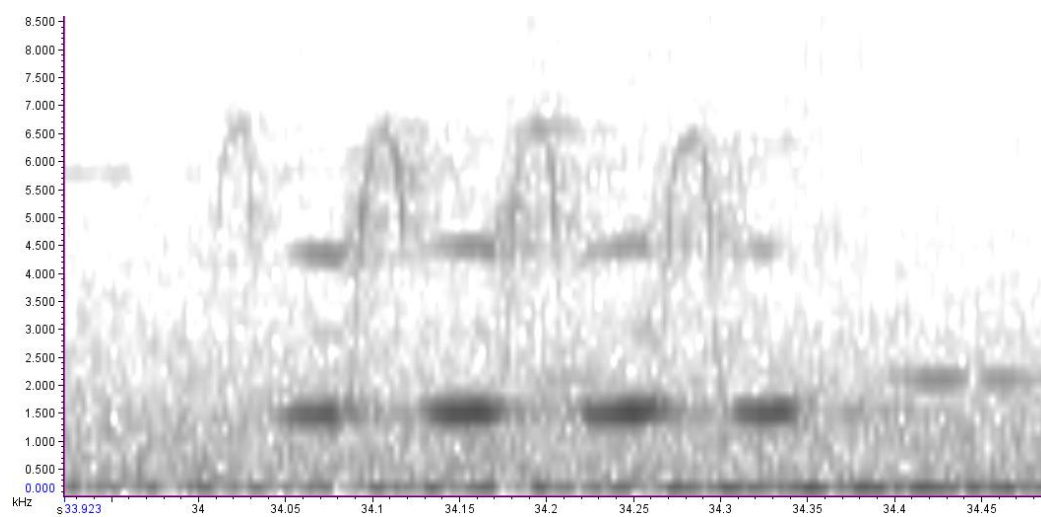
Syllable 11.



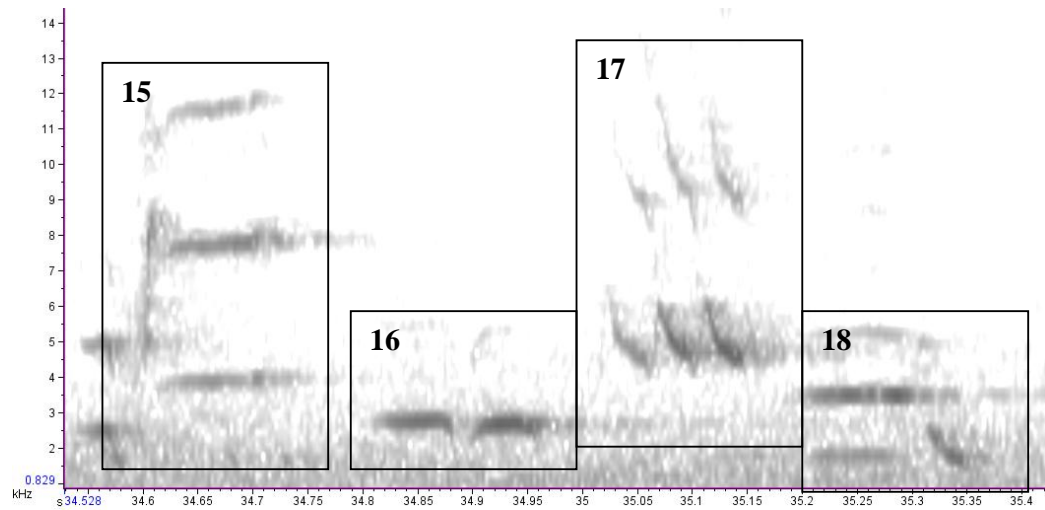
Syllables 12 and 13.



Syllable 14.

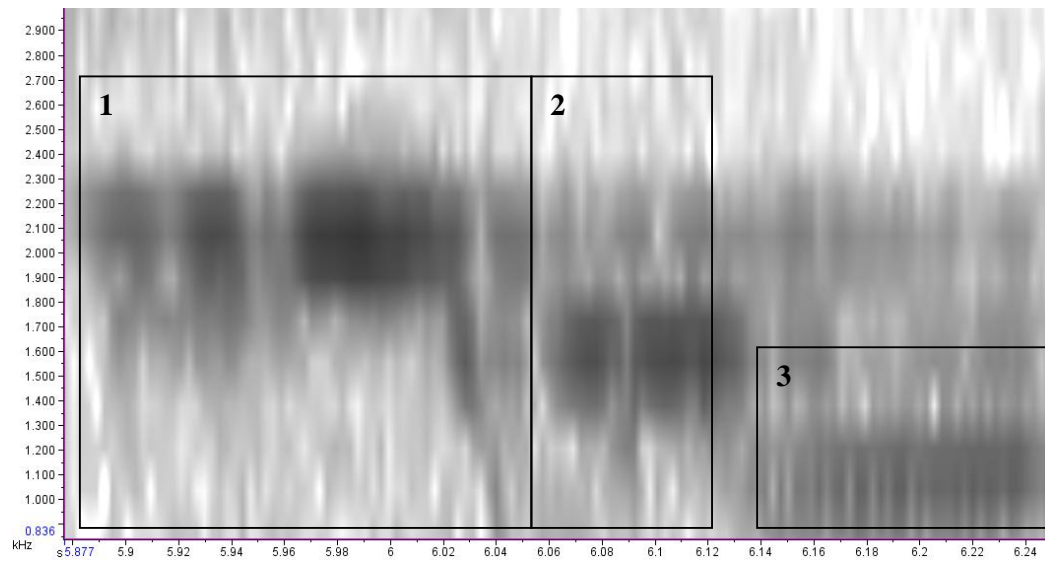


Syllables 15-19.

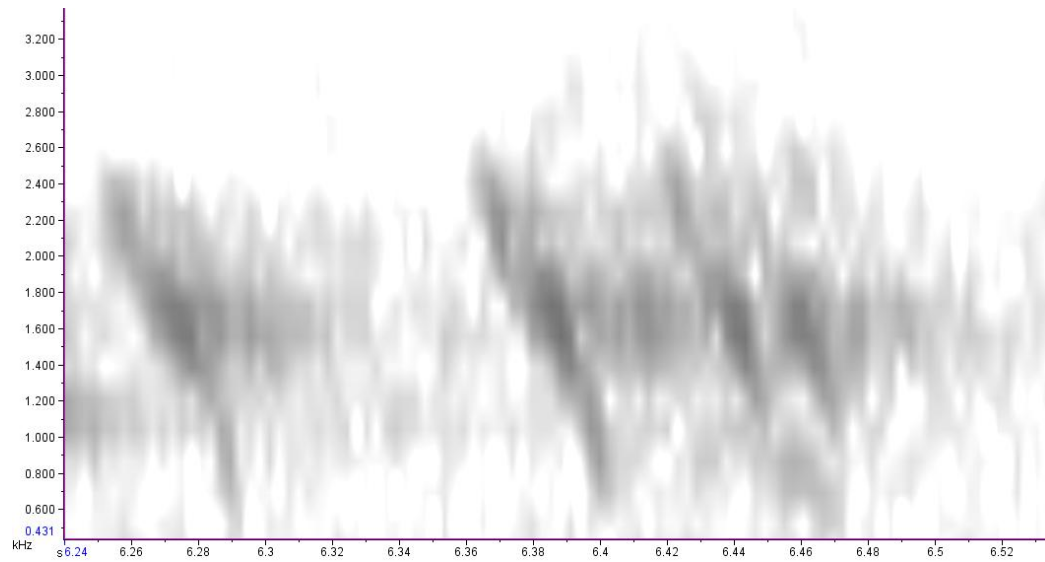


Song 37 - 024-2010-11-23 22_55_00. Short

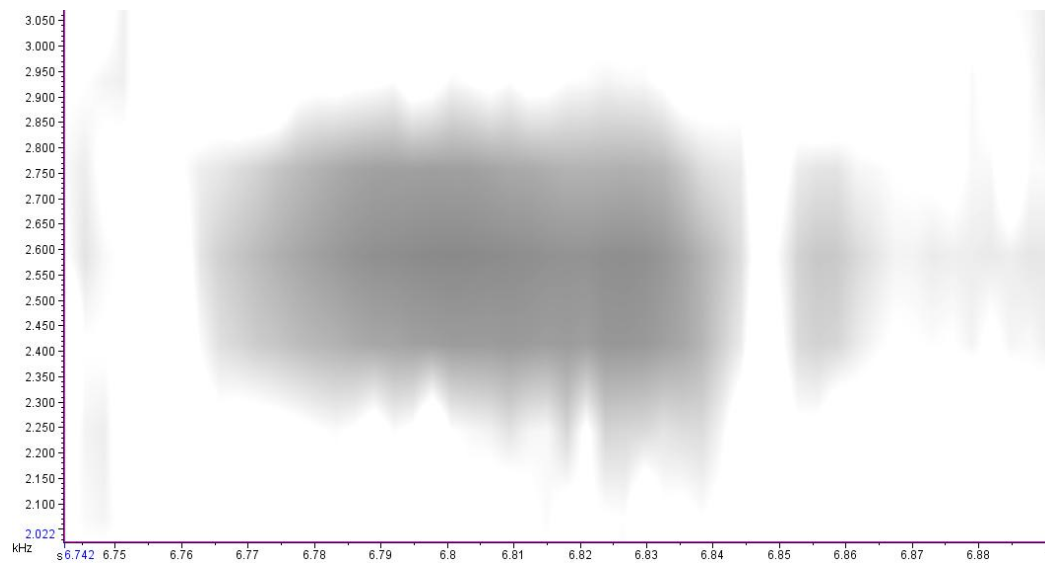
Syllables 1-3.



Syllable 4.

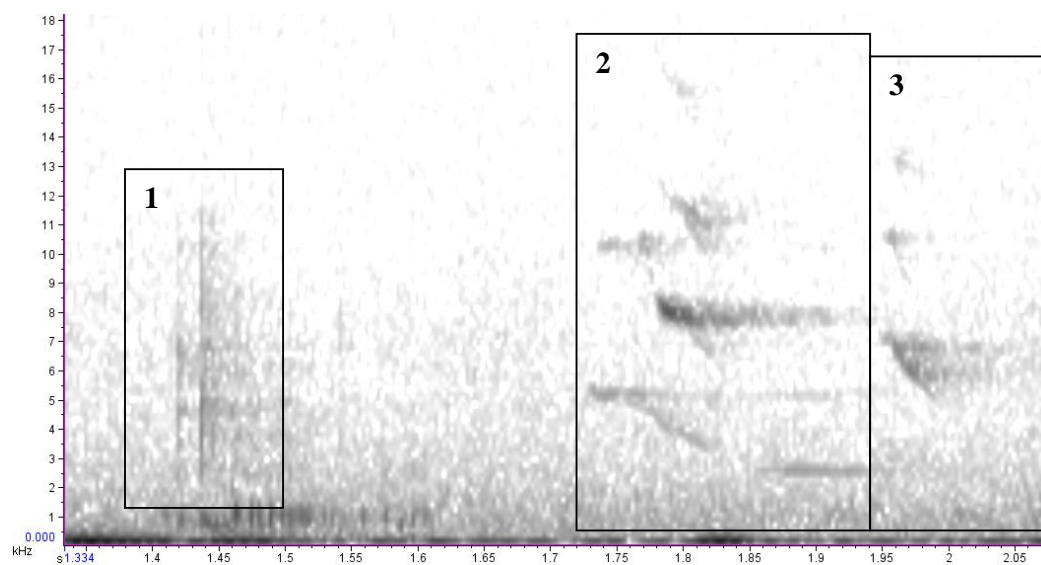


Syllable 5. Very similar to bellbird.

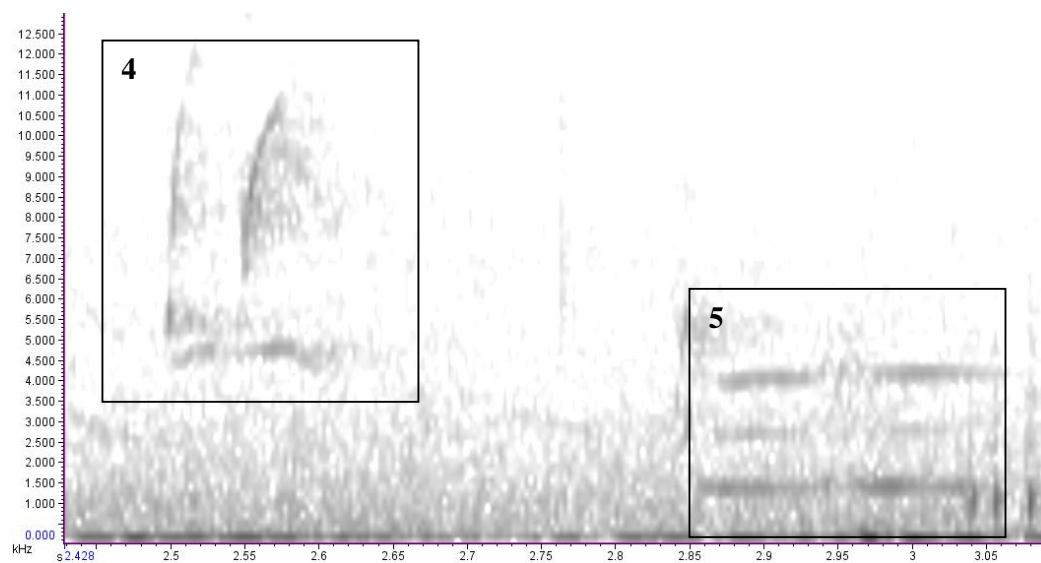


Song 38 - 012-2010-11-23 22_43_30 (YM-RBk). Long

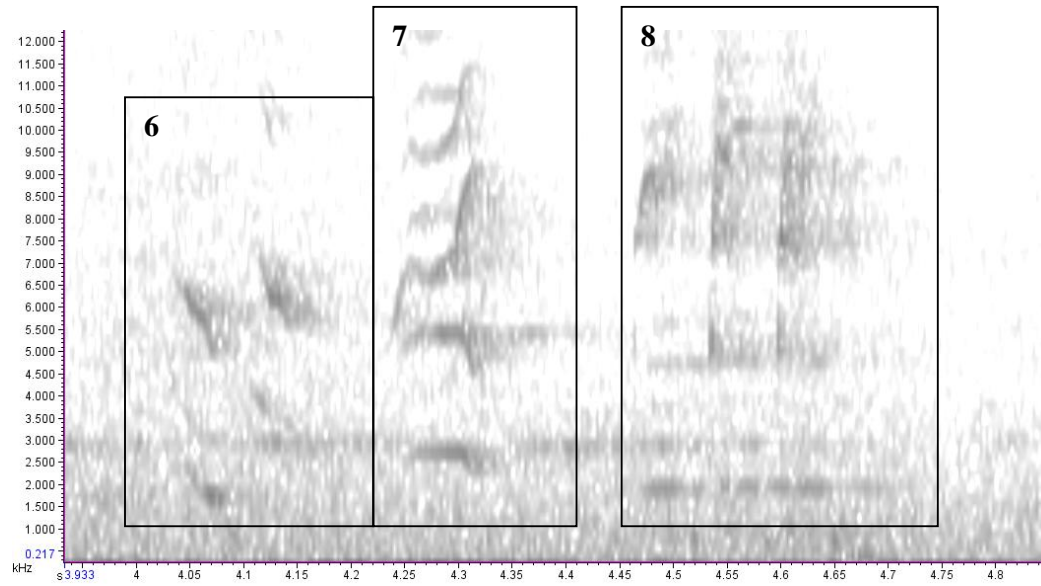
Syllables 1-3.



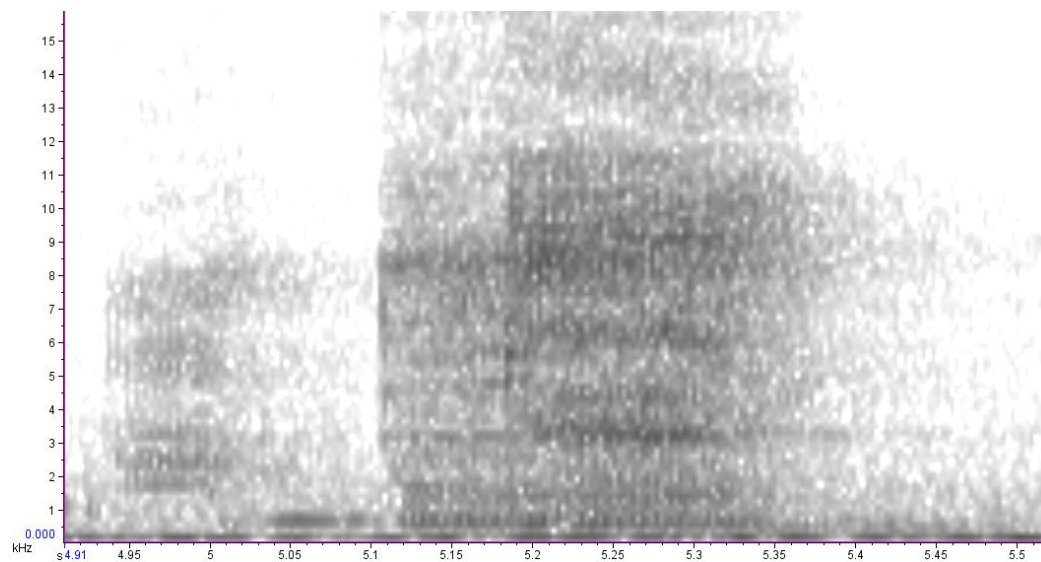
Syllables 4 and 5.



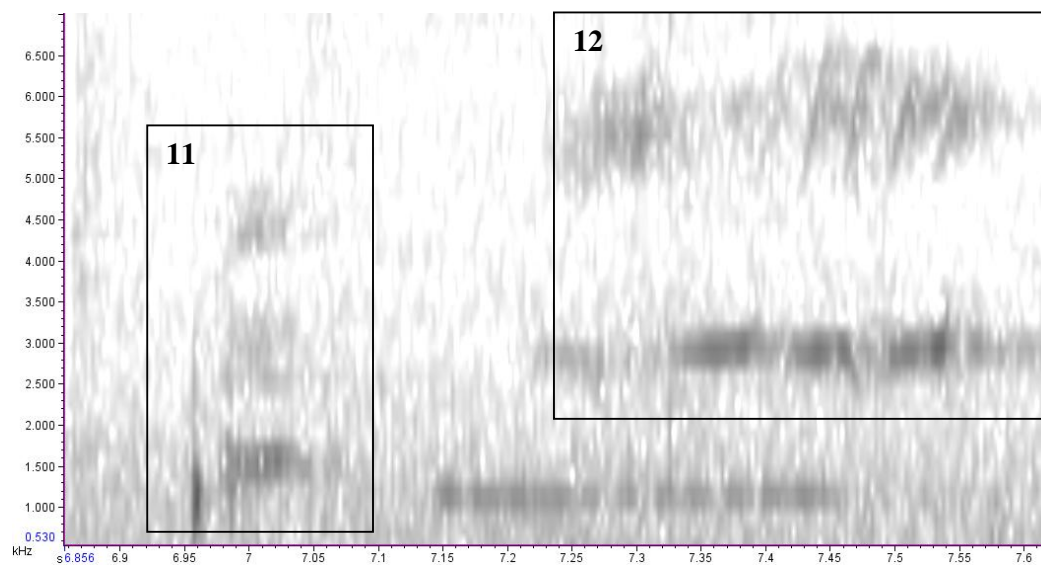
Syllables 6-8.



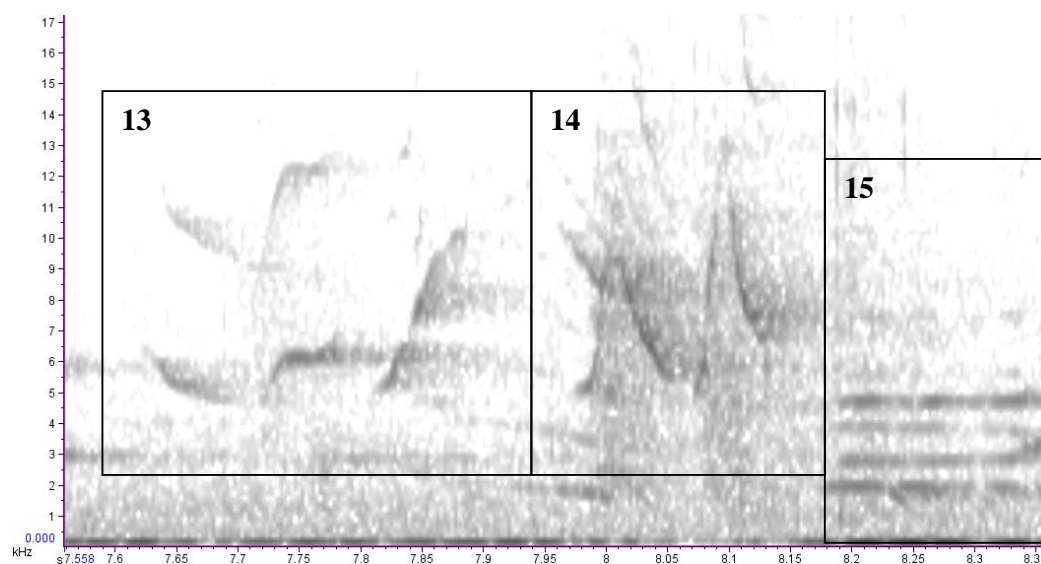
Syllables 9 and 10. 2 birds 'song-matching'.



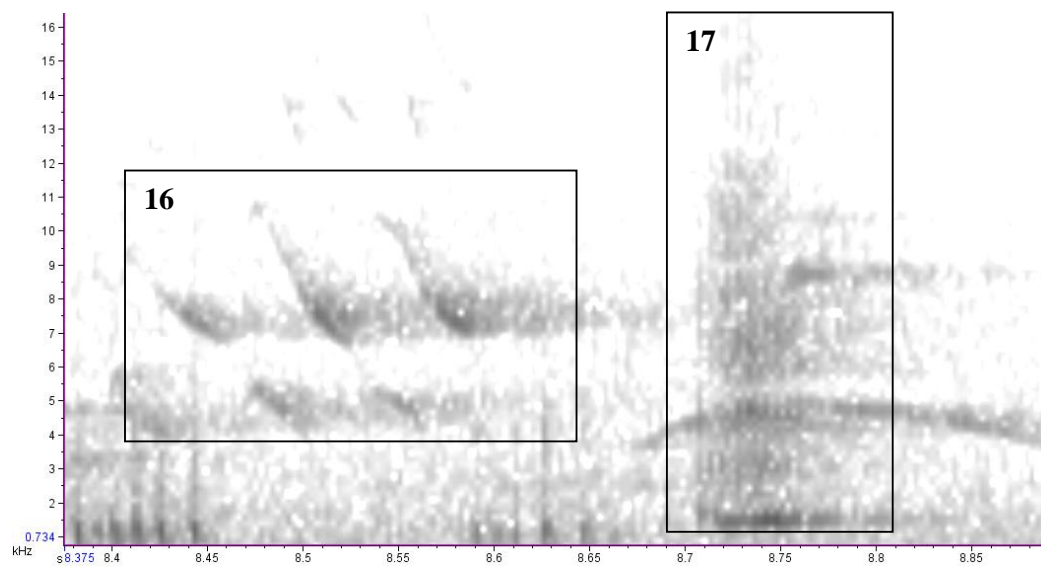
Syllables 11 and 12.



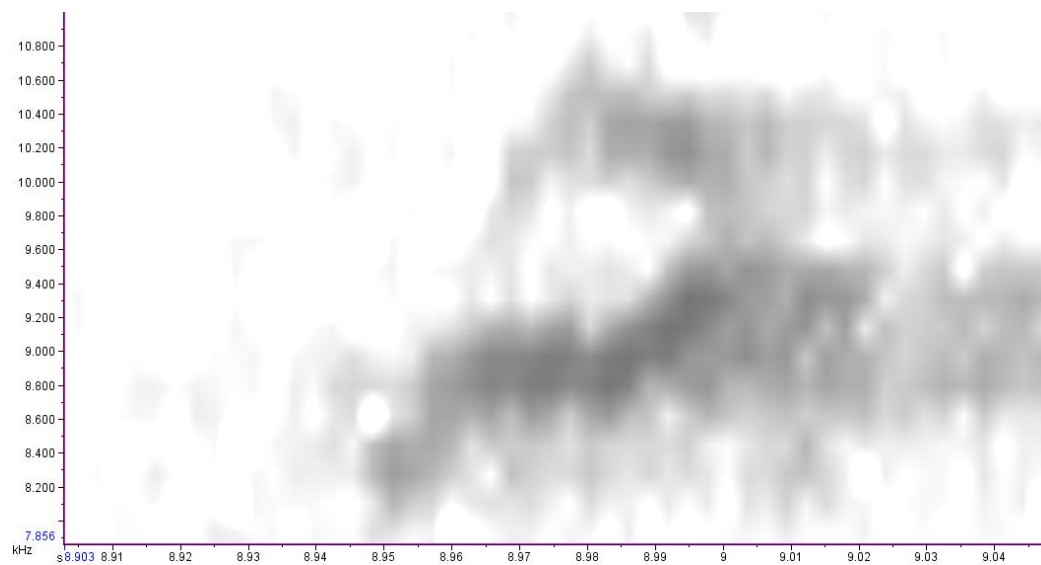
Syllables 13-15.



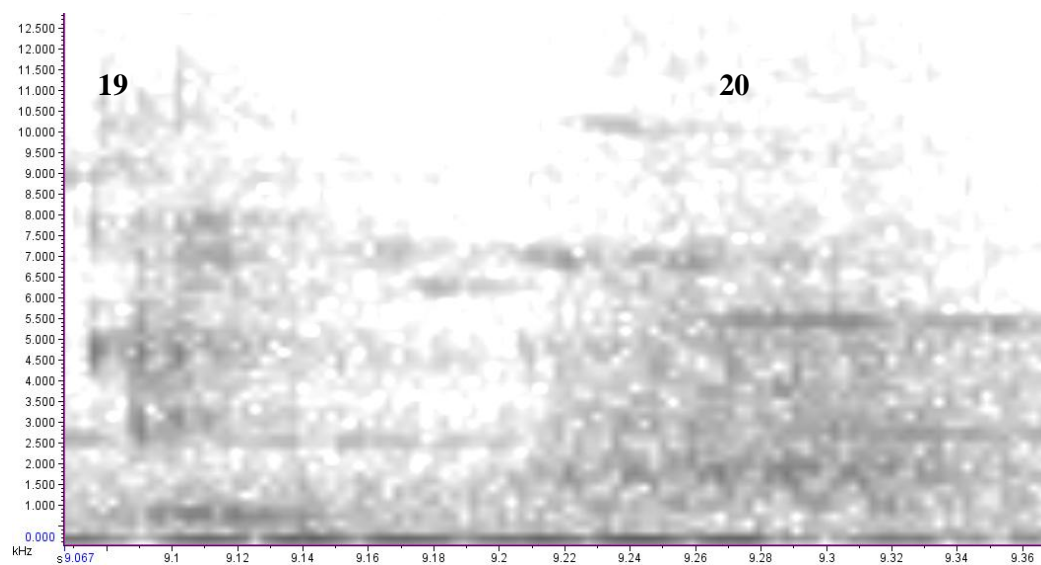
Syllables 16 and 17.



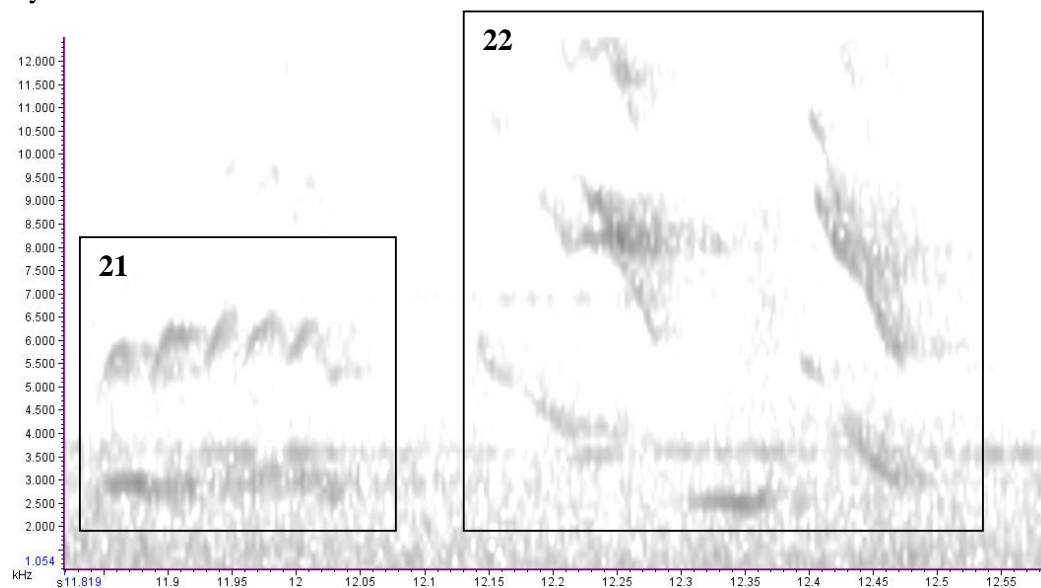
Syllable 18.



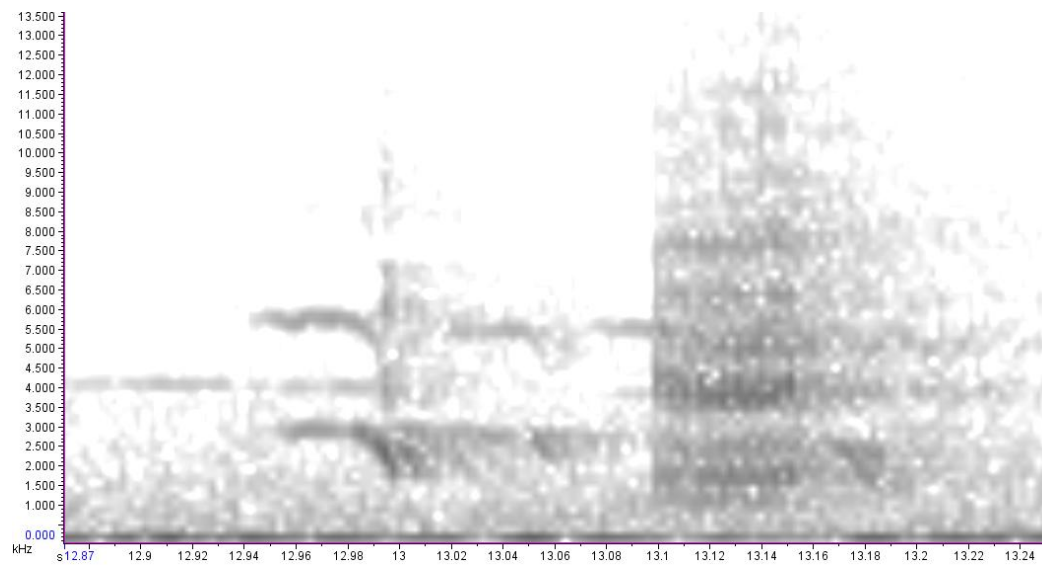
Syllables 19 and 20.



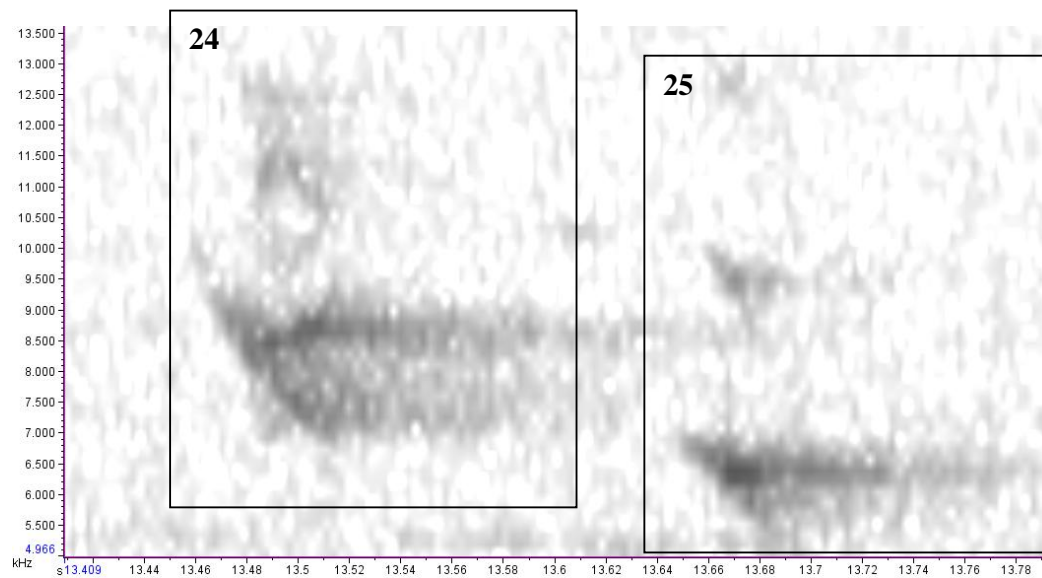
Syllables 21 and 22.



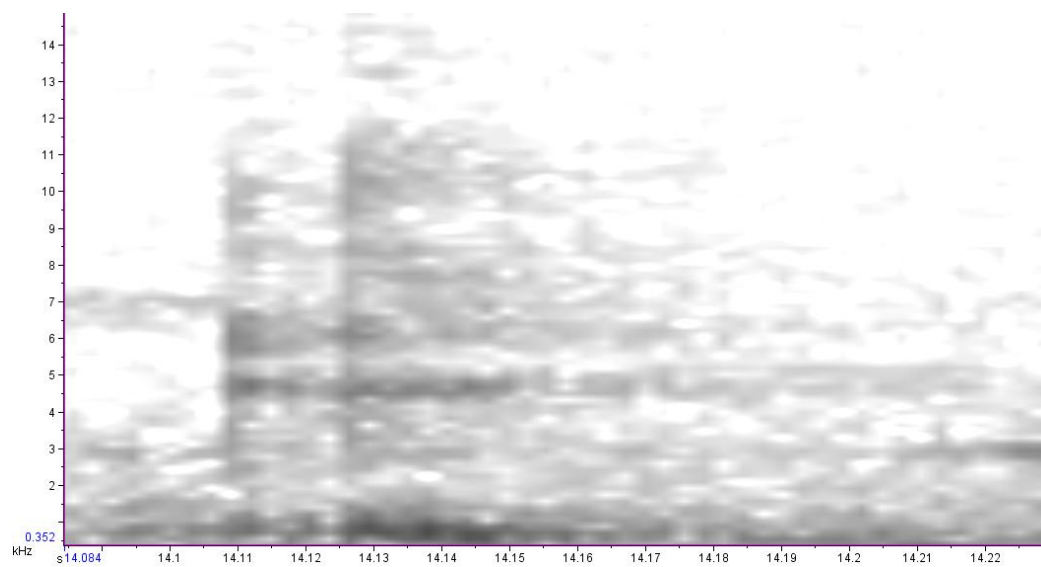
Syllables 23 and 24.



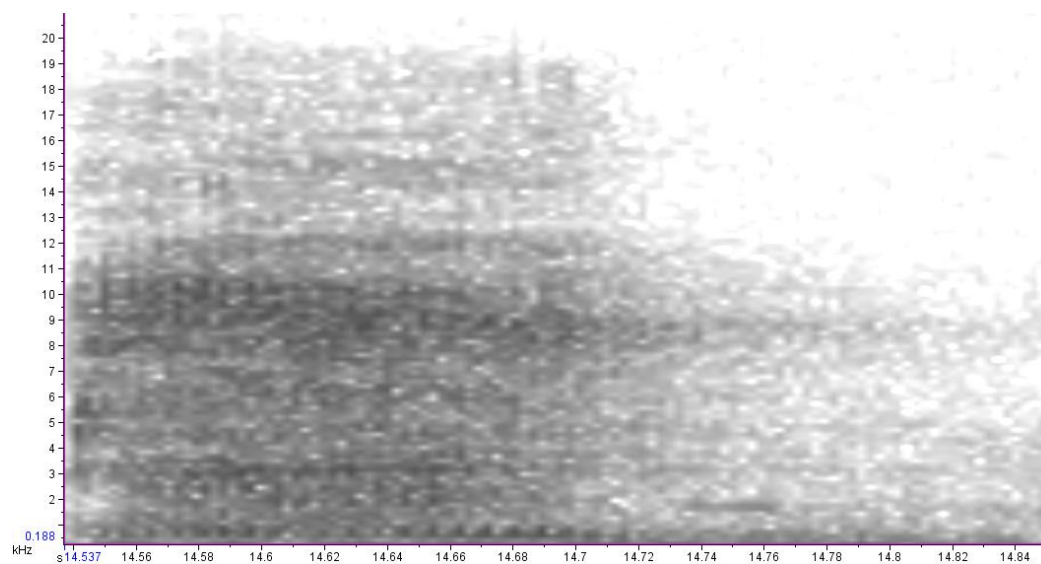
Syllables 24 and 25.



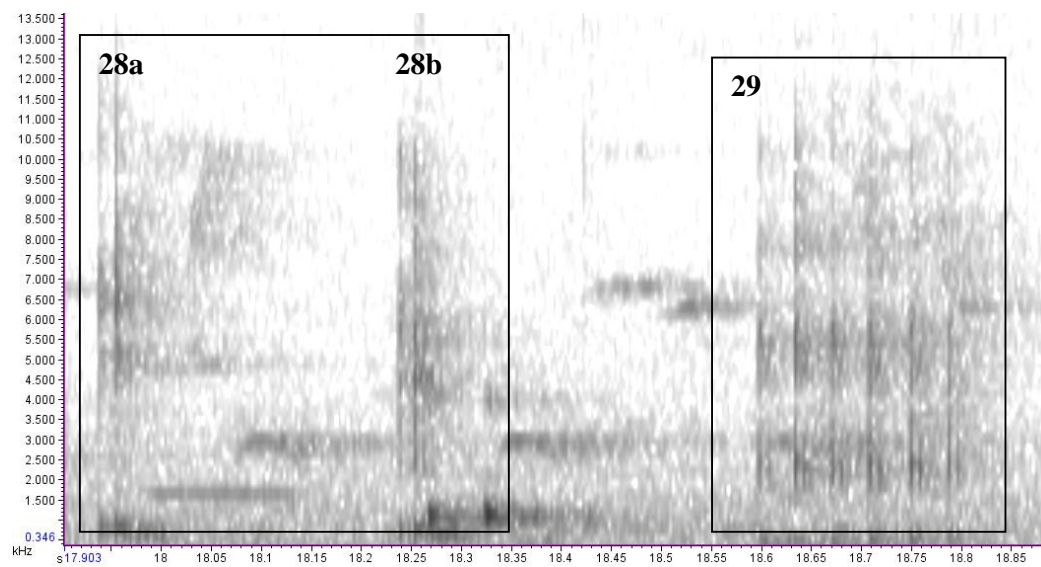
Syllable 26.



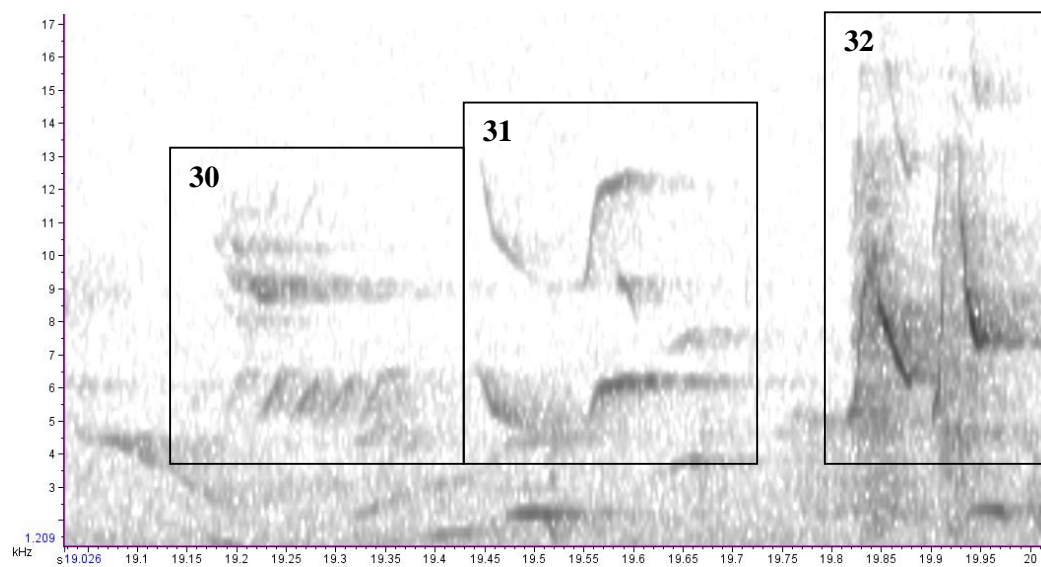
Syllable 27.



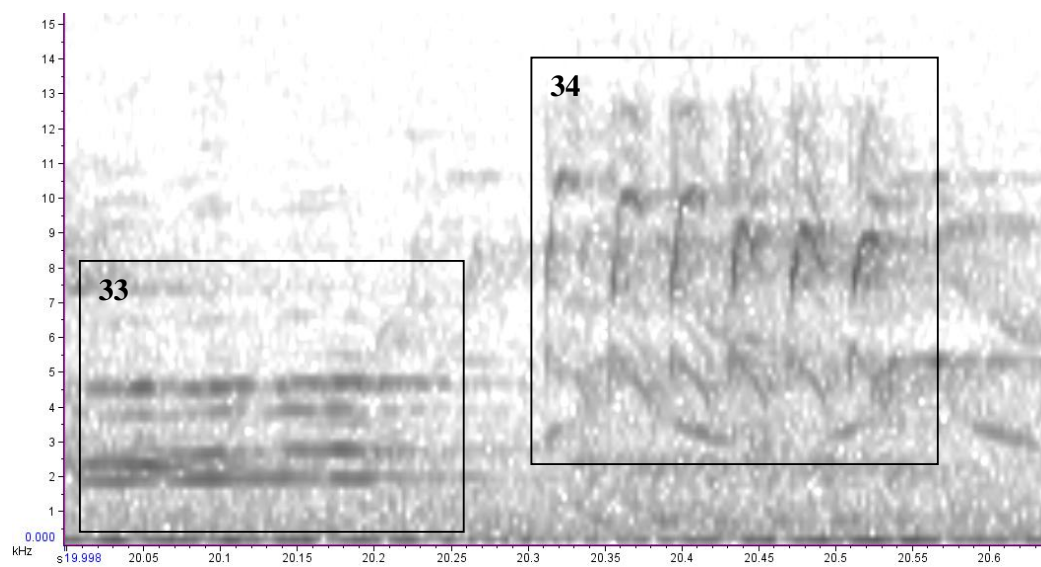
Syllables 28 and 29. 2 syllable 28s.



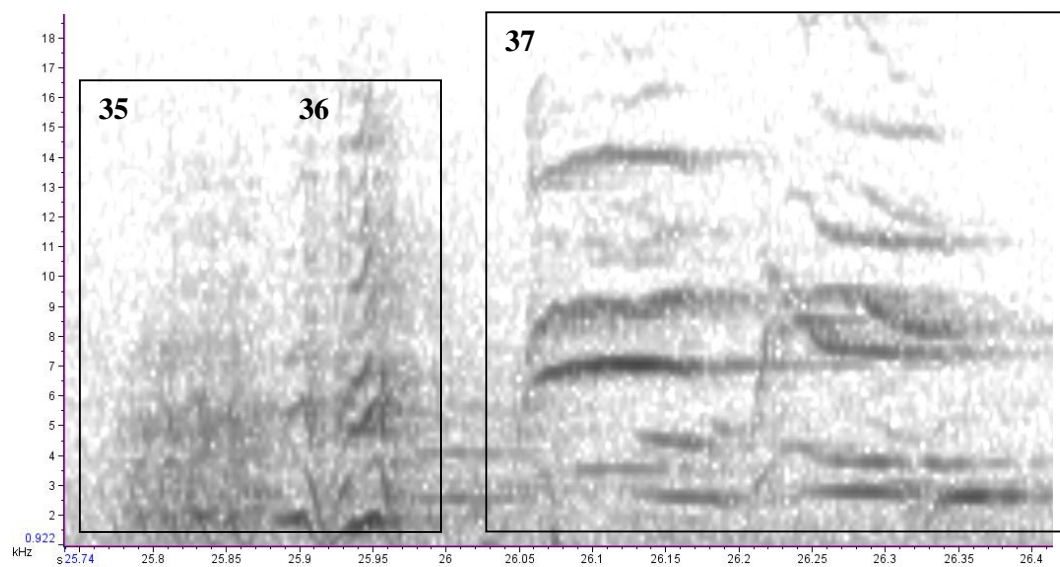
Syllables 30-32.



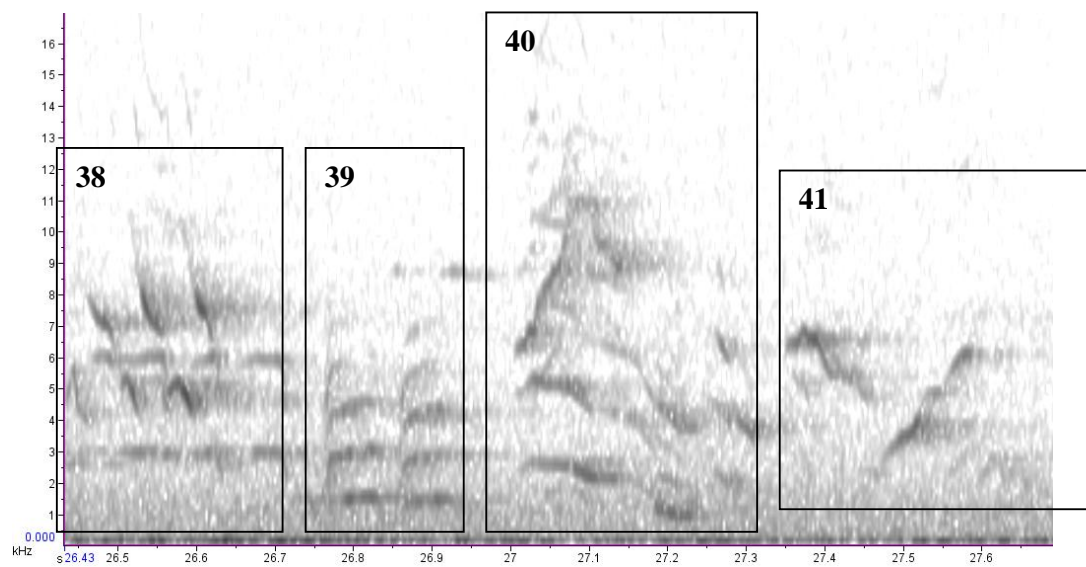
Syllables 33 and 34.



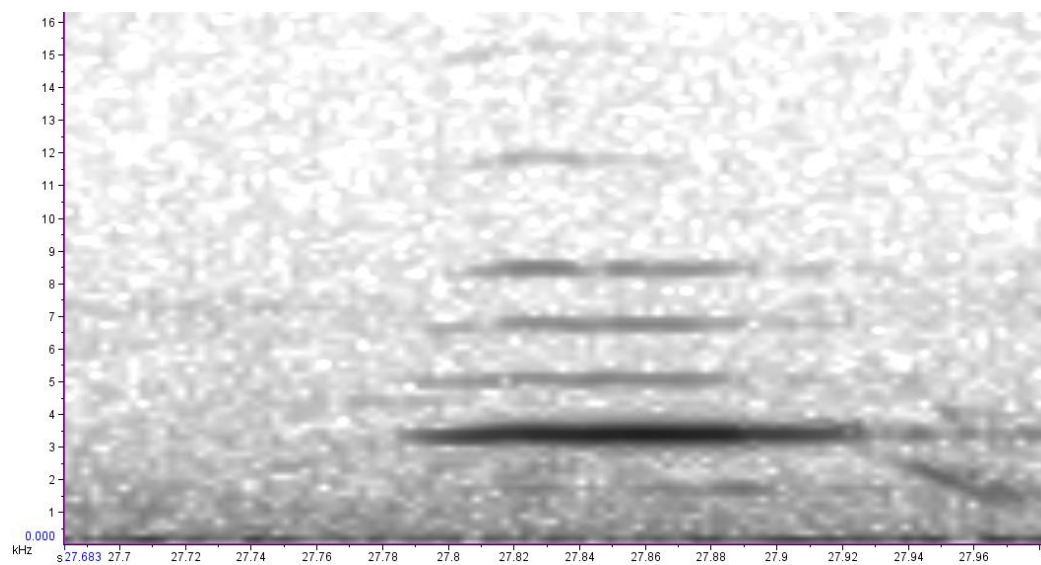
Syllables 35-37.



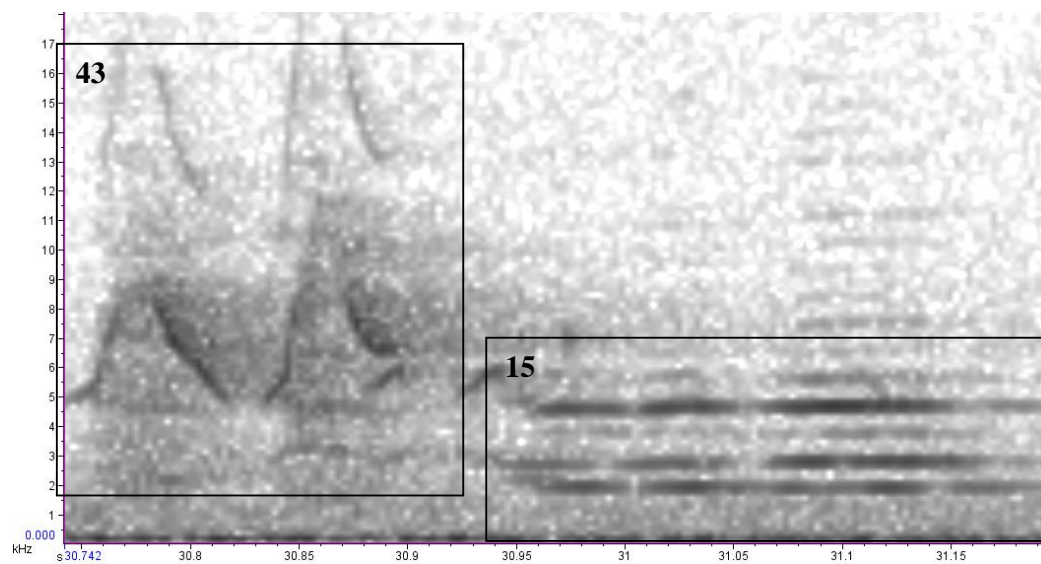
Syllables 38-41.



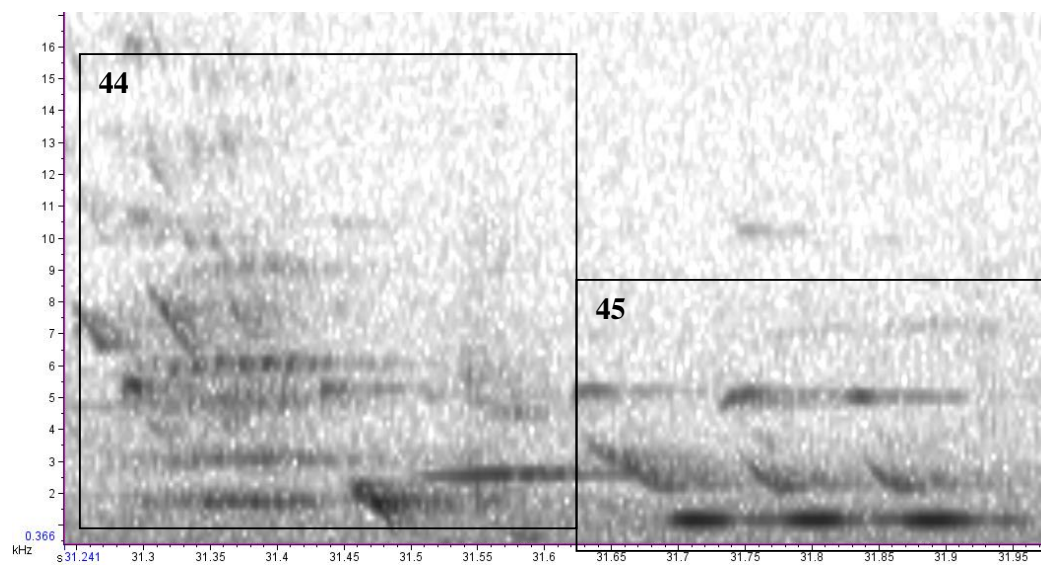
Syllable 42.



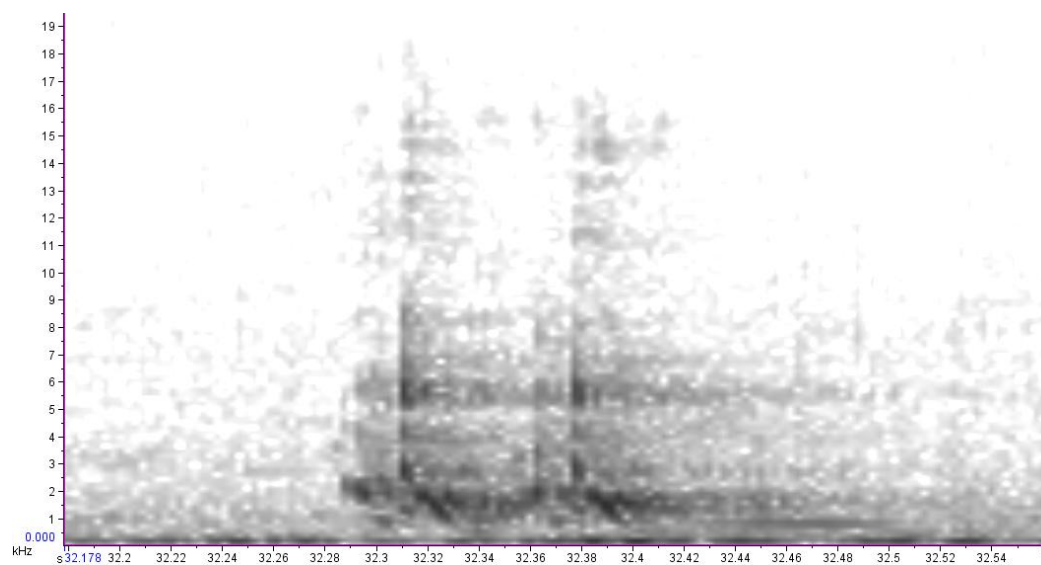
Syllable 43 and a repeat of syllable 15.



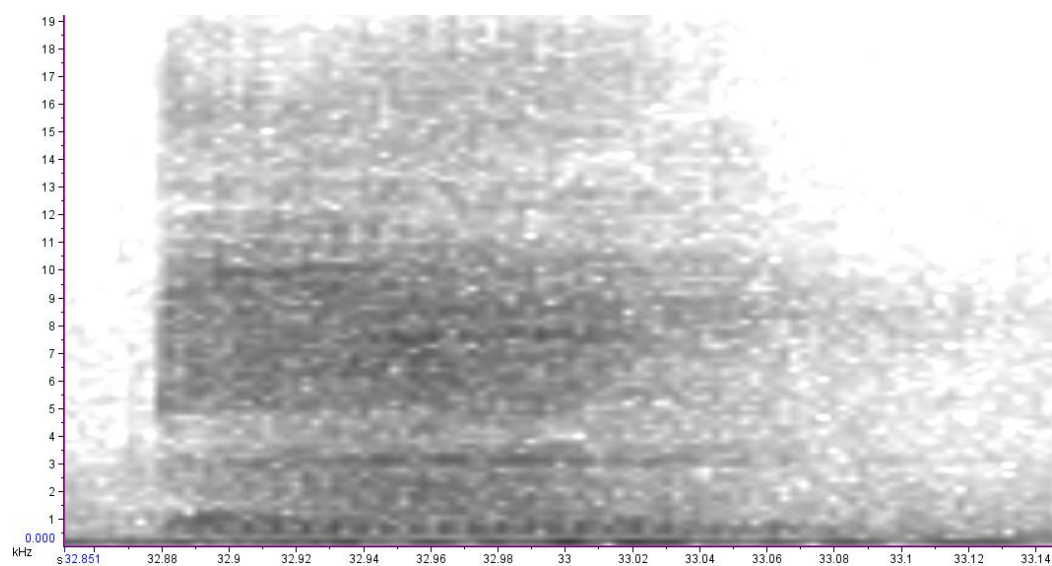
Syllables 44 and 45.



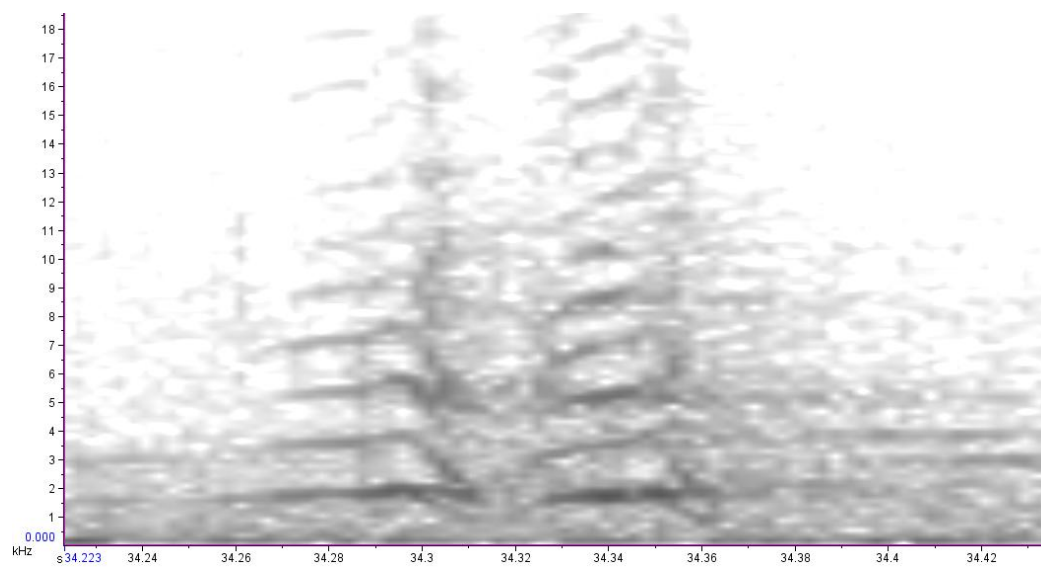
Syllable 46.



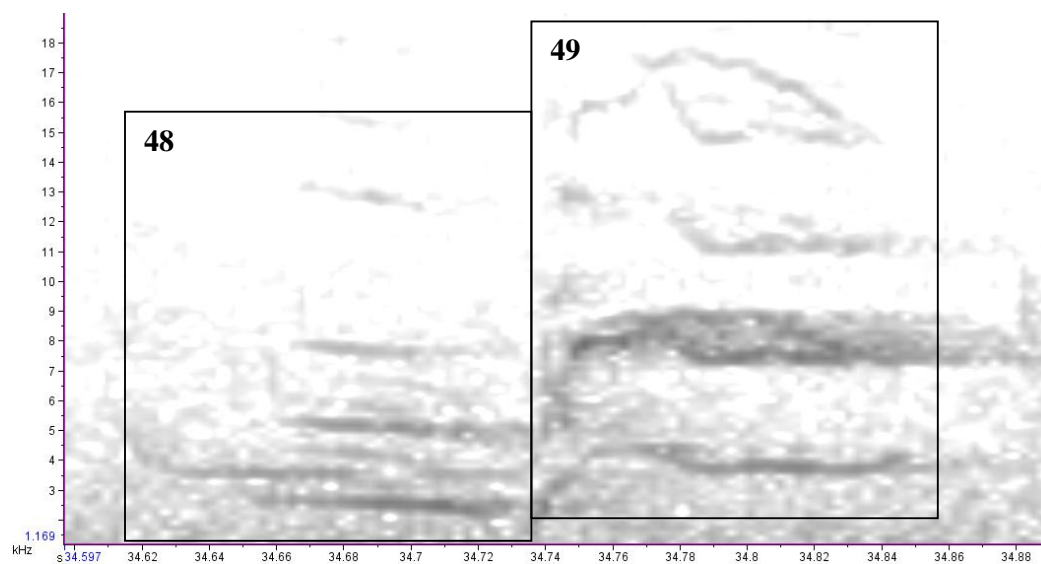
A repeat of syllable 10. This time only YM-RBk 'singing' it.



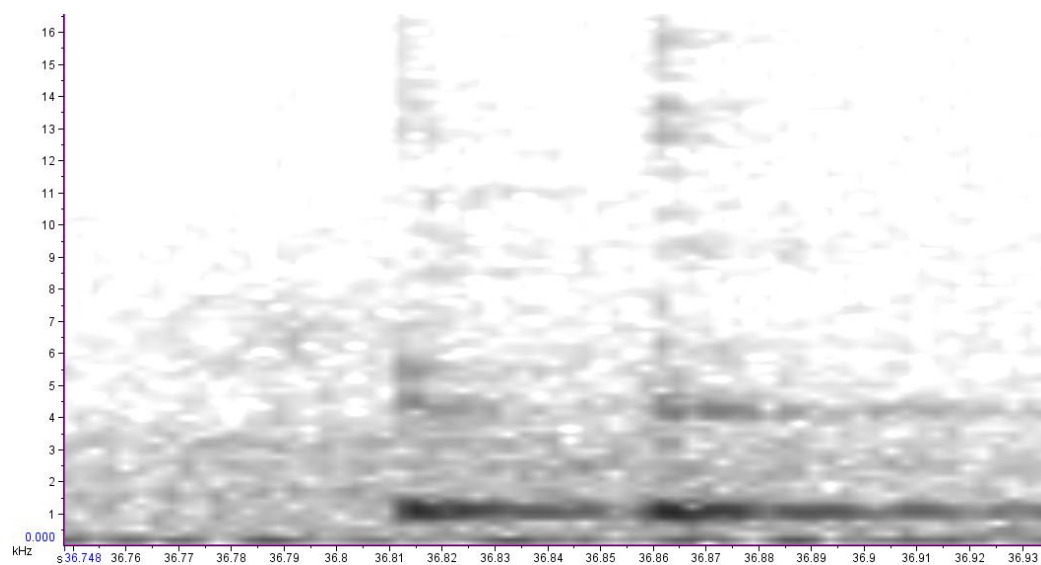
Syllable 47.



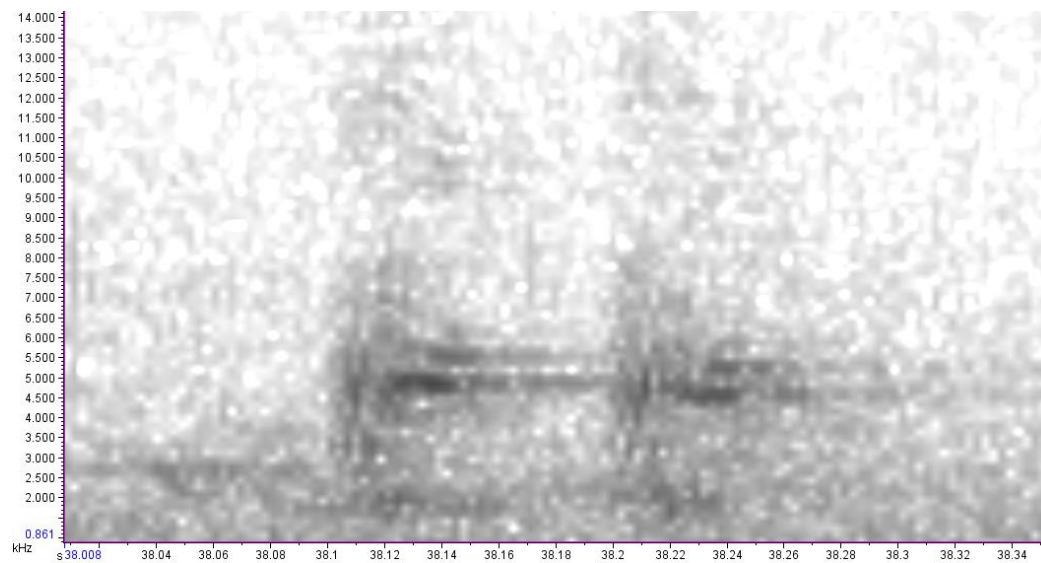
Syllables 48 and 49.



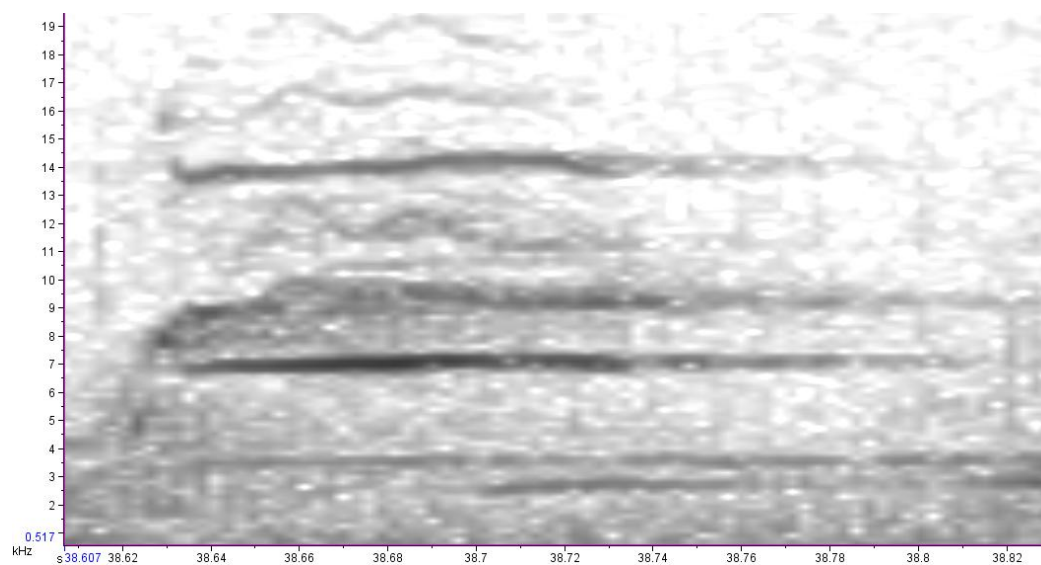
Syllable 50. 2 knocks syllable.



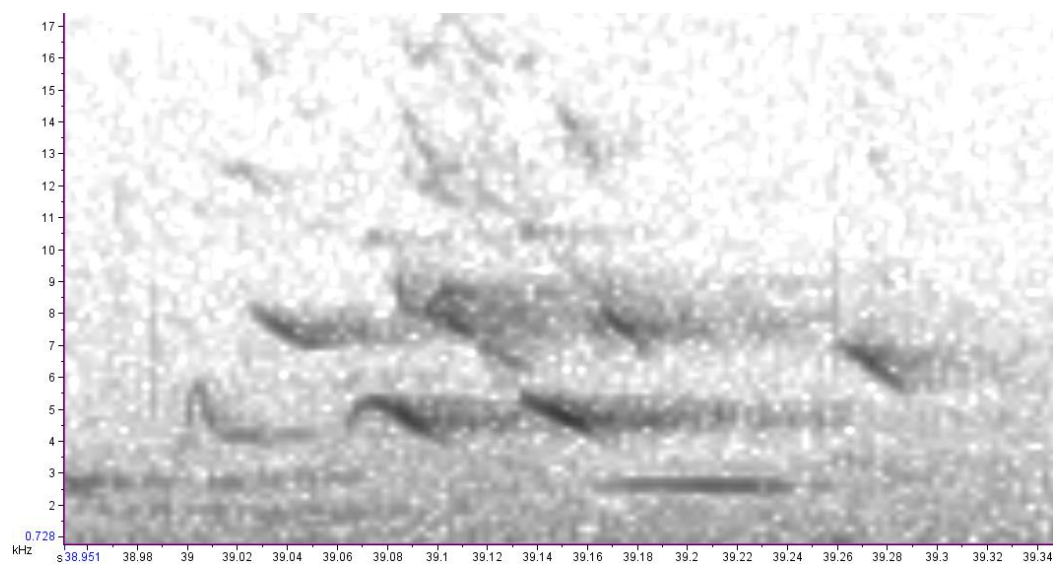
Syllable 51.



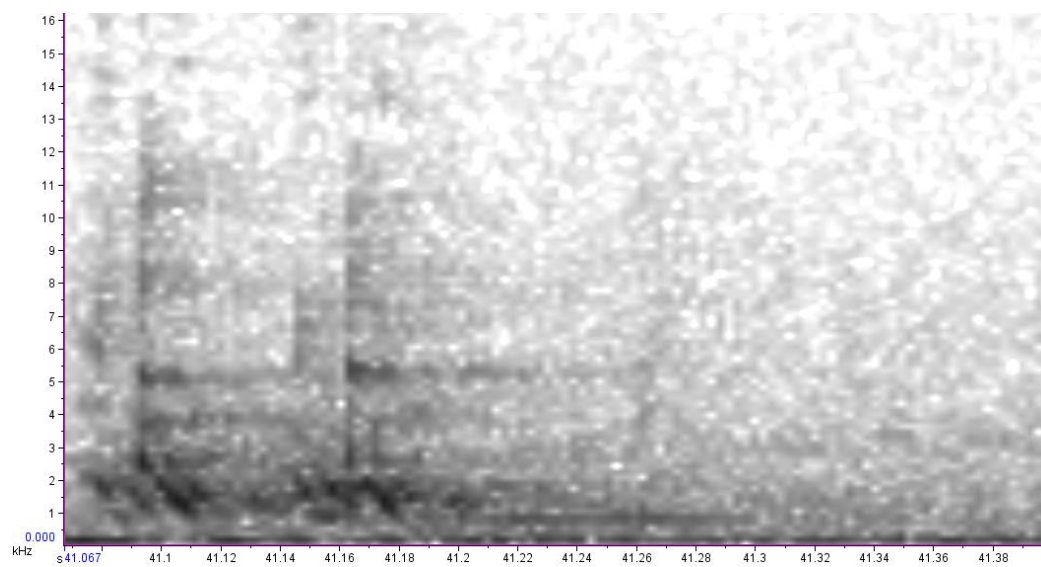
Syllable 52.



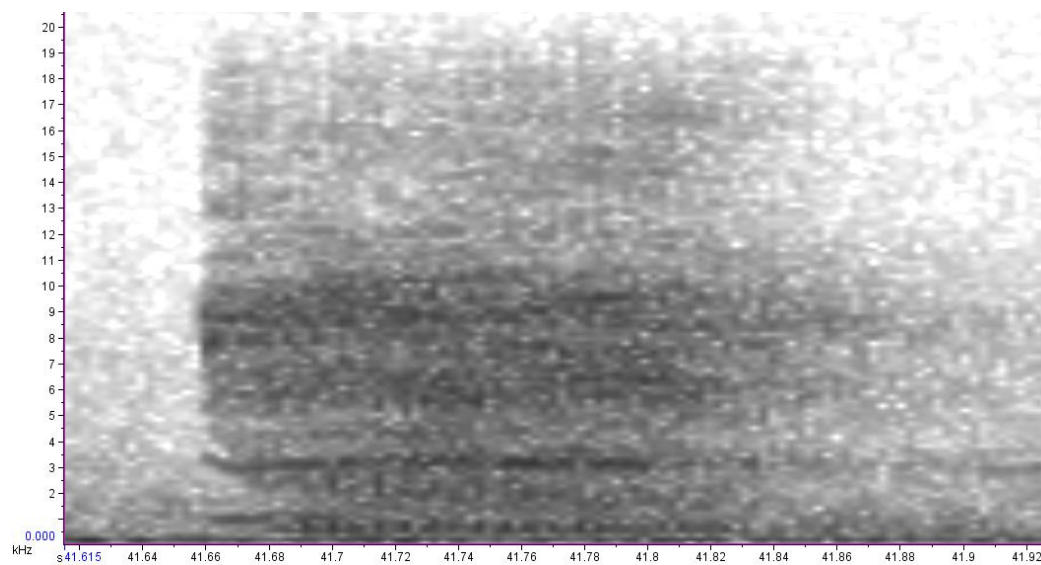
Syllable 53.



Syllable 54.

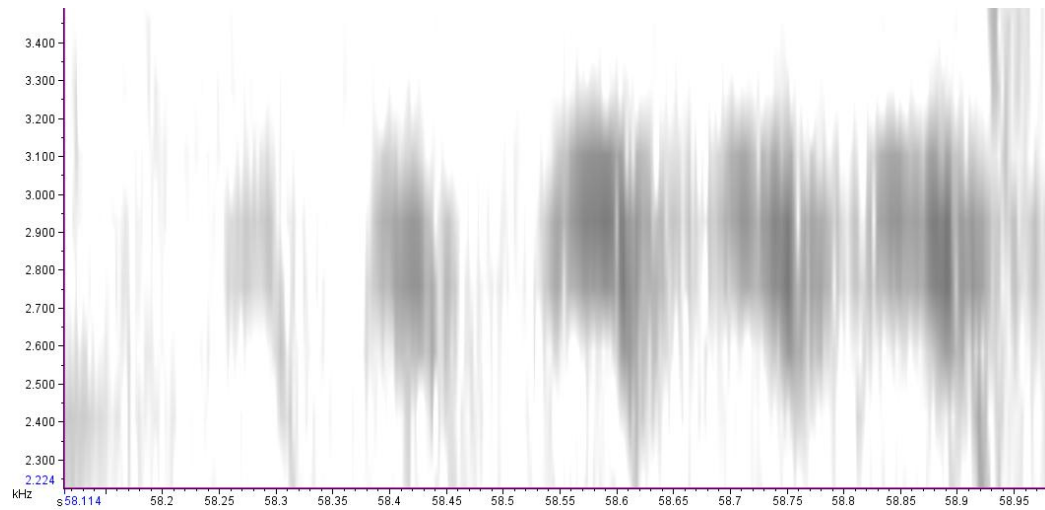


Syllable 10 repeat (terminal syllable).

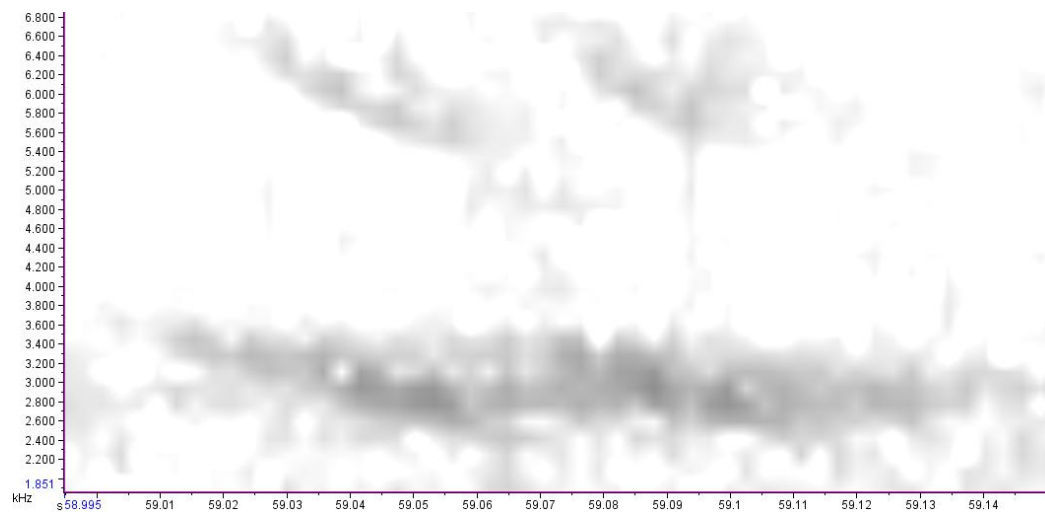


Song 39 – 1008 (YM-YLb). Short

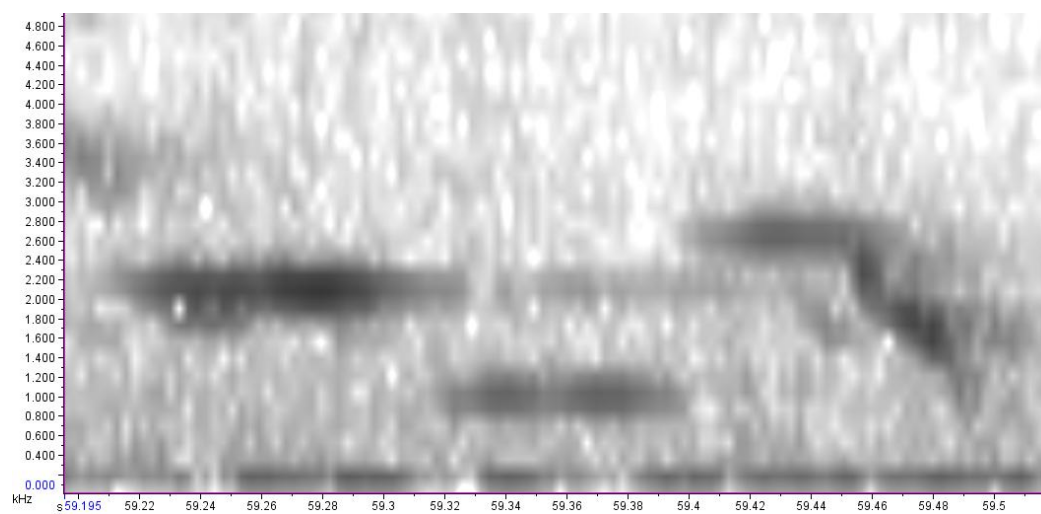
Syllable 1. Ascending crescendo. Same syllables repeated, just slightly higher pitch with each repeat.



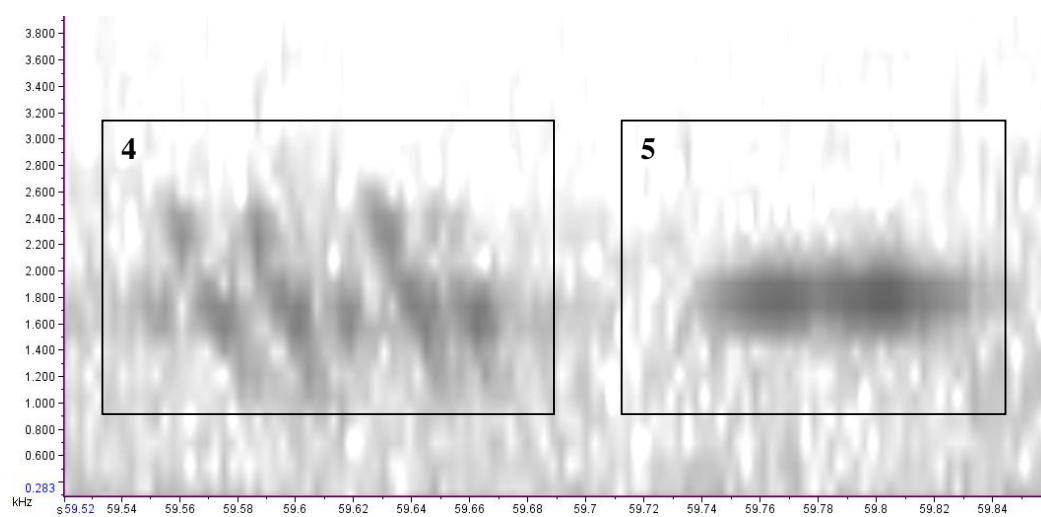
Syllable 2.



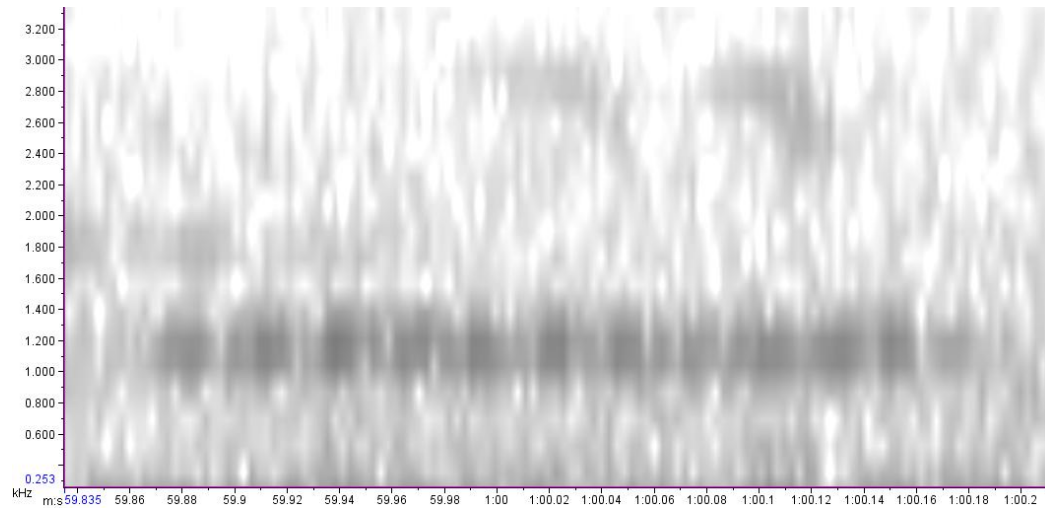
Syllable 3. Overlapping, so considered one syllable.



Syllables 4 and 5.

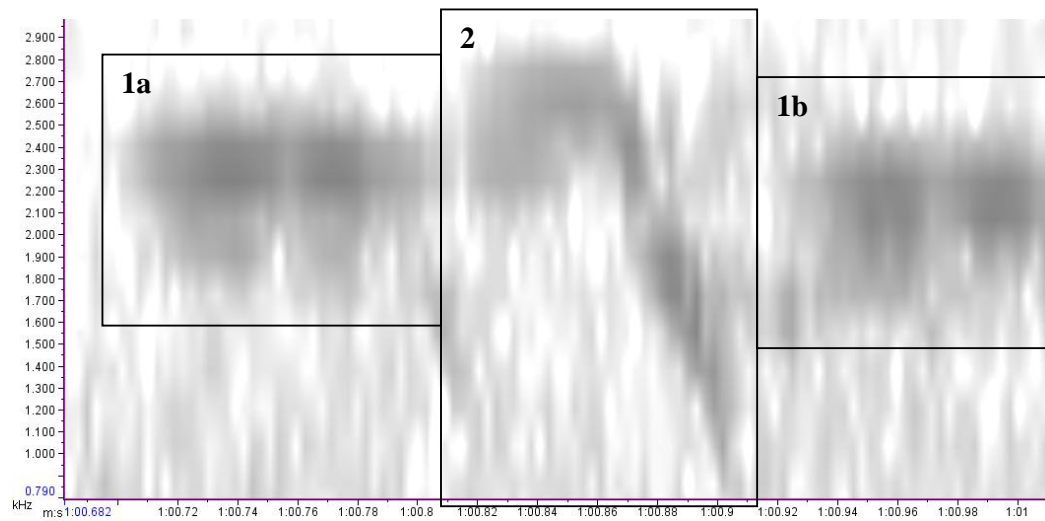


Syllable 6. Jones Bay syllable.

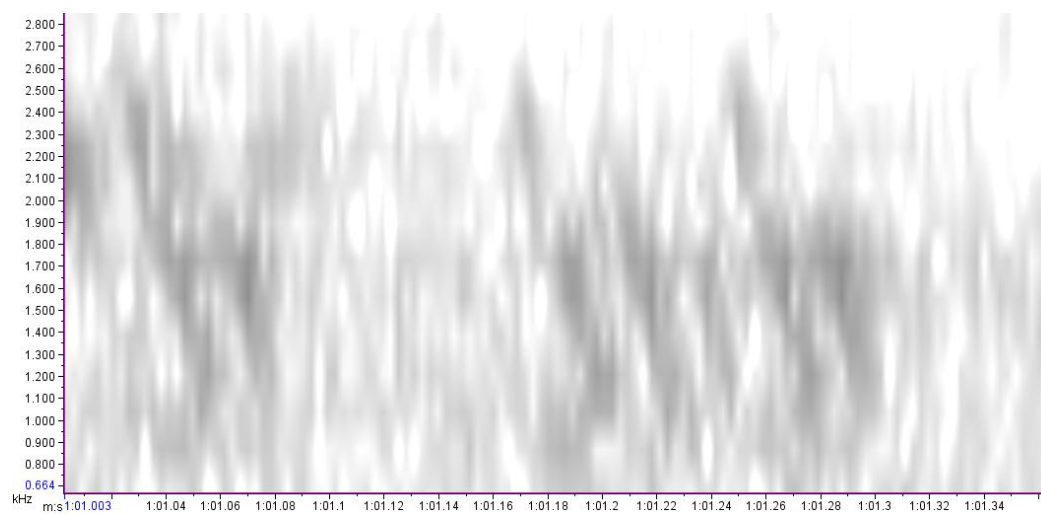


Song 40 – 1008 (YM-YBk – female). Short

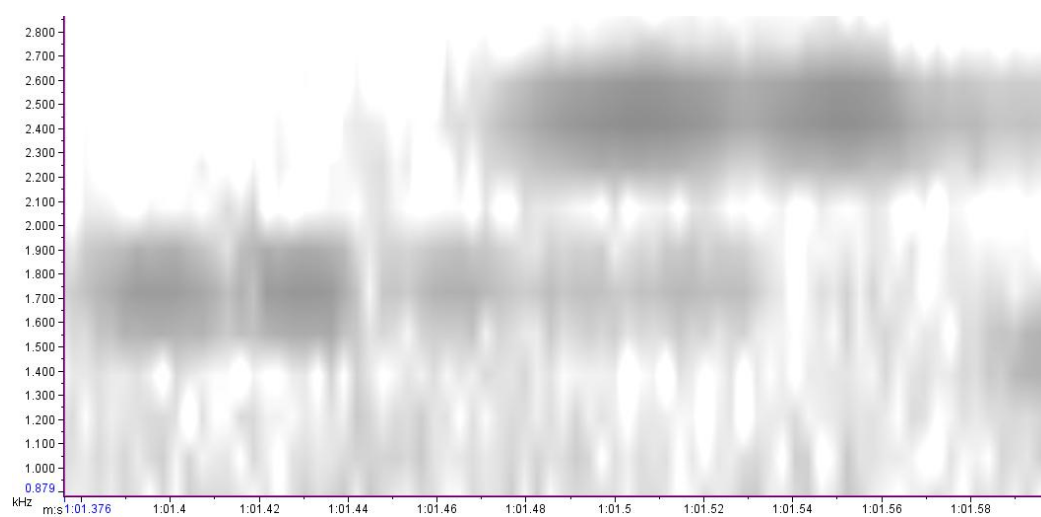
Syllables 1 and 2. 2 syllable 1s. 1b is at a very slightly lower frequency than 1a.



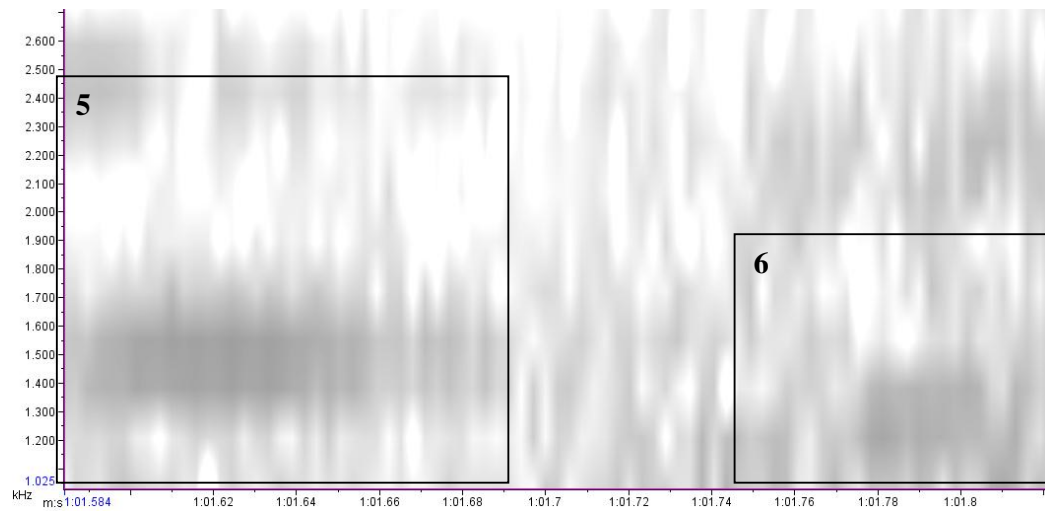
Syllable 3.



Syllable 4.

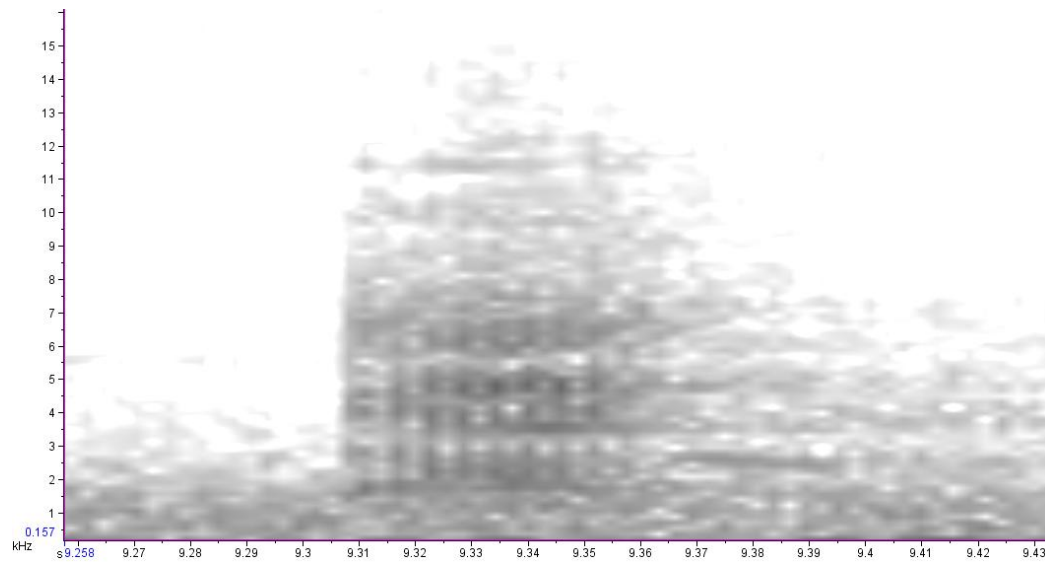


Syllables 5 and 6.

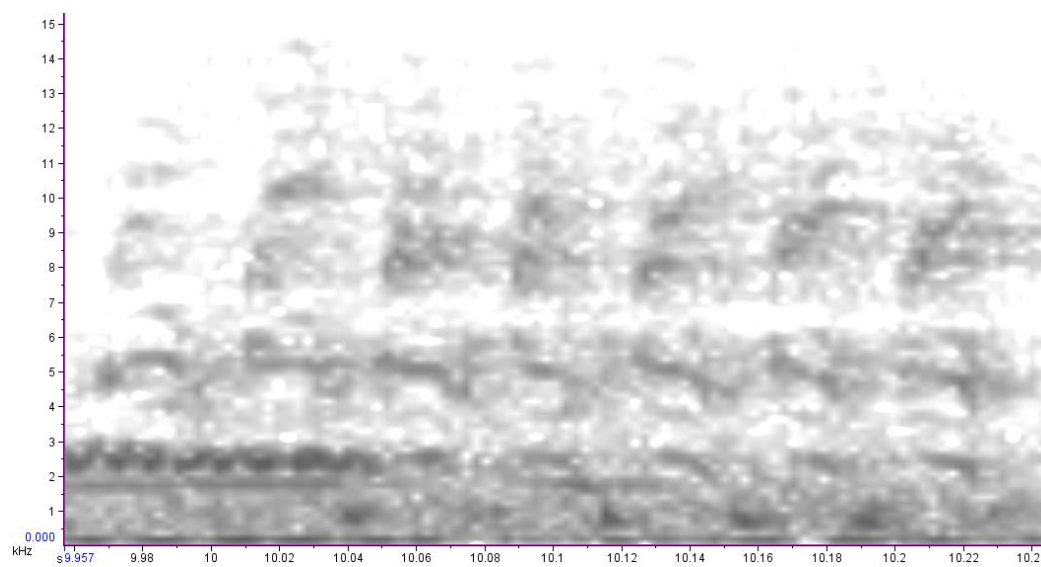


Song 41 - 021-2010-09-09 02_27_00. Non-breeding season. Long

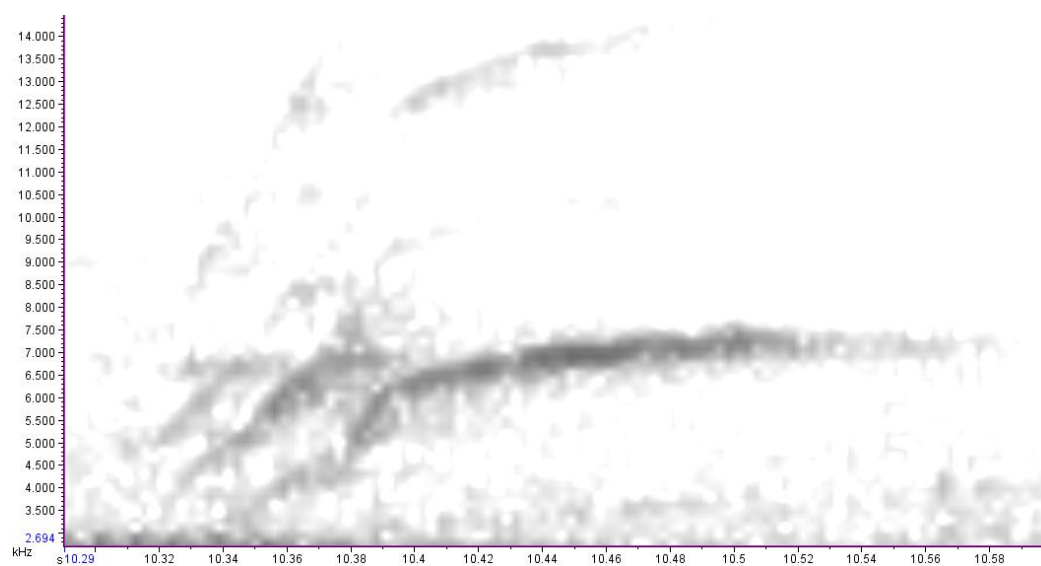
Syllable 1.



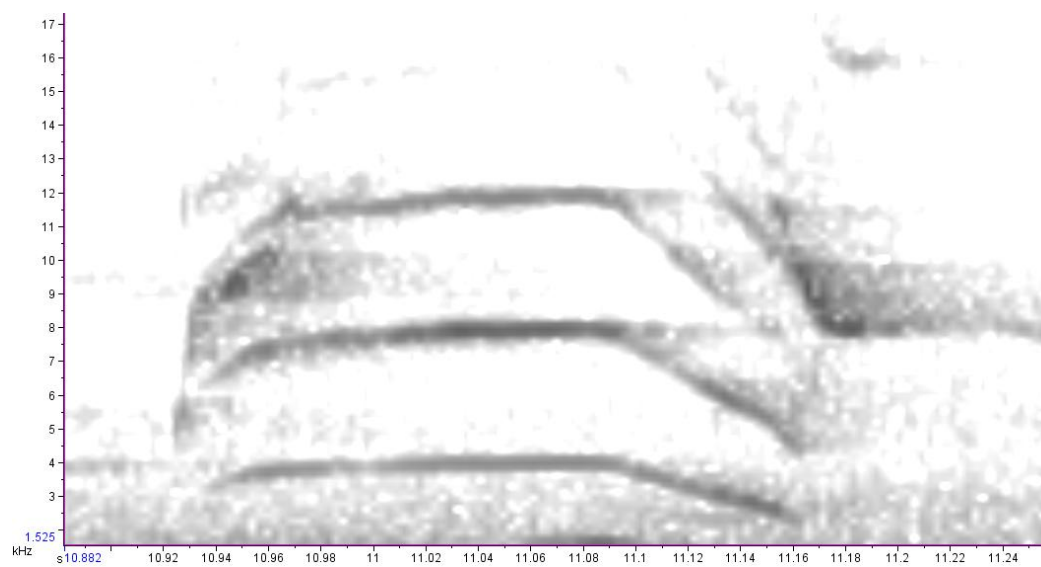
Syllable 2.



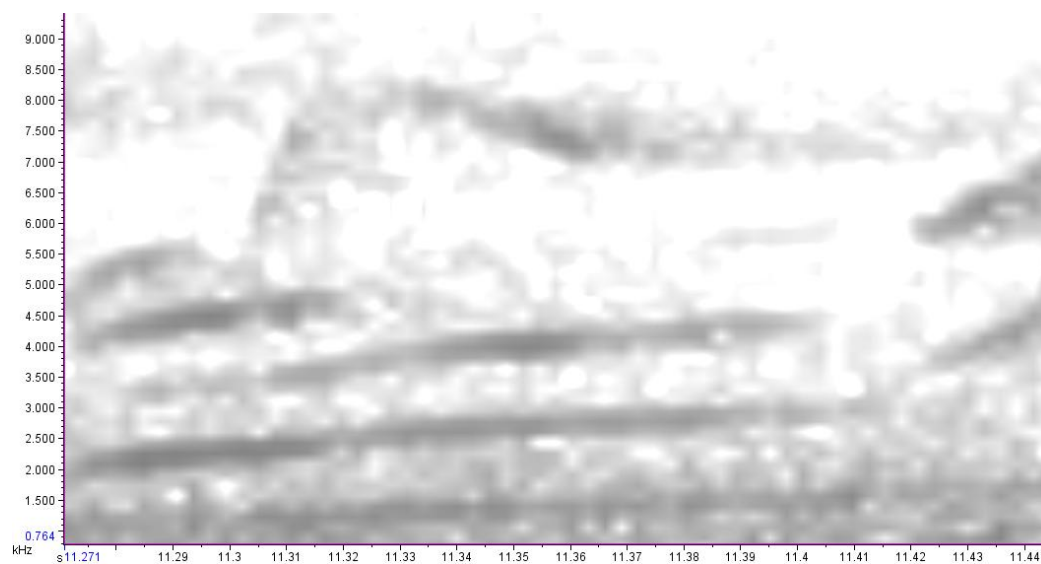
Syllable 3.



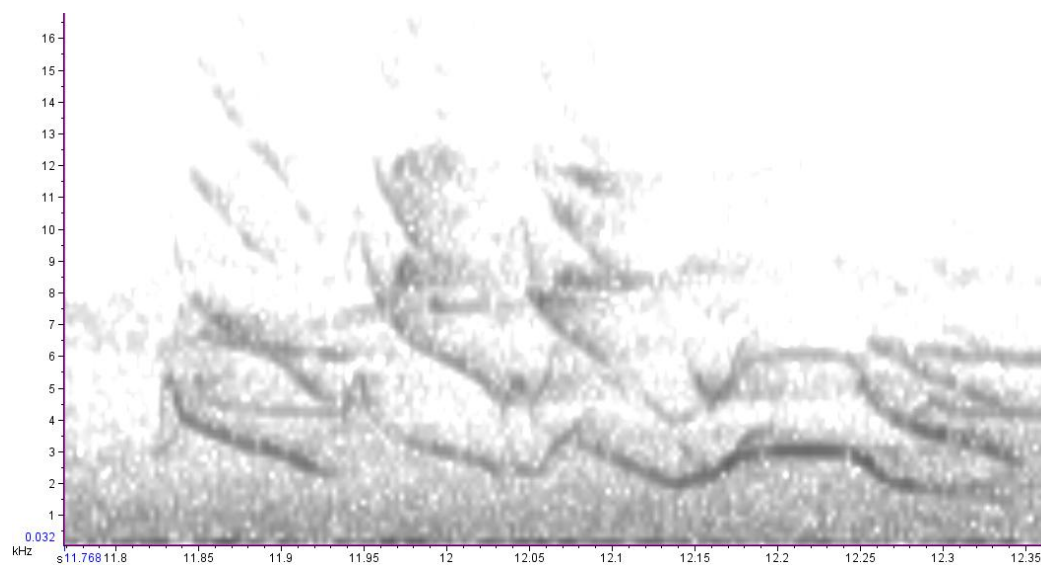
Syllable 4.



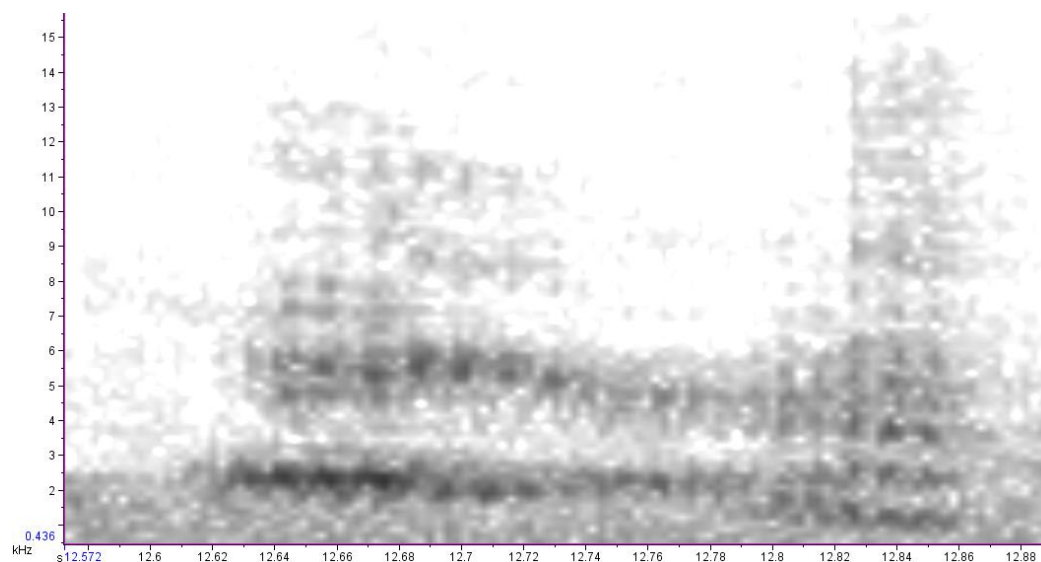
Syllable 5.



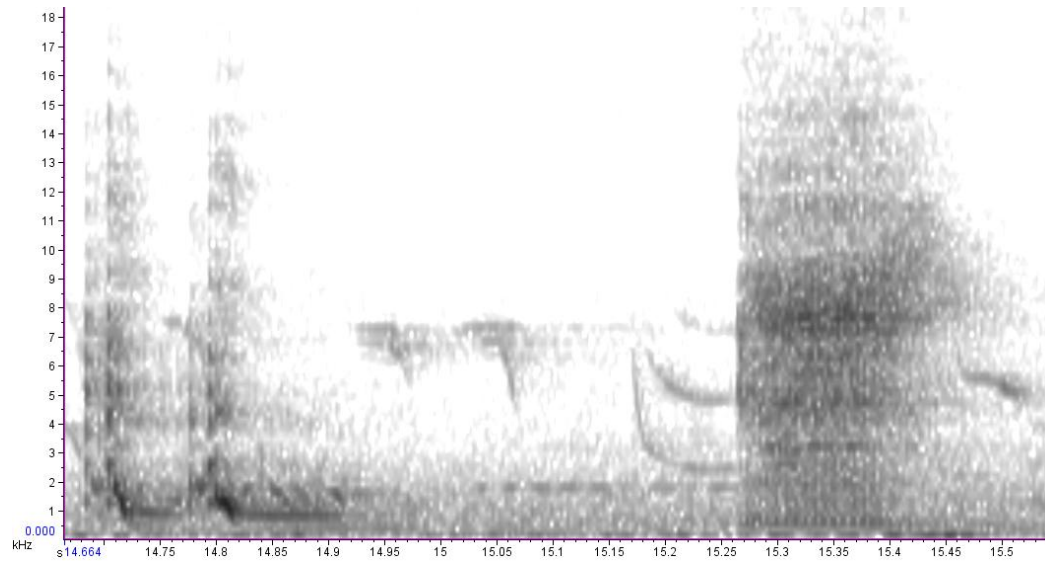
Syllable 6.



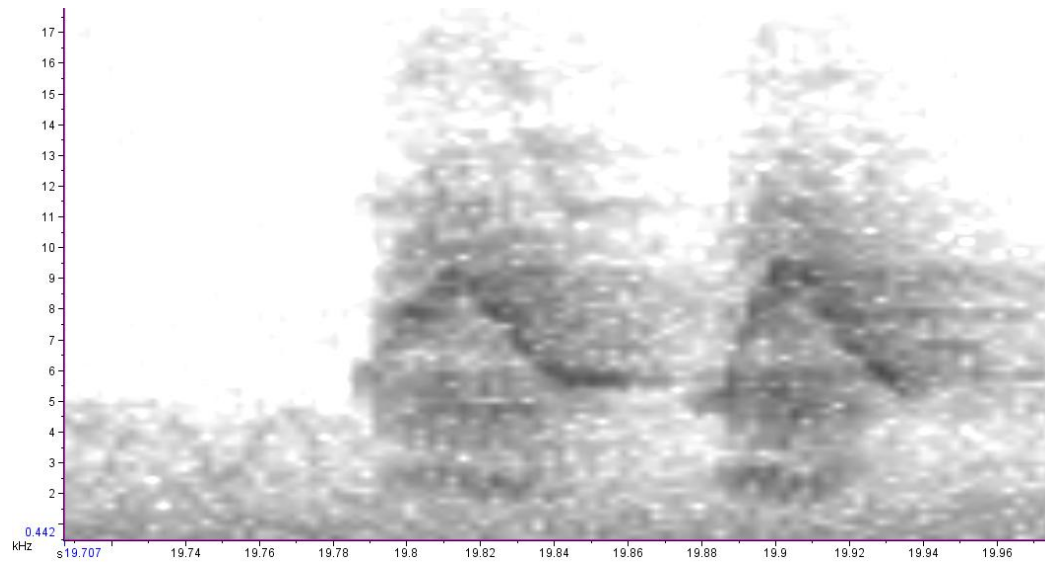
Syllable 7.



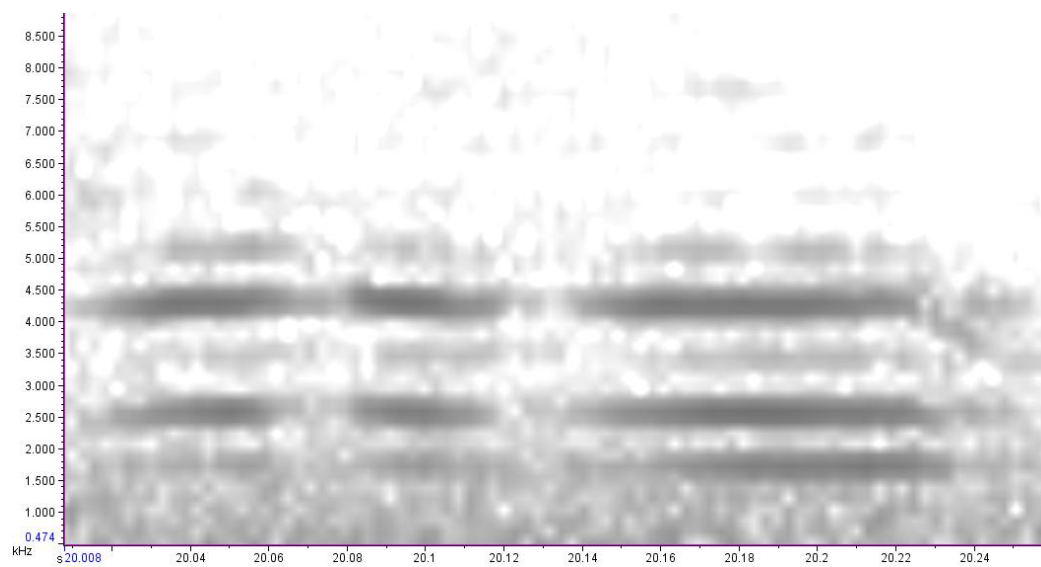
Syllables 8 and 9. Syllable 9 is identical to syllable 10 in song 40.



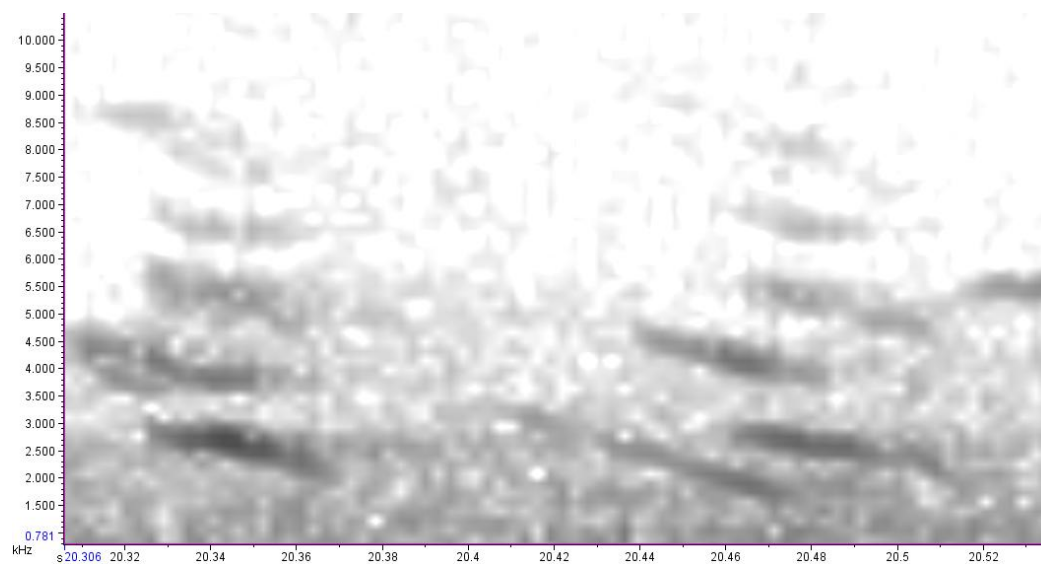
Syllable 10. Double-noted cricket-like sound.



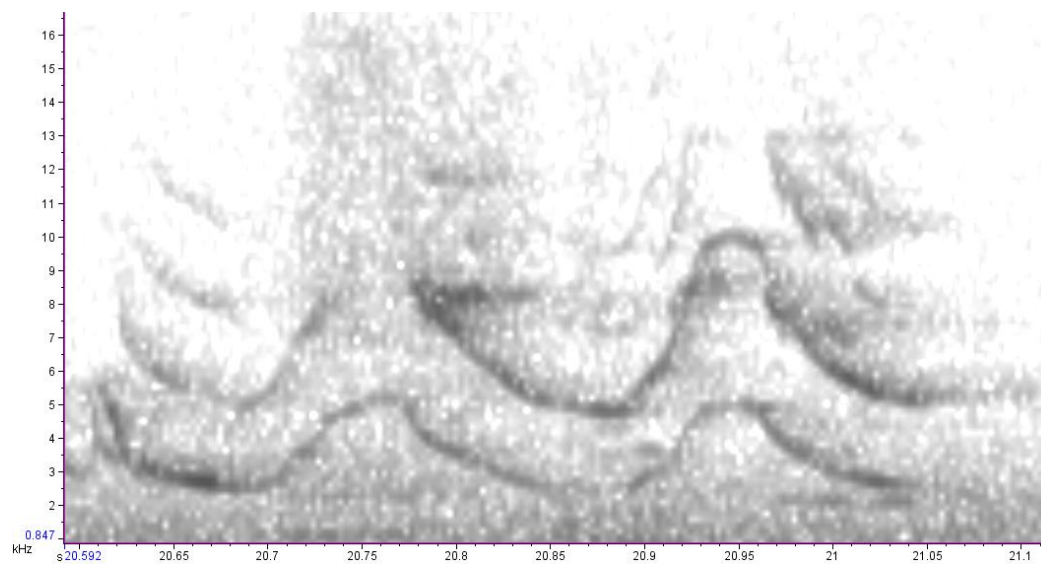
Syllable 11.



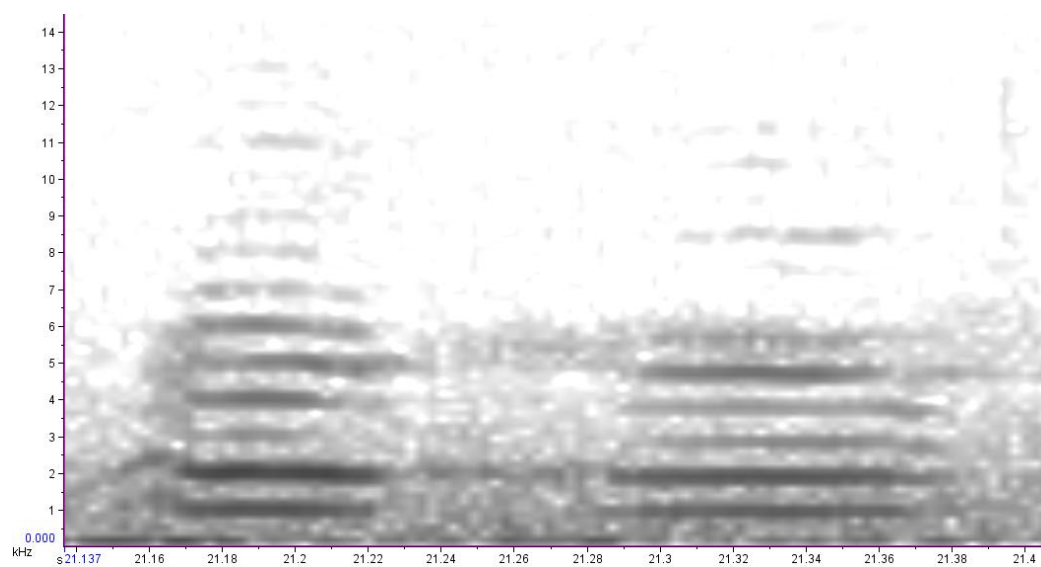
Syllable 12.



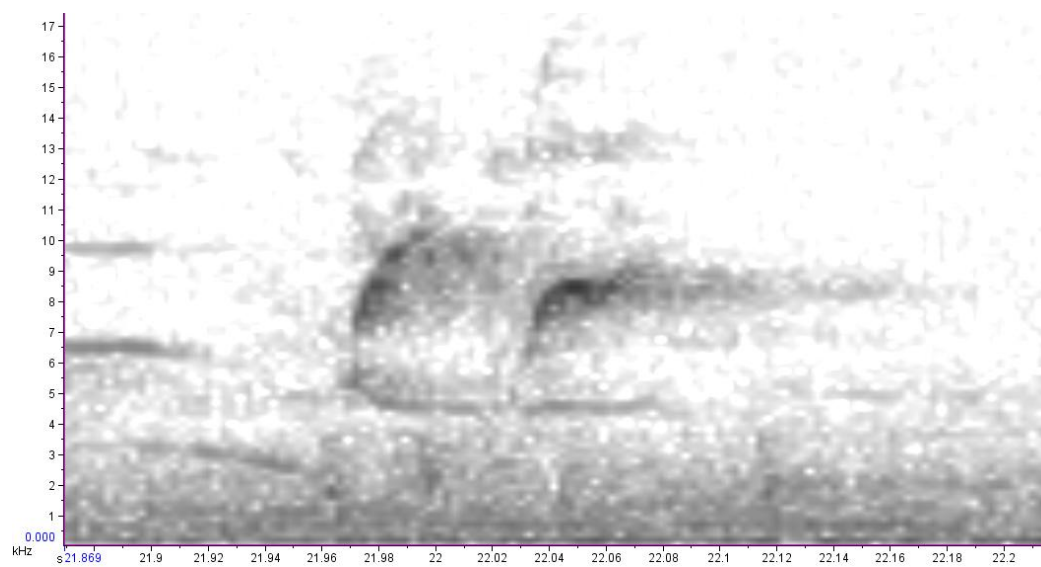
Syllable 13.



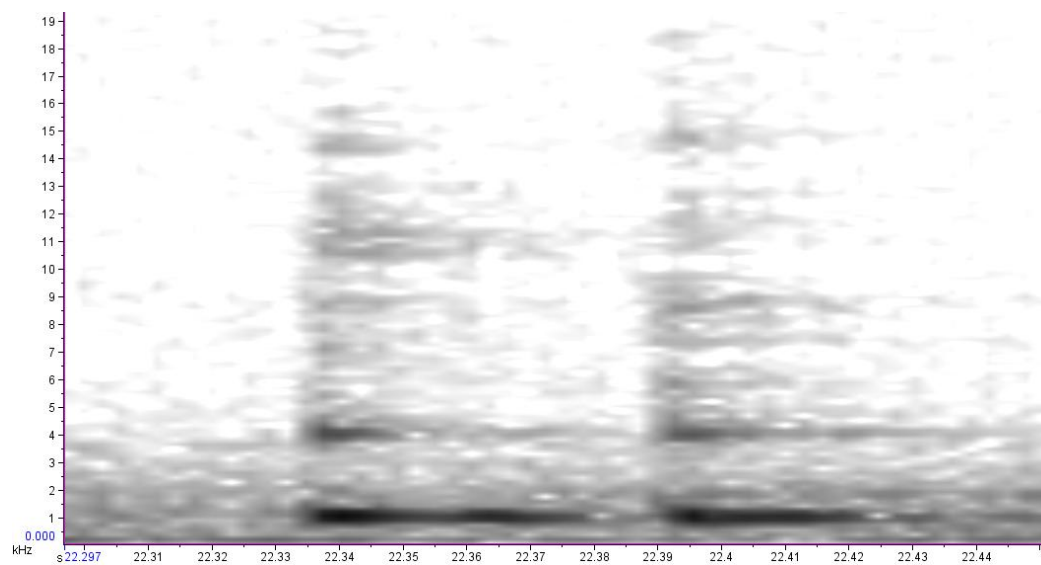
Syllable 14.



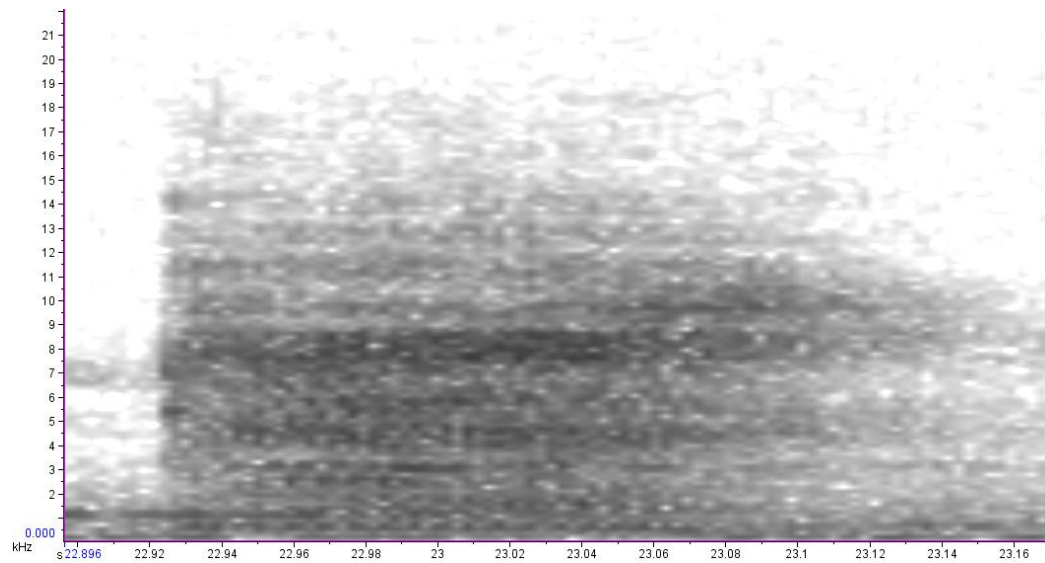
Syllable 15.



Syllable 16. Double-knock syllable.

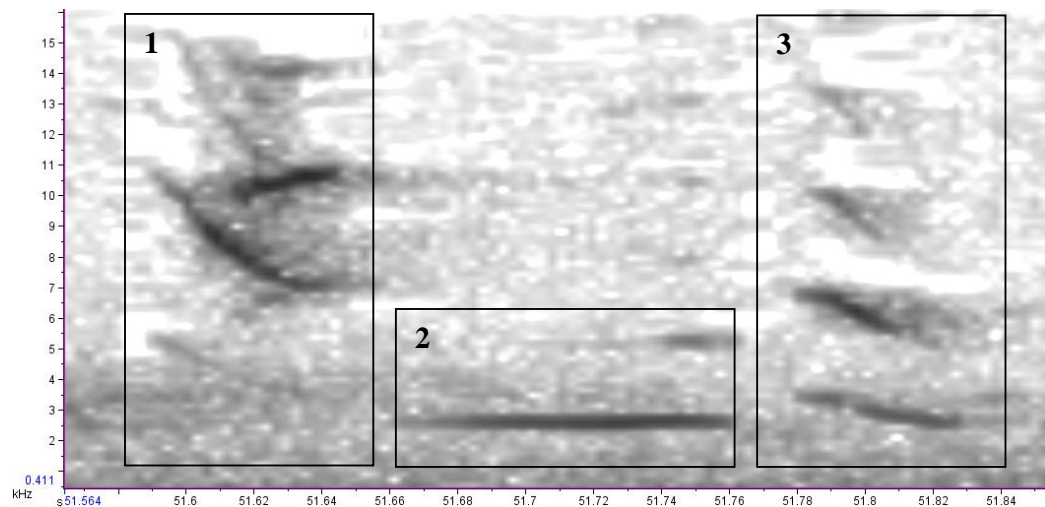


Repeat of syllable 9 (terminal syllable).

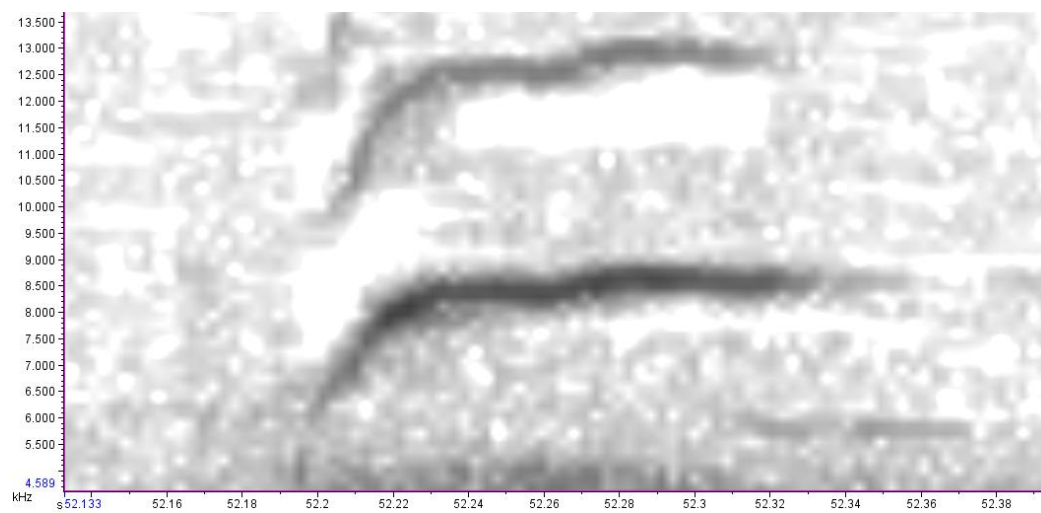


Song 42 – 1014(3) (GO-WM). Long

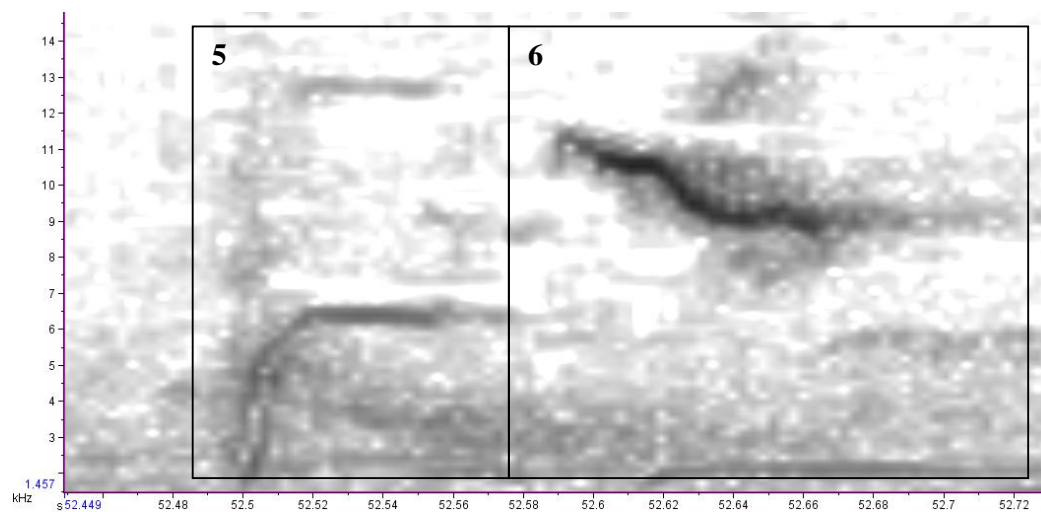
Syllables 1-3. Syllables 1 and 2 may actually be just one syllable, as within other songs, these syllables have been observed where there is an overlapping part of ‘syllable 1’. Compare syllables 4 and 5 in Song 43.



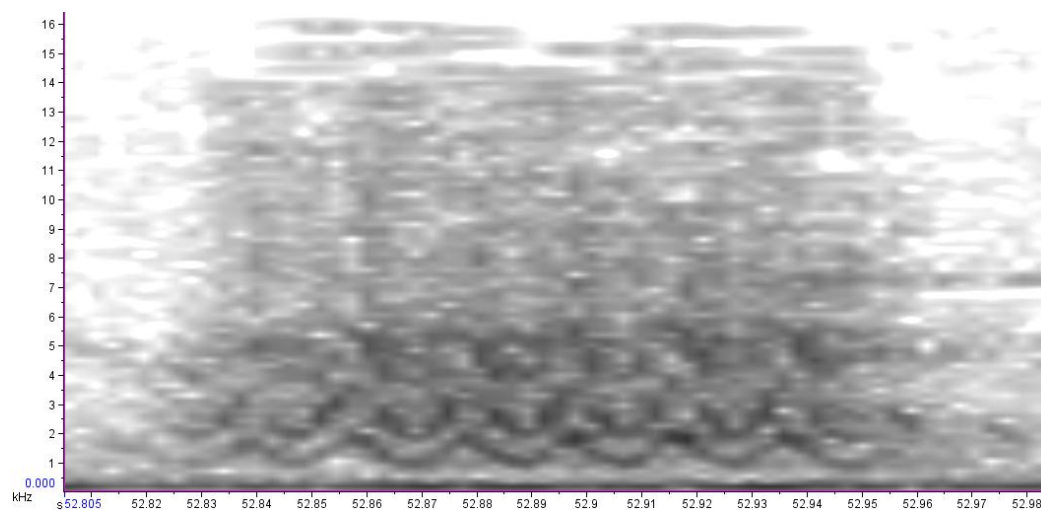
Syllable 4.



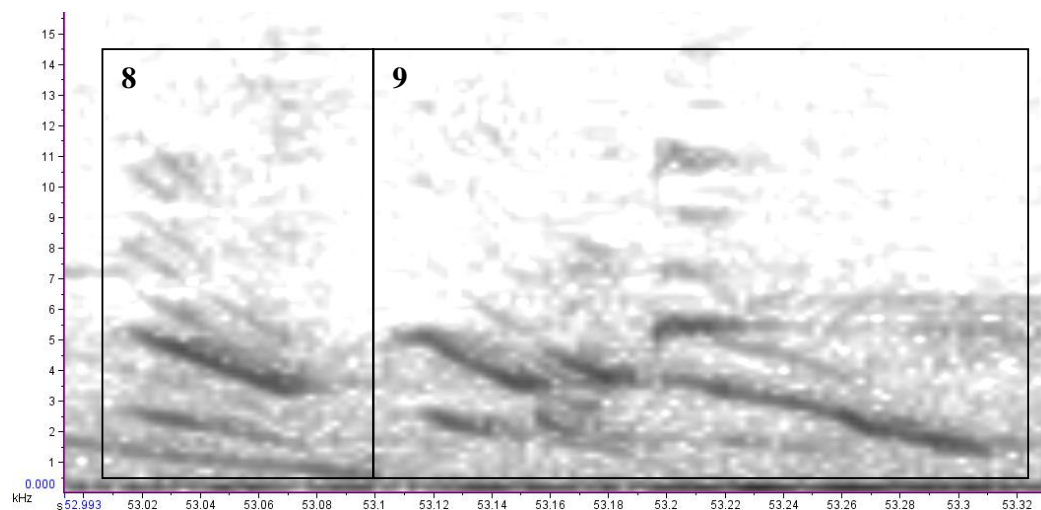
Syllables 5 and 6..



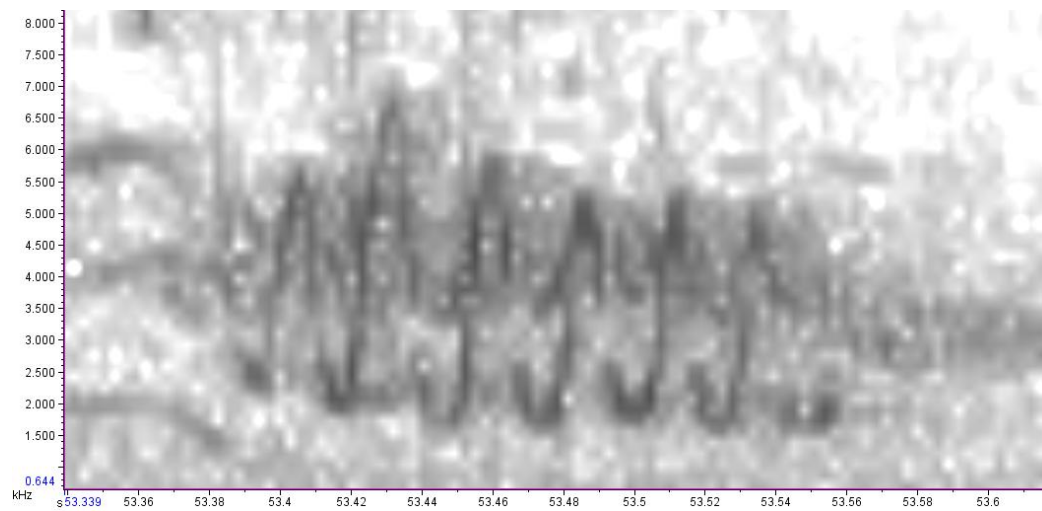
Syllable 7.



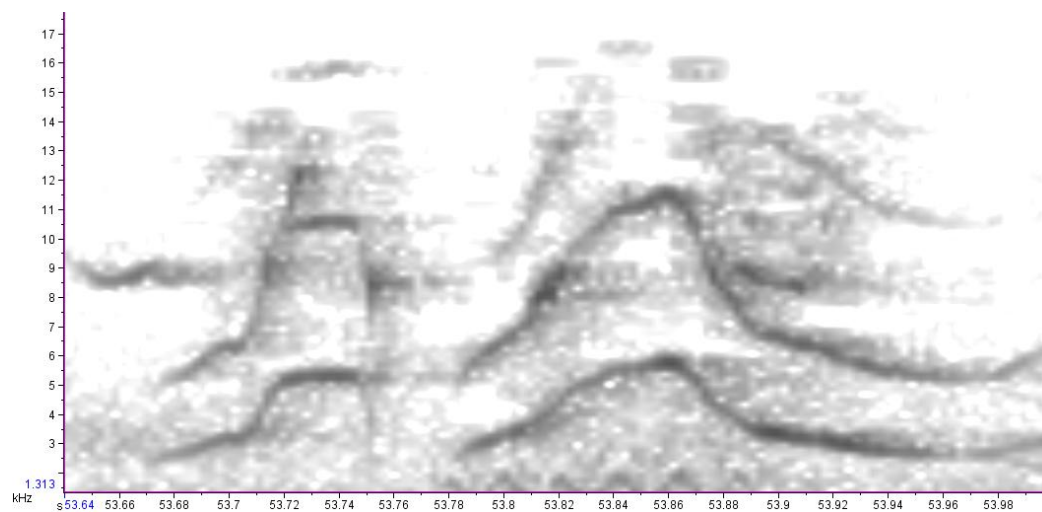
Syllables 8 and 9.



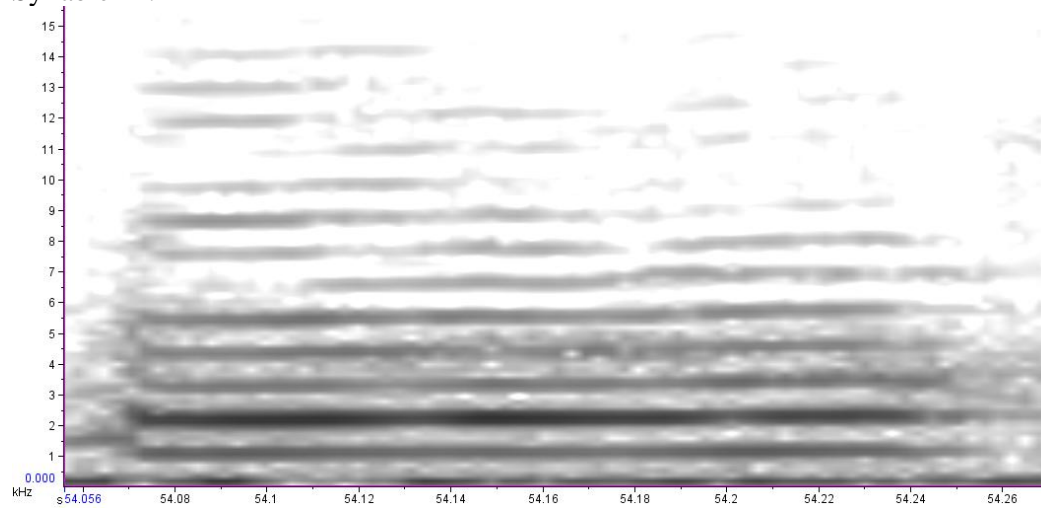
Syllable 10.



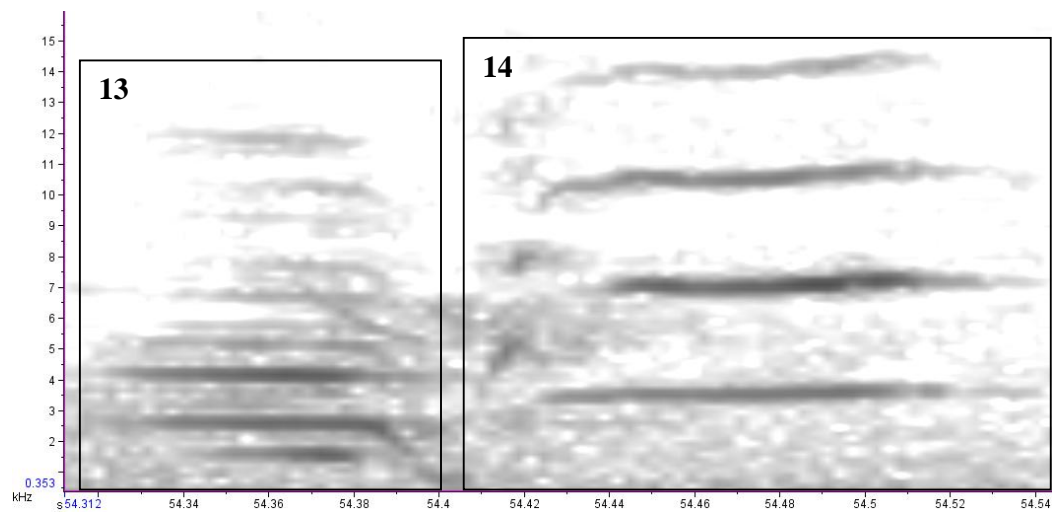
Syllable 11. Two parts to this syllable, both have very similar structures and sounds so considered one syllable, even though on conjoinment as such.



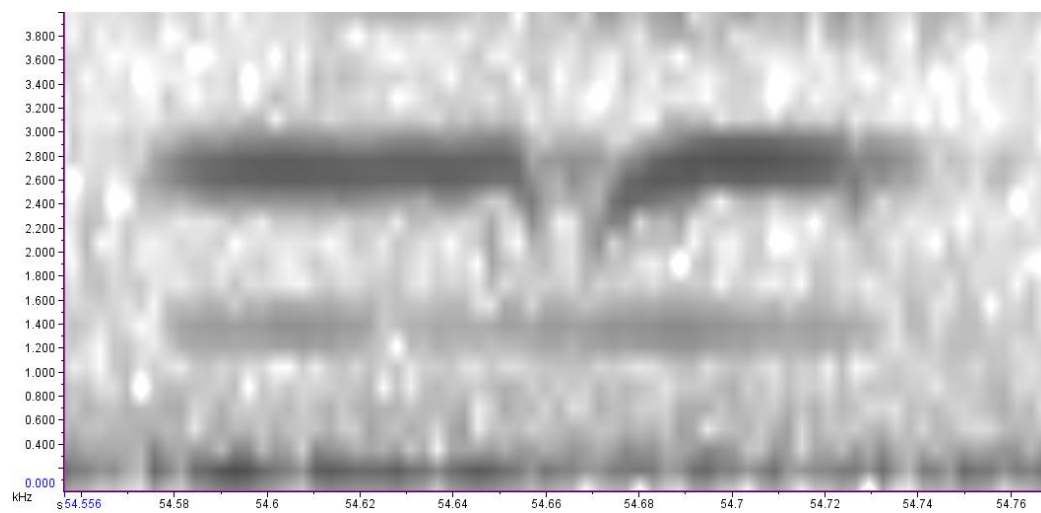
Syllable 12.



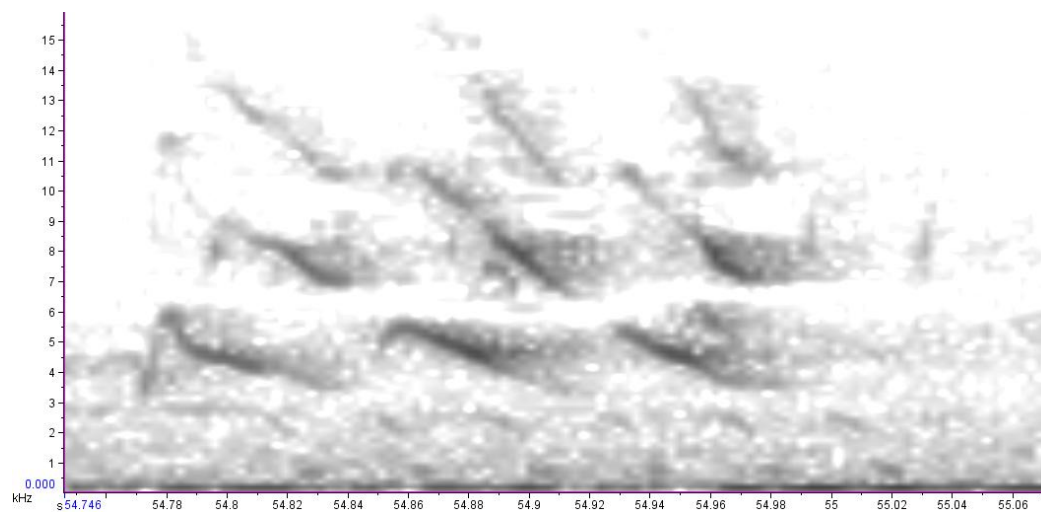
Syllables 13 and 14.



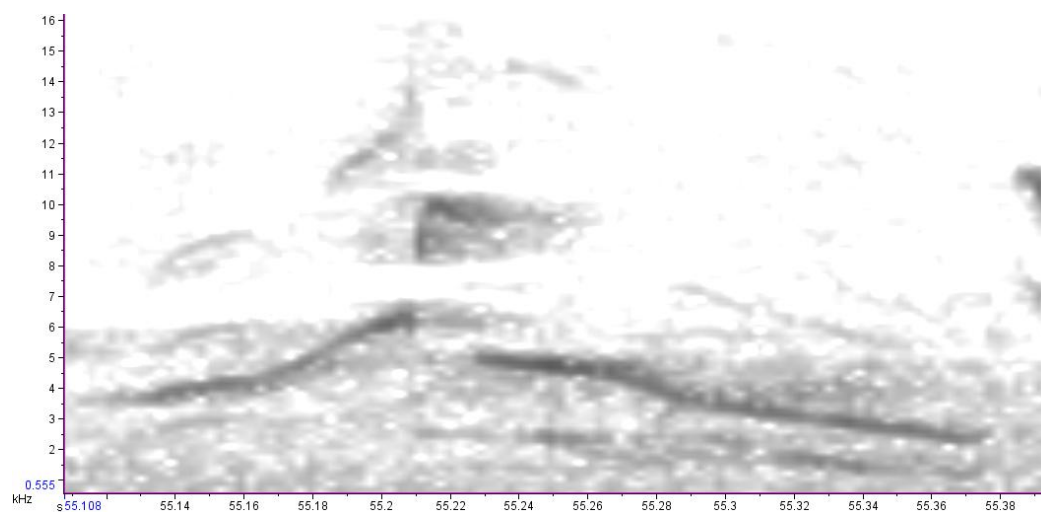
Syllable 15.



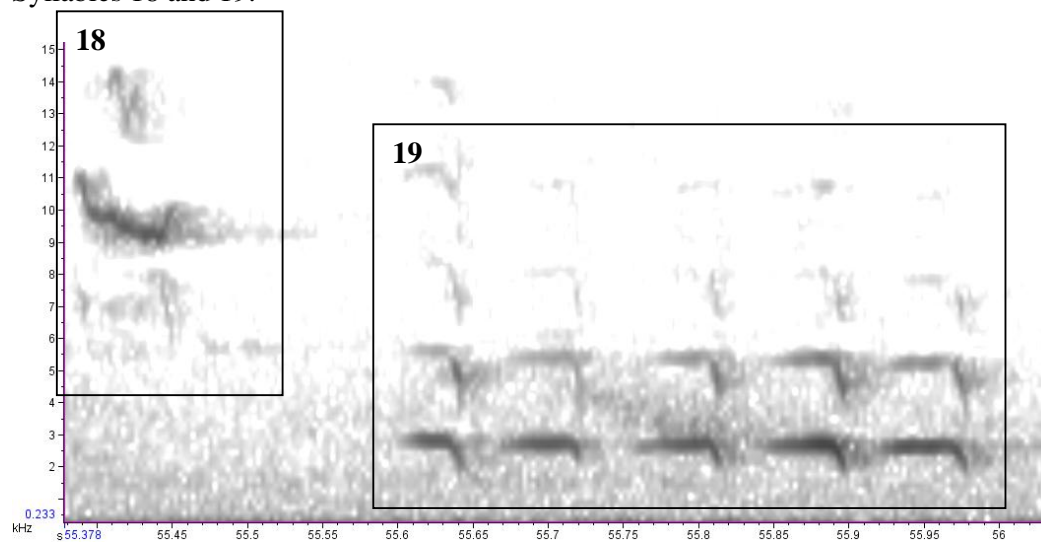
Syllable 16.



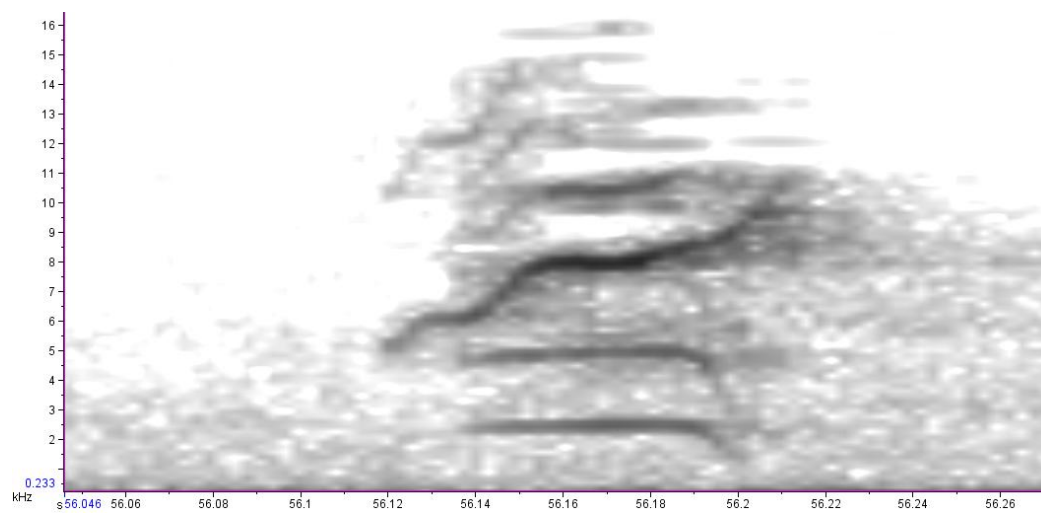
Syllable 17.



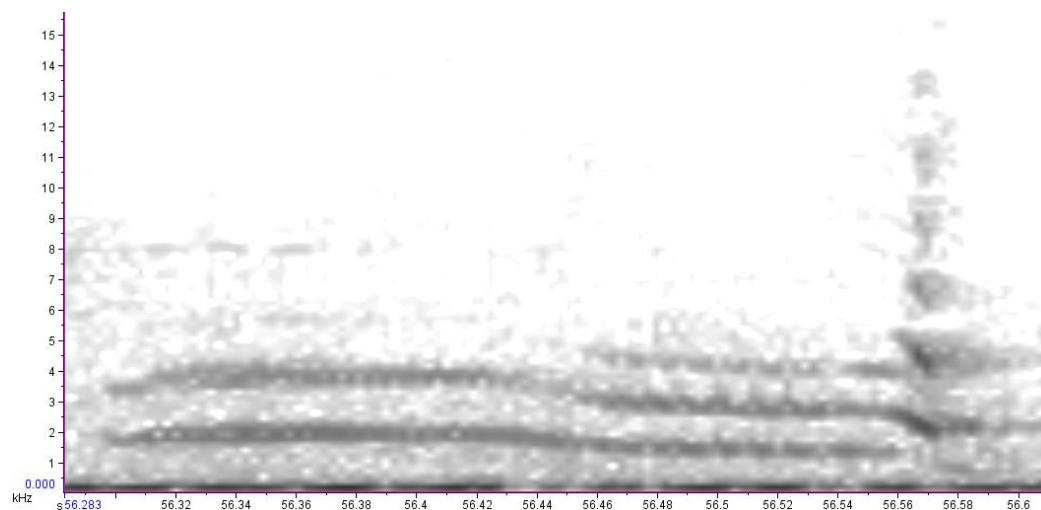
Syllables 18 and 19.



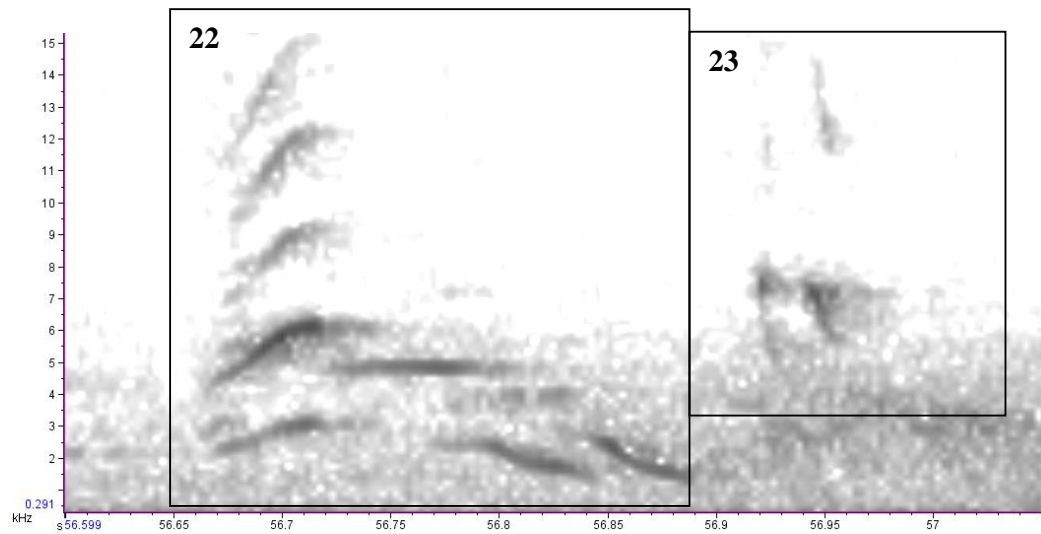
Syllable 20.



Syllable 21.

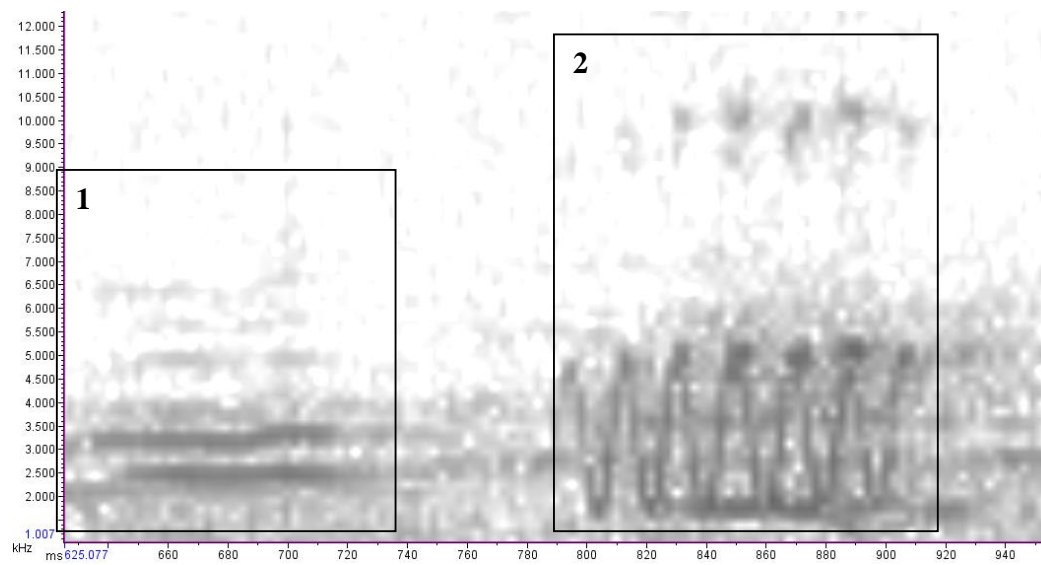


Syllables 22 and 23.

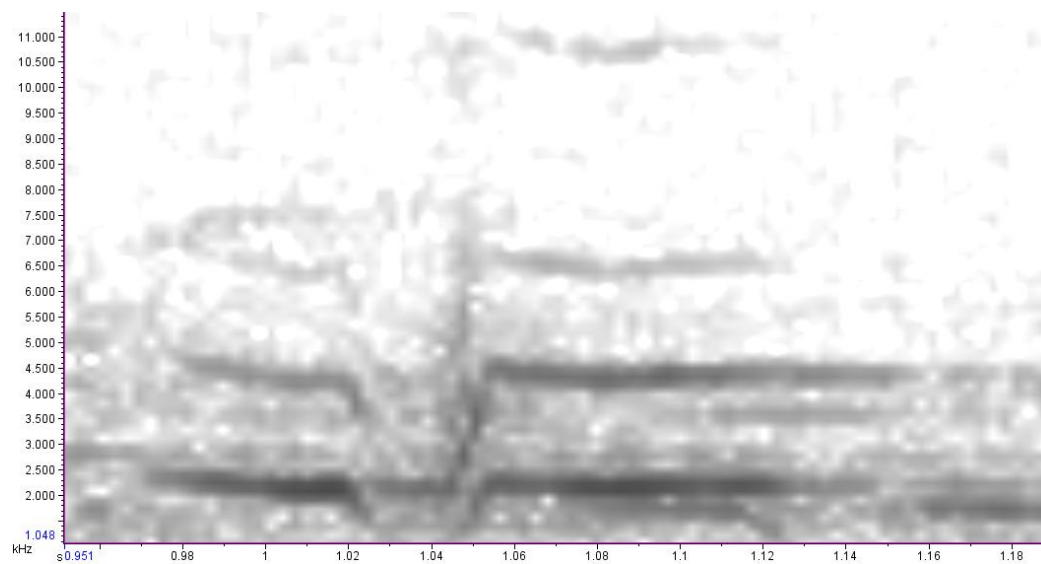


Song 43 – 003-2010-11-23 22_11_15. (YM-RW). Short

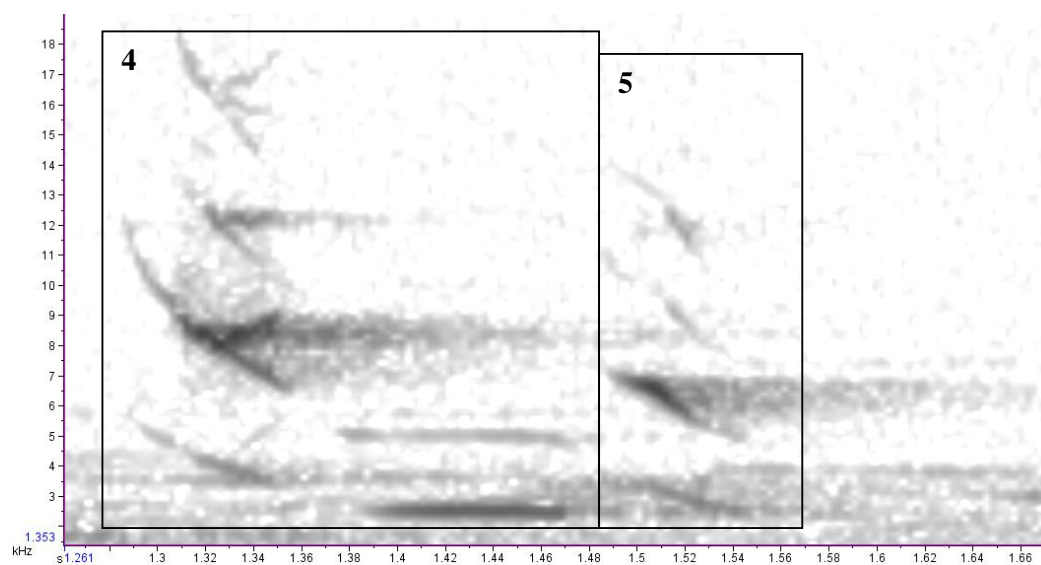
Syllables 1 and 2.



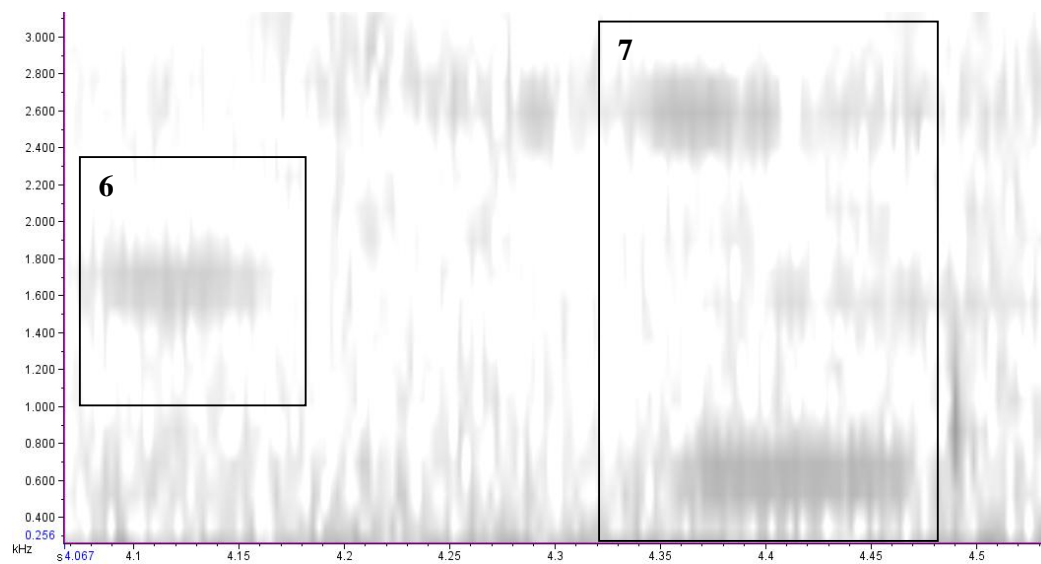
Syllable 3.



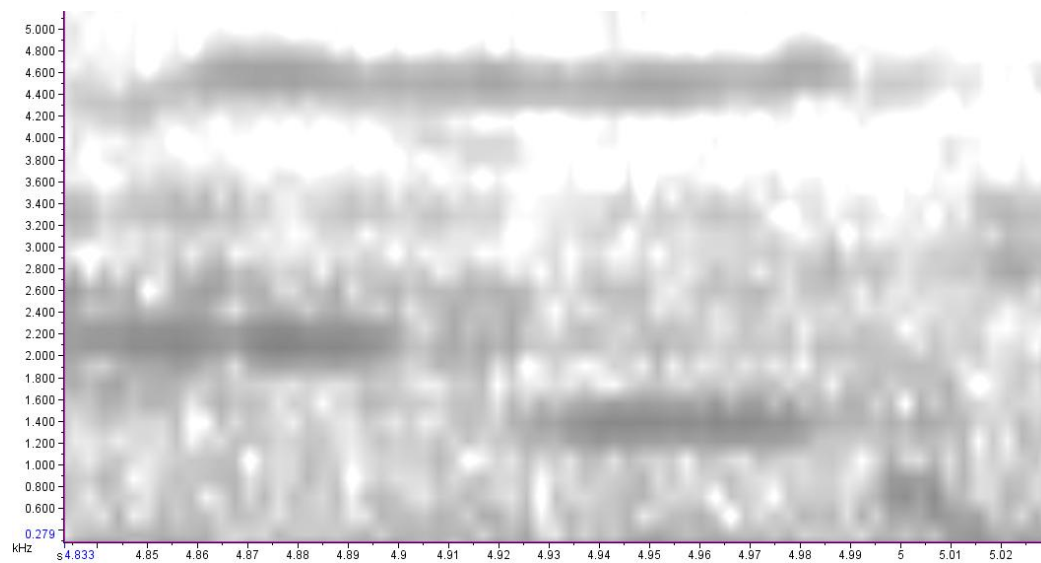
Syllables 4 and 5. Syllable 4 contains overlapping components, hence one syllable.



Syllables 6 and 7. Very low frequency syllables.

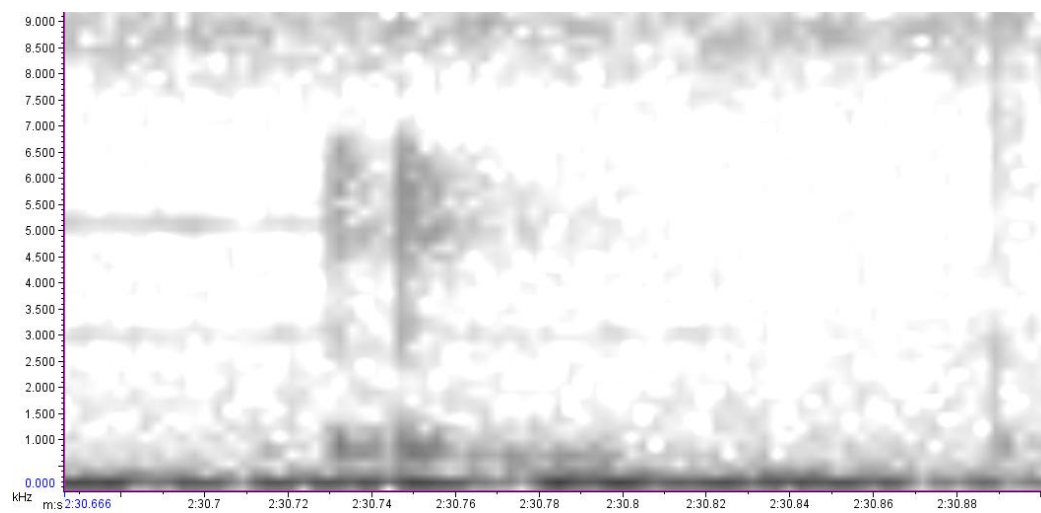


Syllable 8.

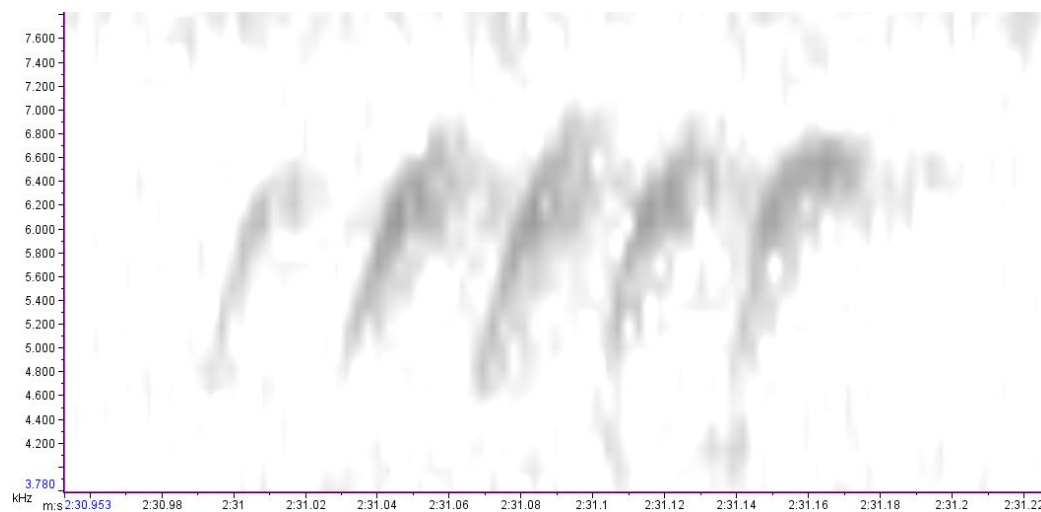


Song 44 – 1004 (BM-OO). Long

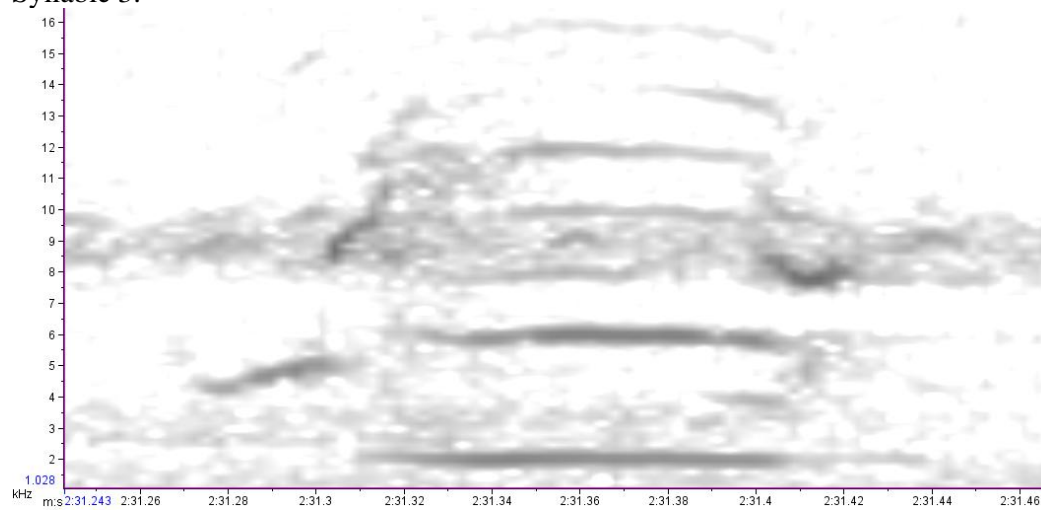
Syllable 1. A ‘kok’ syllable.



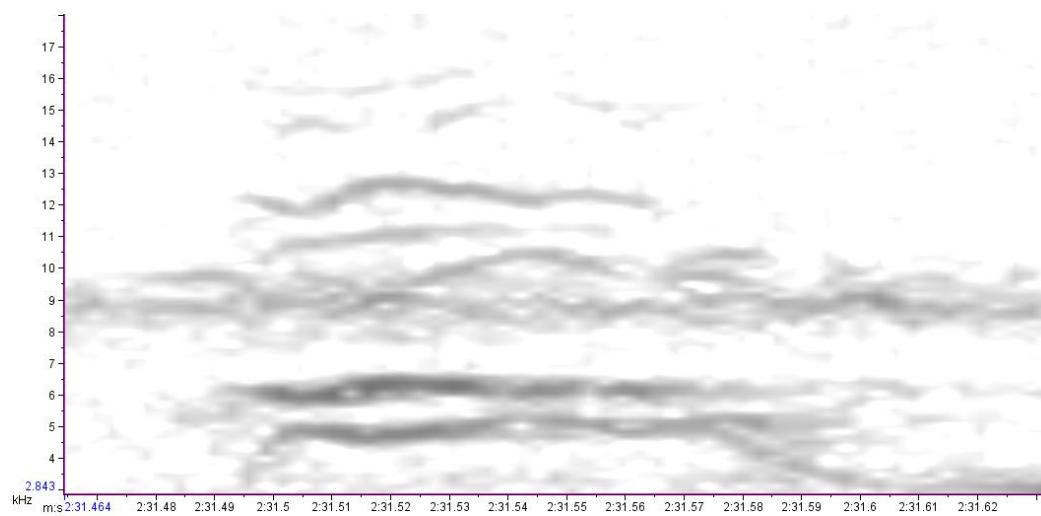
Syllable 2.



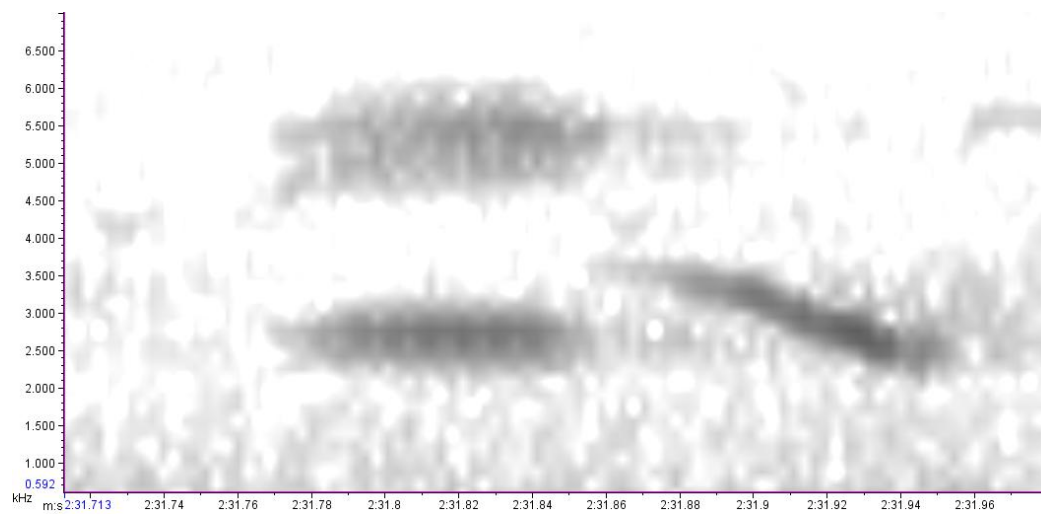
Syllable 3.



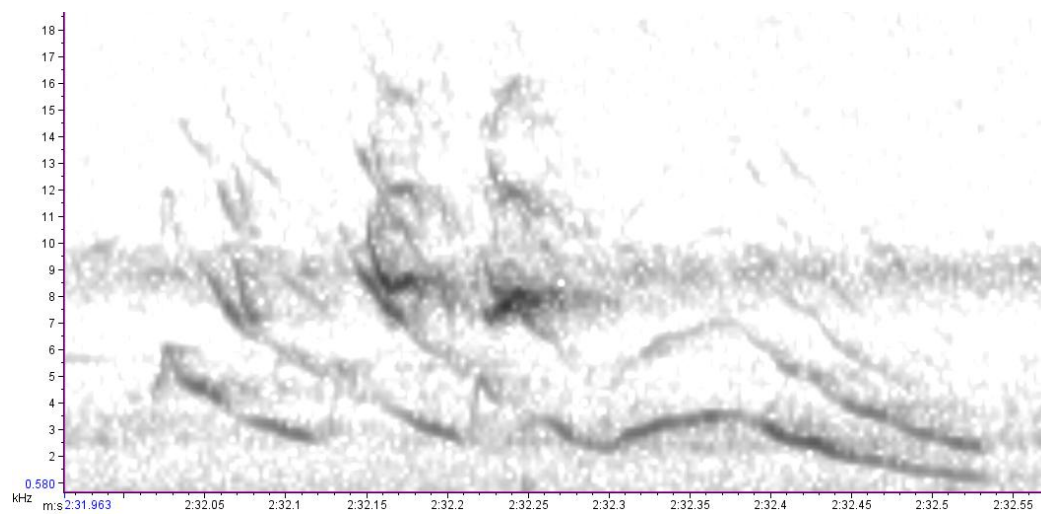
Syllable 4.



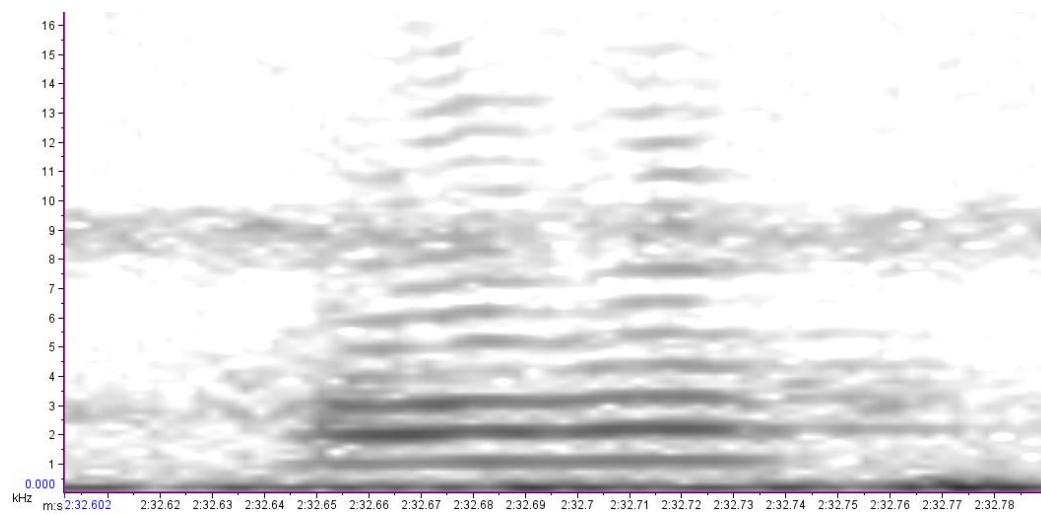
Syllable 5.



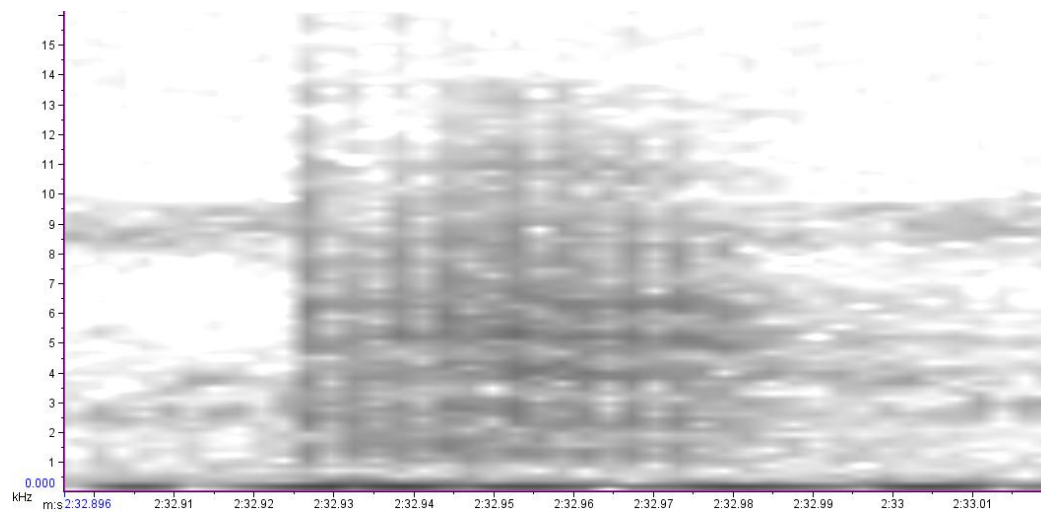
Syllable 6.



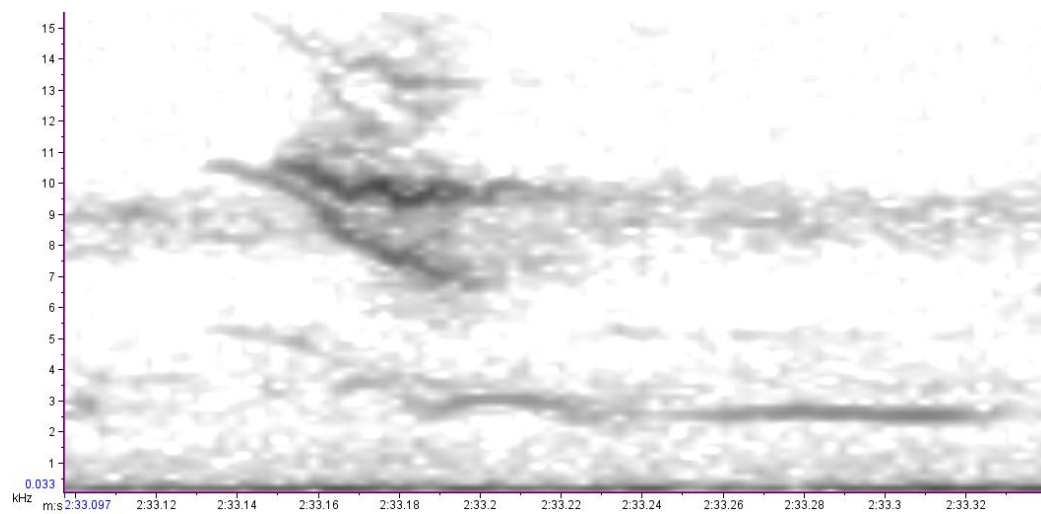
Syllable 7.



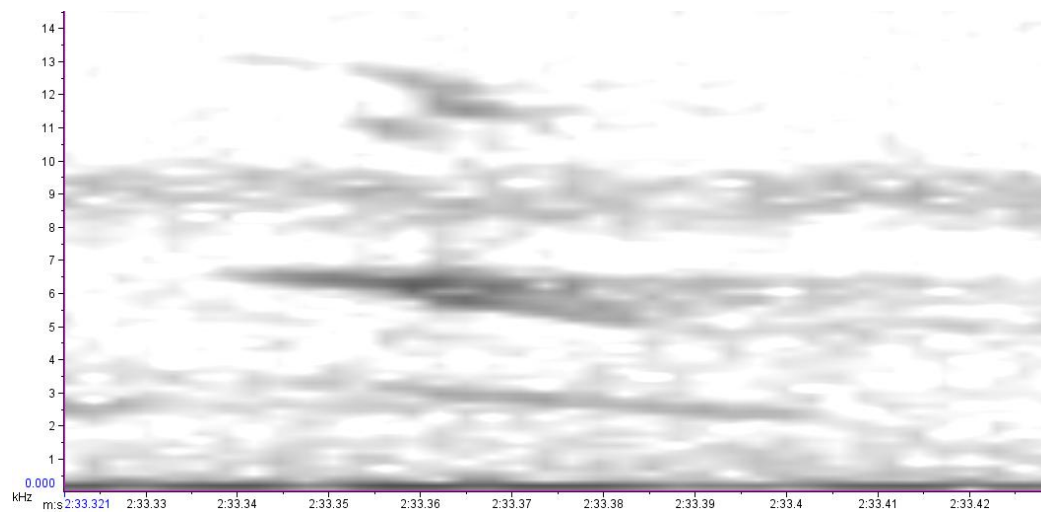
Syllable 8.



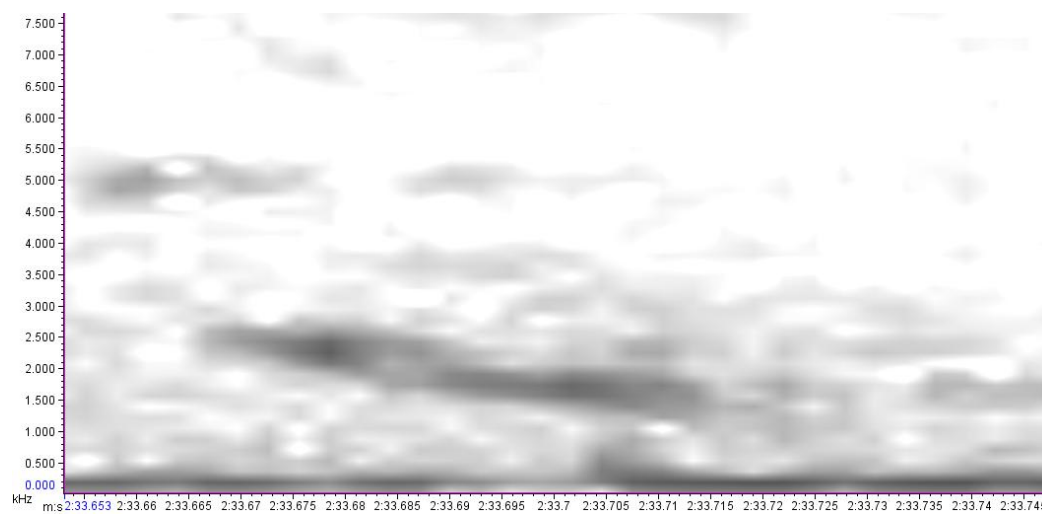
Syllable 9.



Syllable 10.

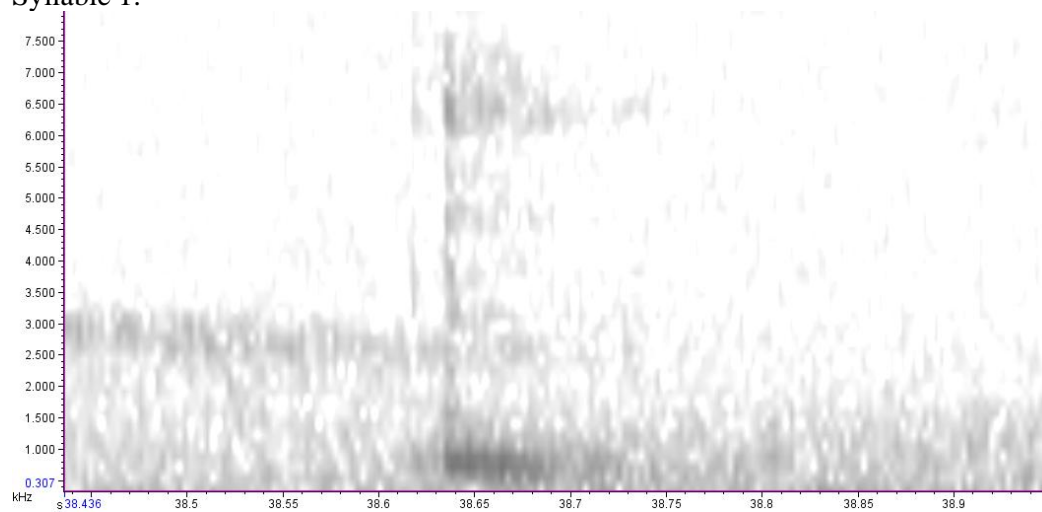


Syllable 11.

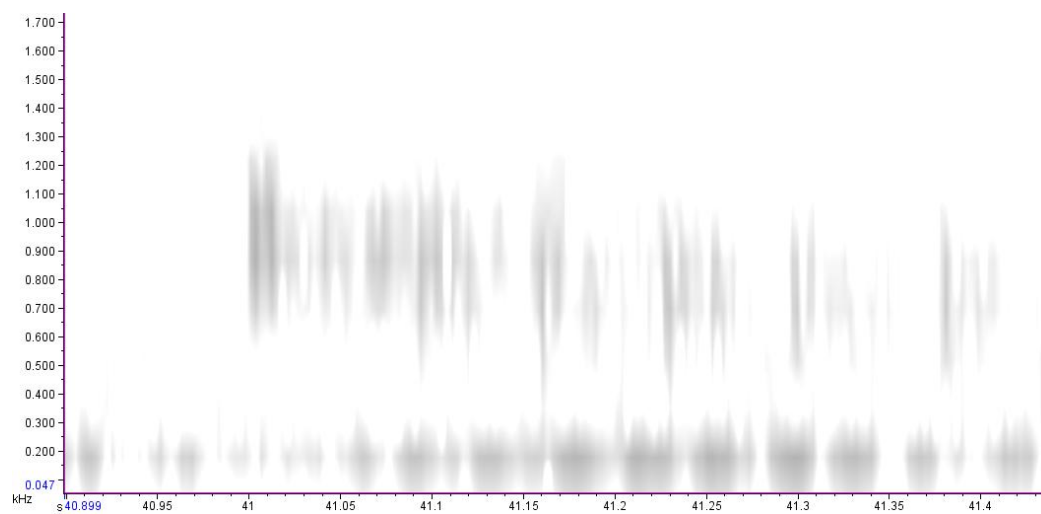


Song 45 – WM-BG (Female). Non-breeding season. Long

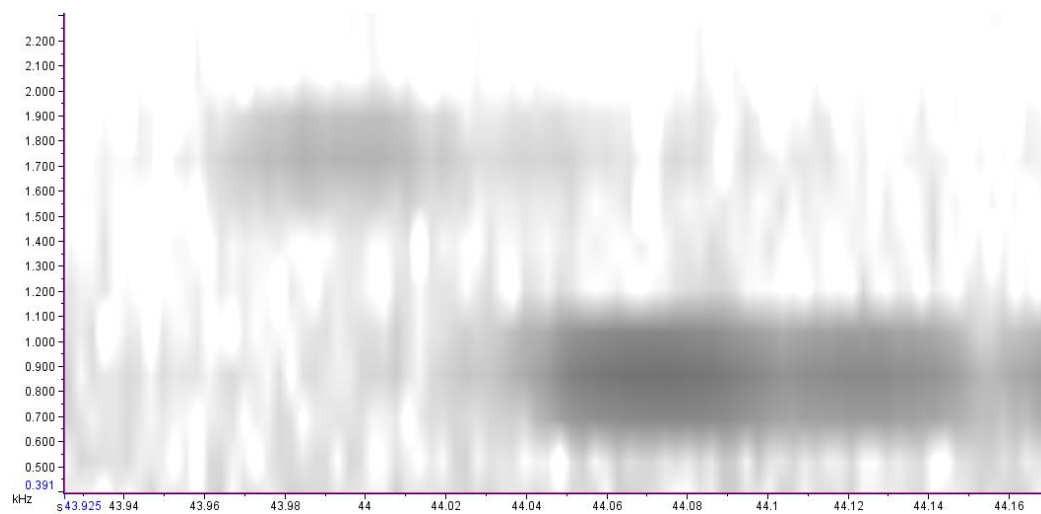
Syllable 1.



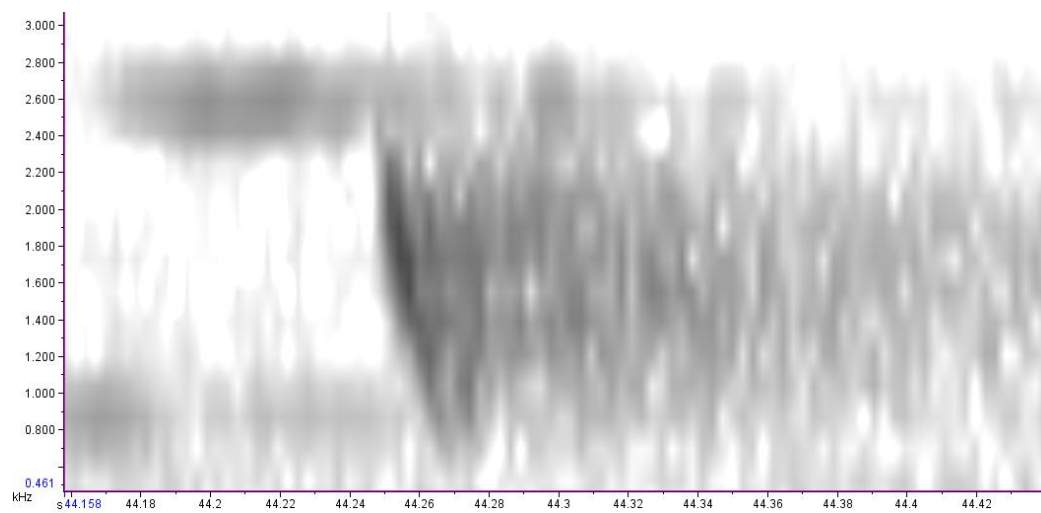
Syllable 2. The ‘kok-kok’ syllable. 6 ‘kok’s in this instance.



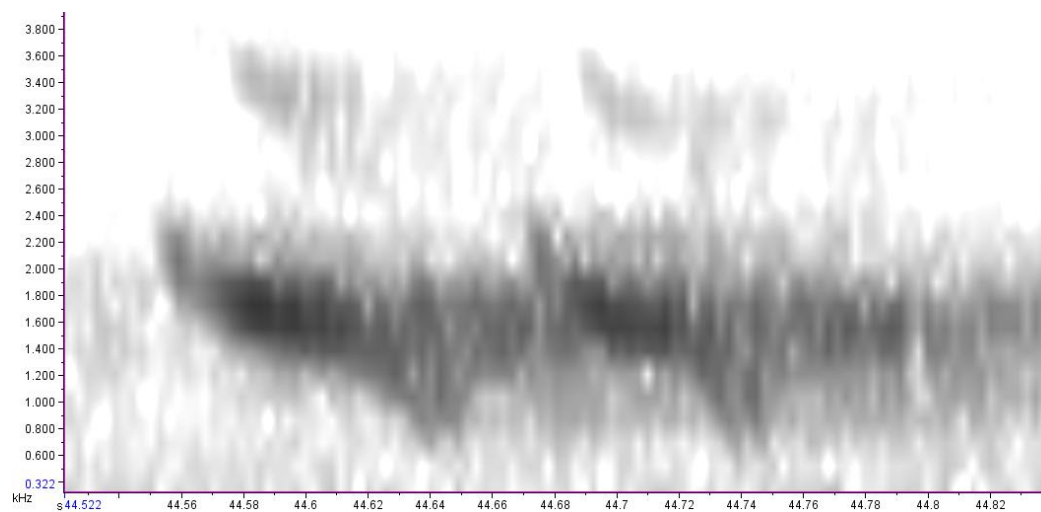
Syllable 3. Overlapping double components.



Syllable 4. Conjoined components so considered one syllable.

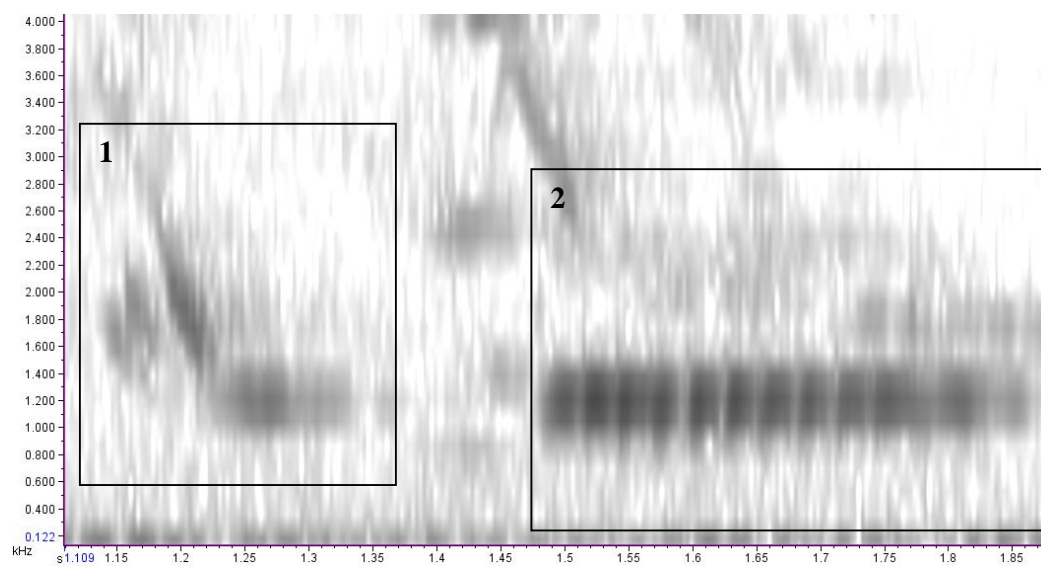


Syllable 5.

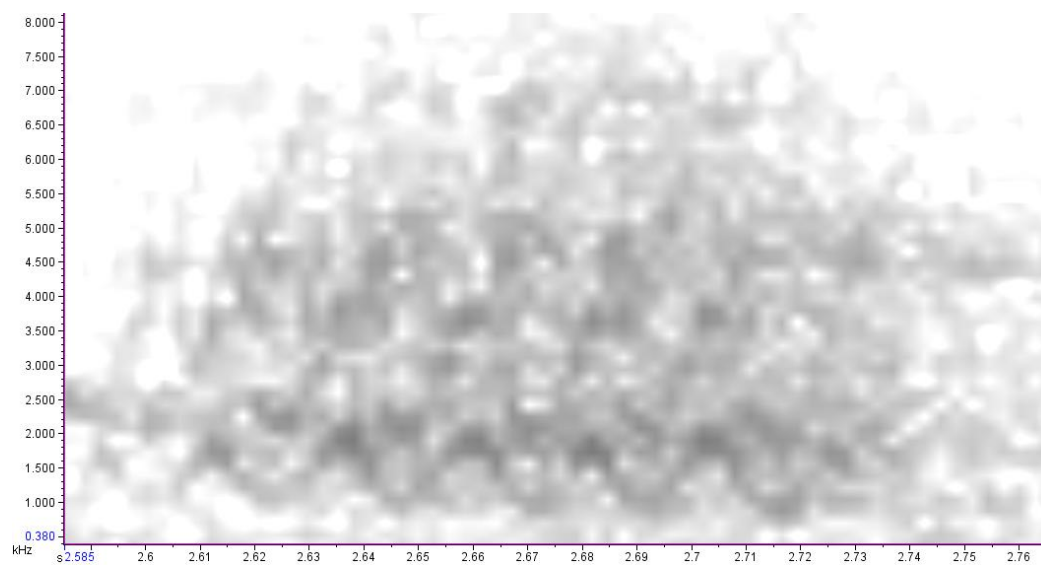


Song 46 - 027-2010-11-23 22_43_30. Long

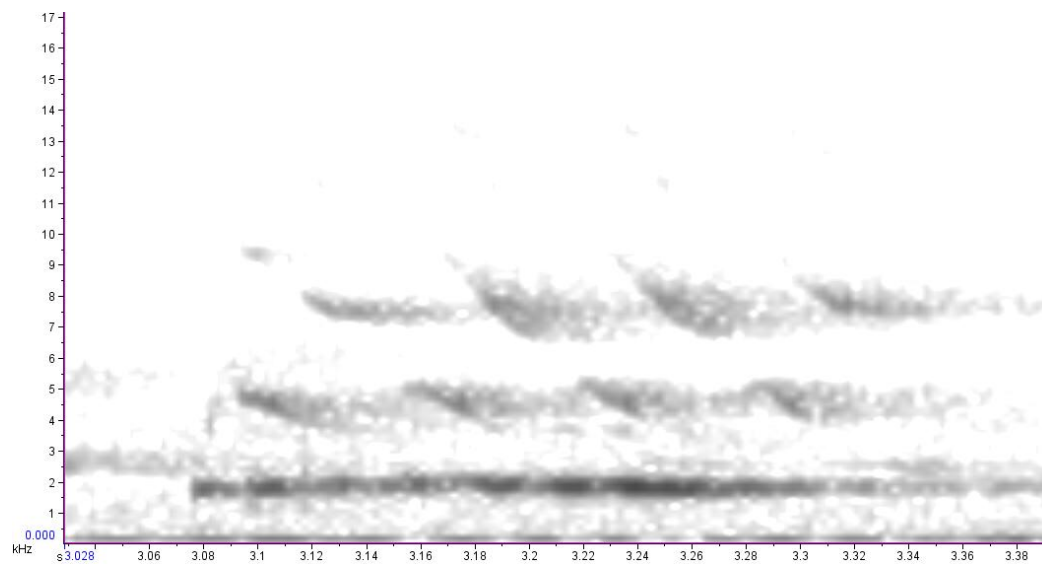
Syllables 1 and 2. Syllable 2 is the Jones Bay syllable.



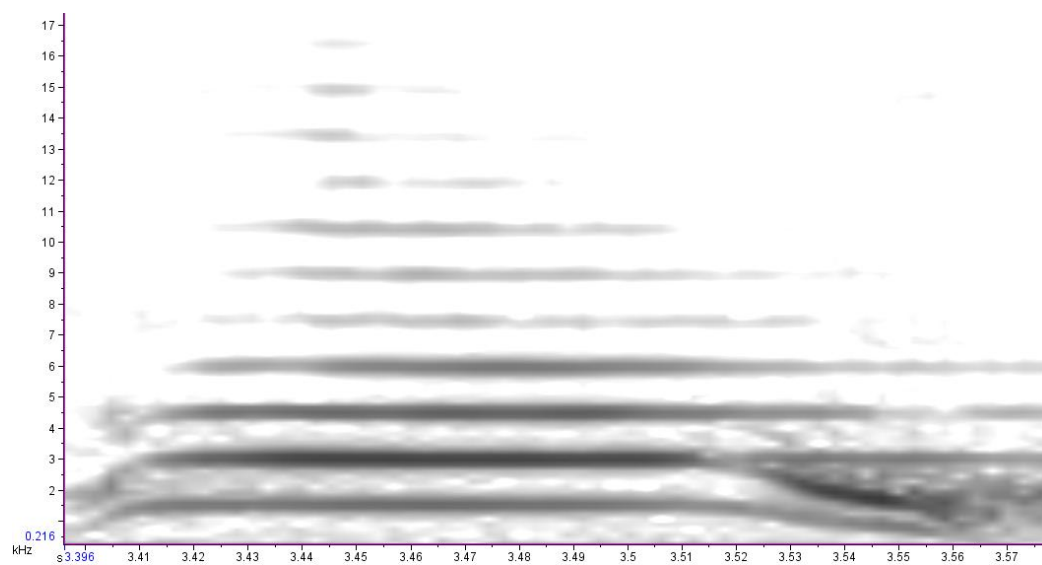
Syllable 3.



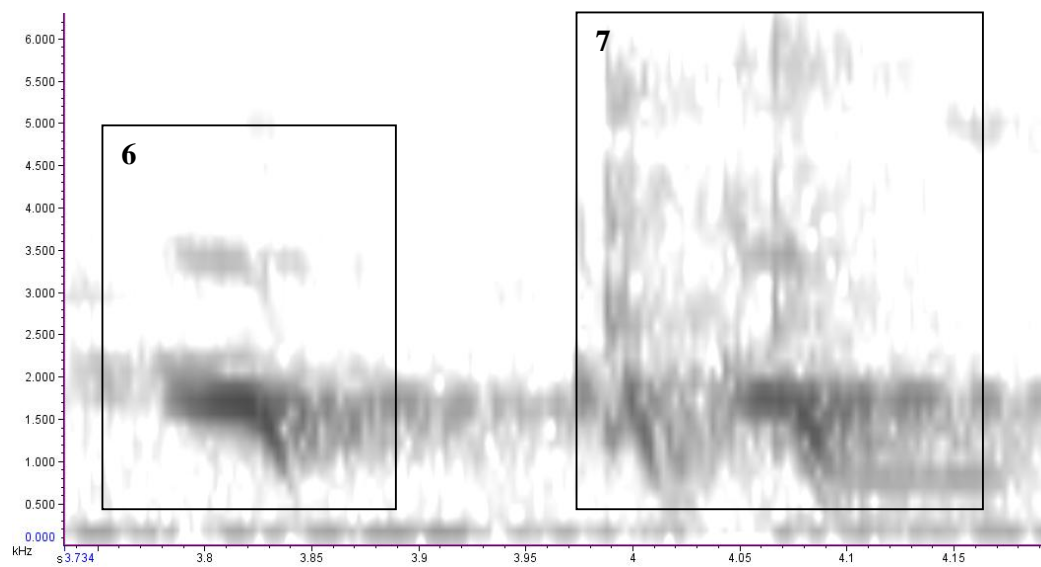
Syllable 4.



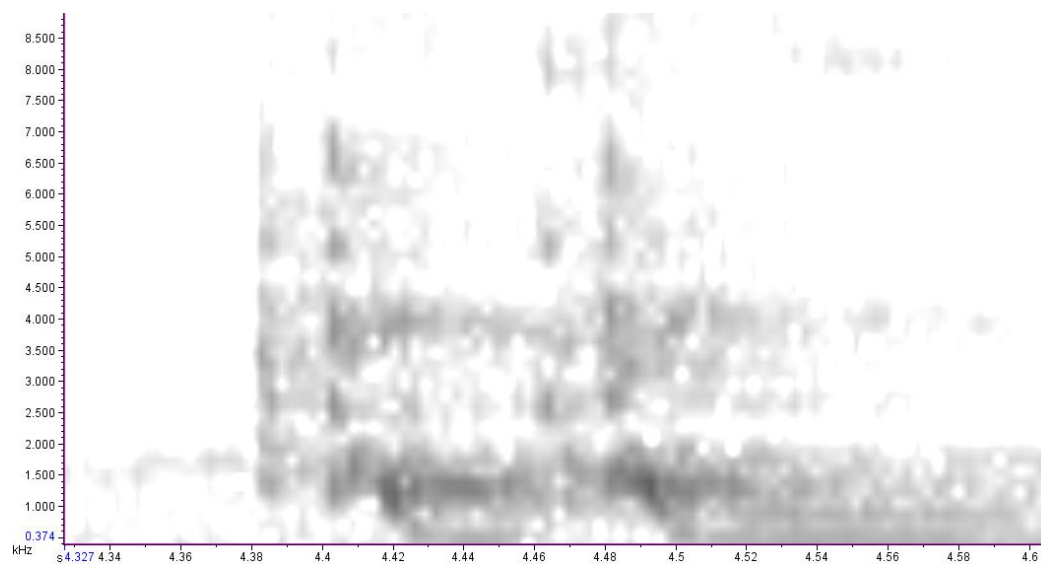
Syllable 5.



Syllables 6 and 7.

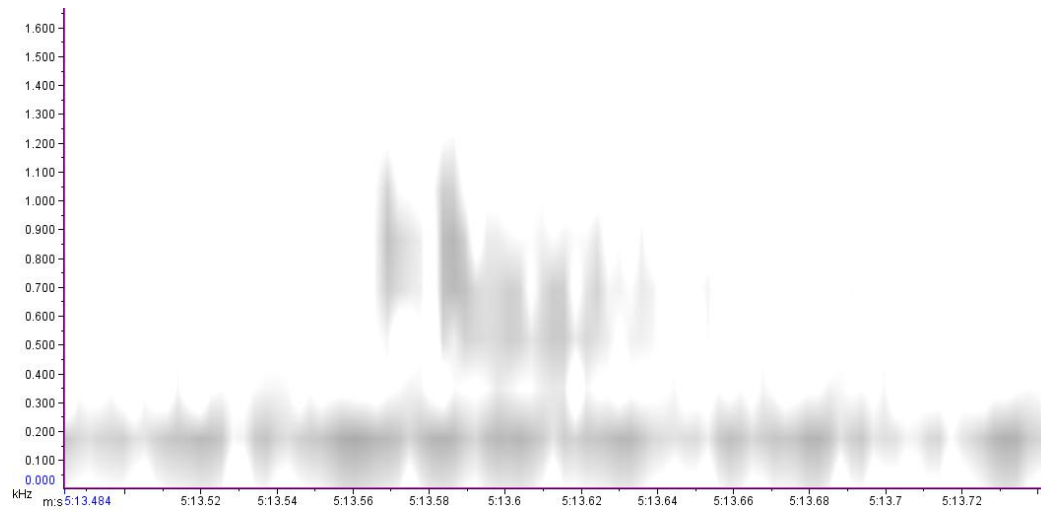


Syllable 8.

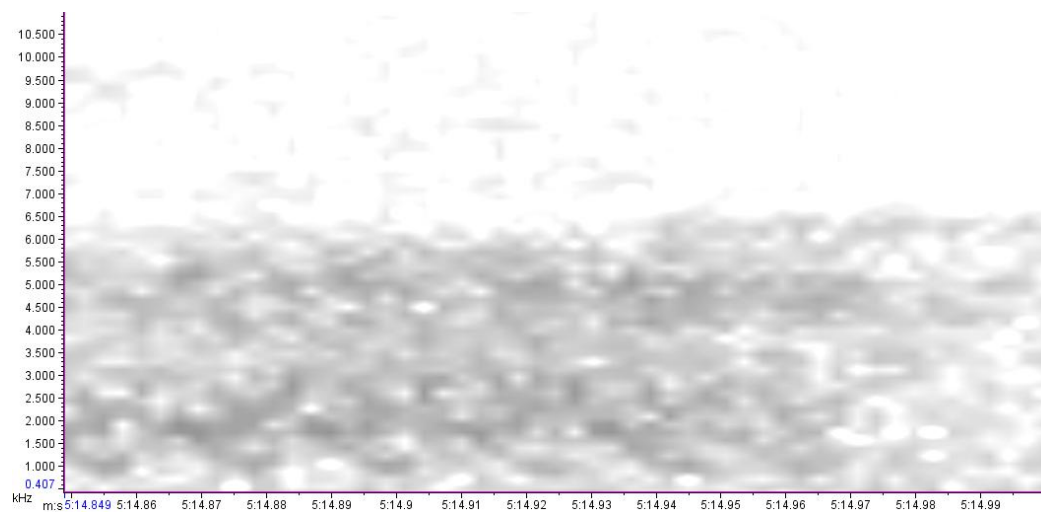


Song 47 – 1019. December 9th. Long

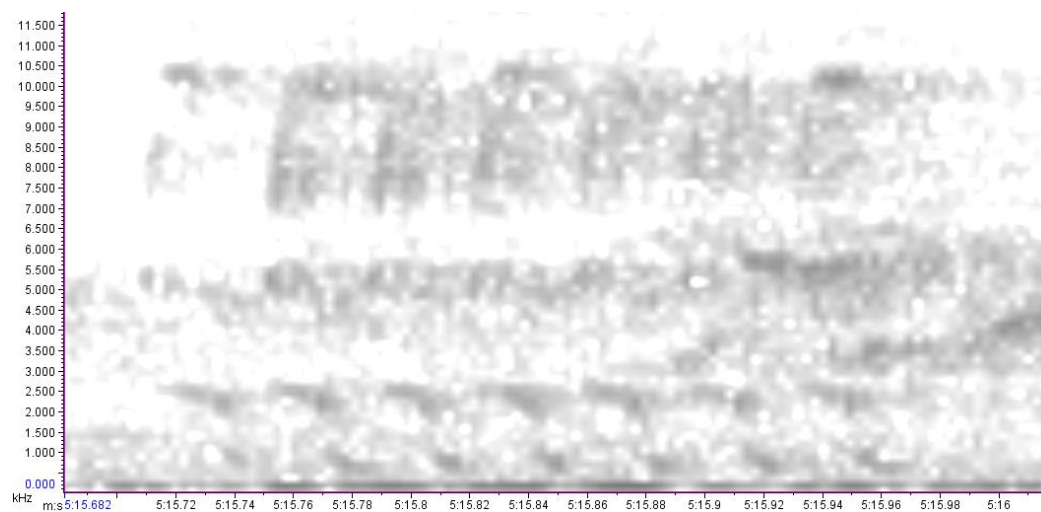
Syllable 1. A 'kok' syllable.



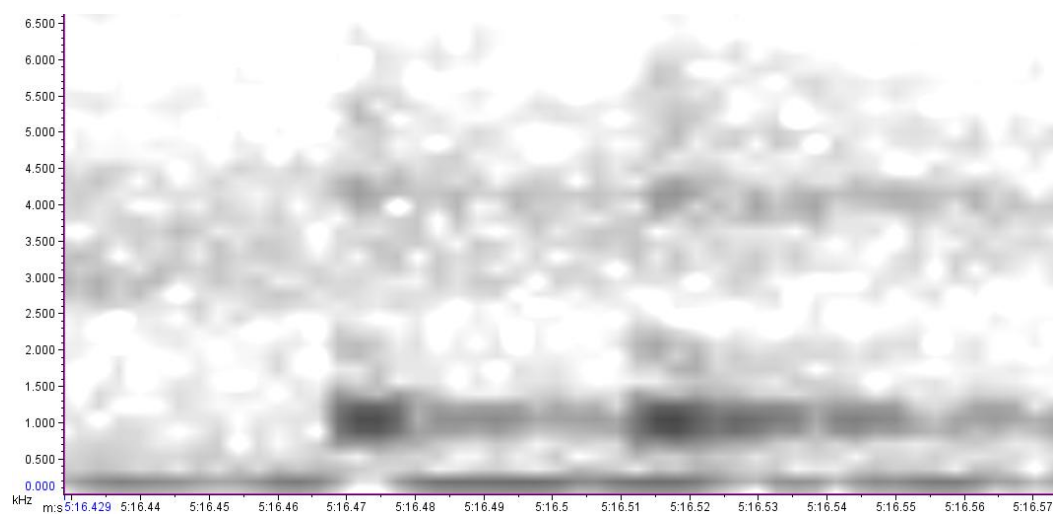
Syllable 2.



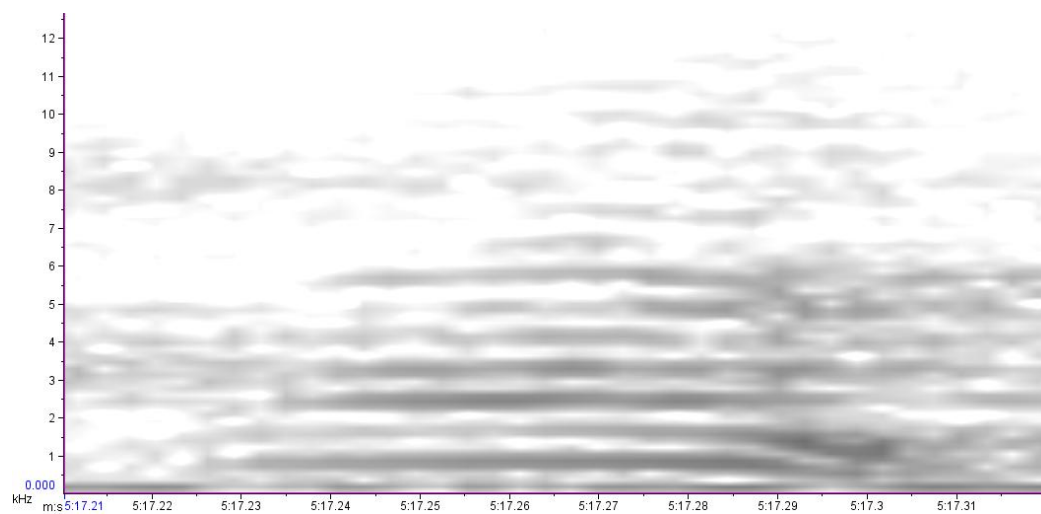
Syllable 3.



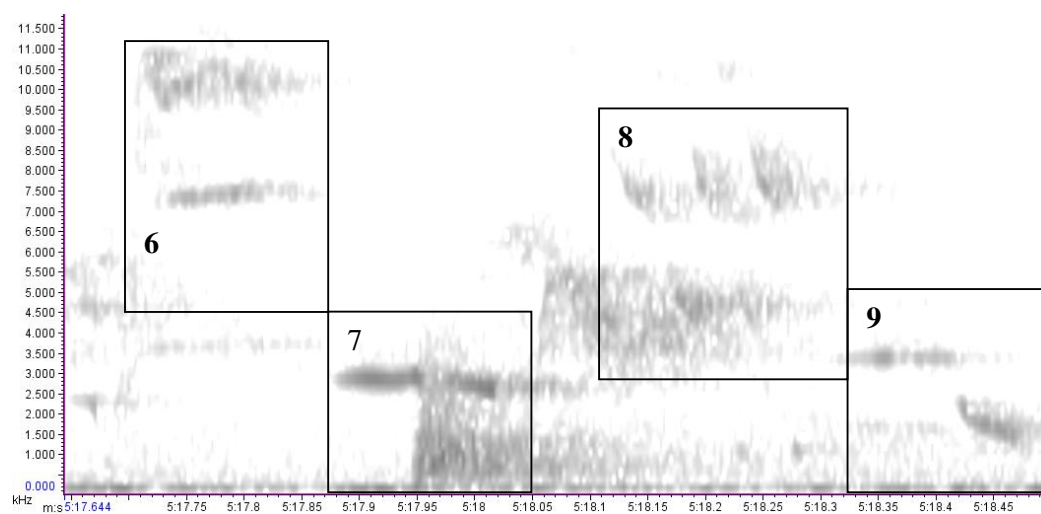
Syllable 4. A double 'kok' syllable.



Syllable 5.

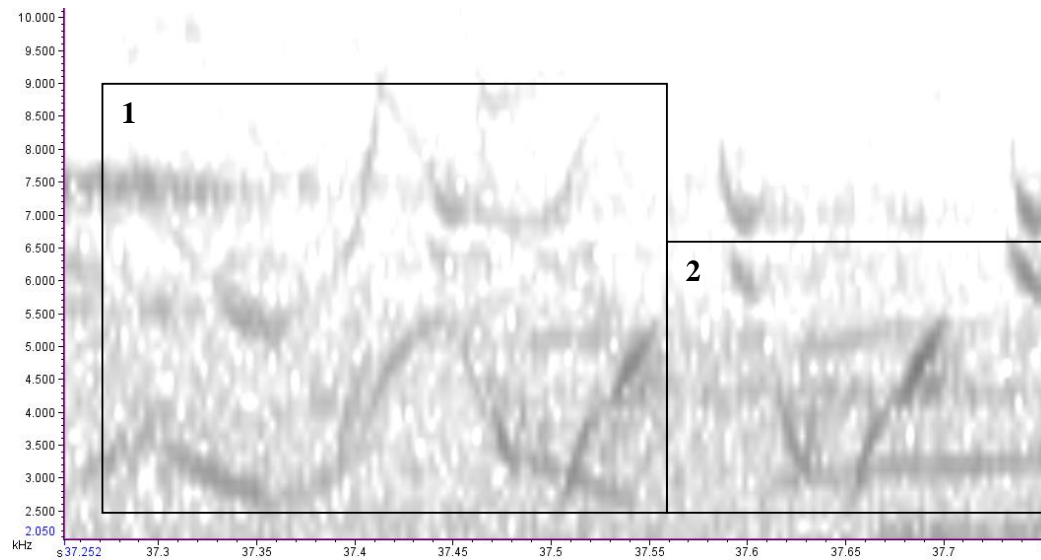


Syllables 6-9.

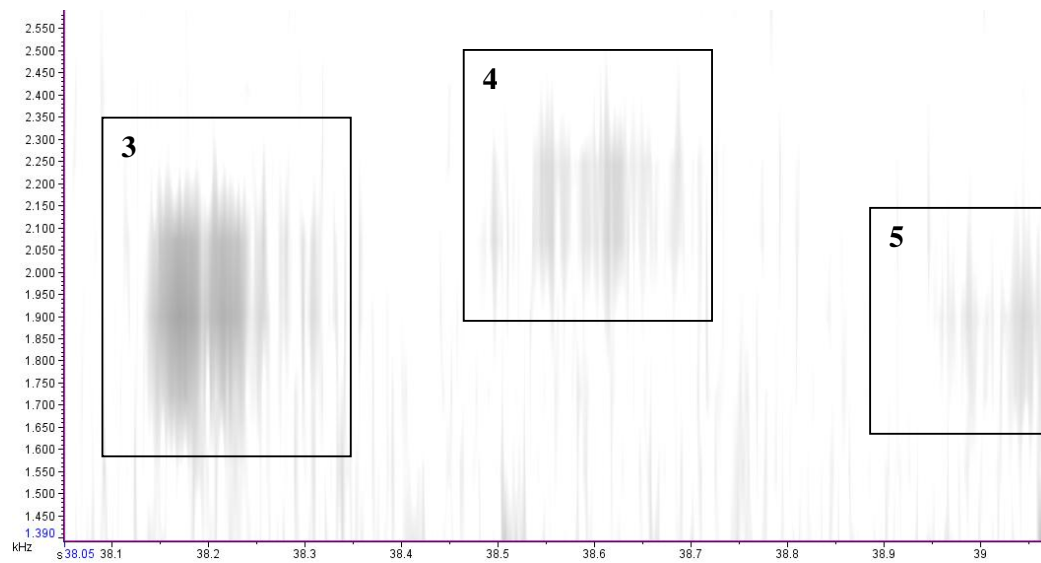


Song 48 – 1031 (WM-WO - Female). Short

Syllables 1 and 2. Syllable 2 is a harmonic sound. Much ‘background noise’ in this spectrogram.

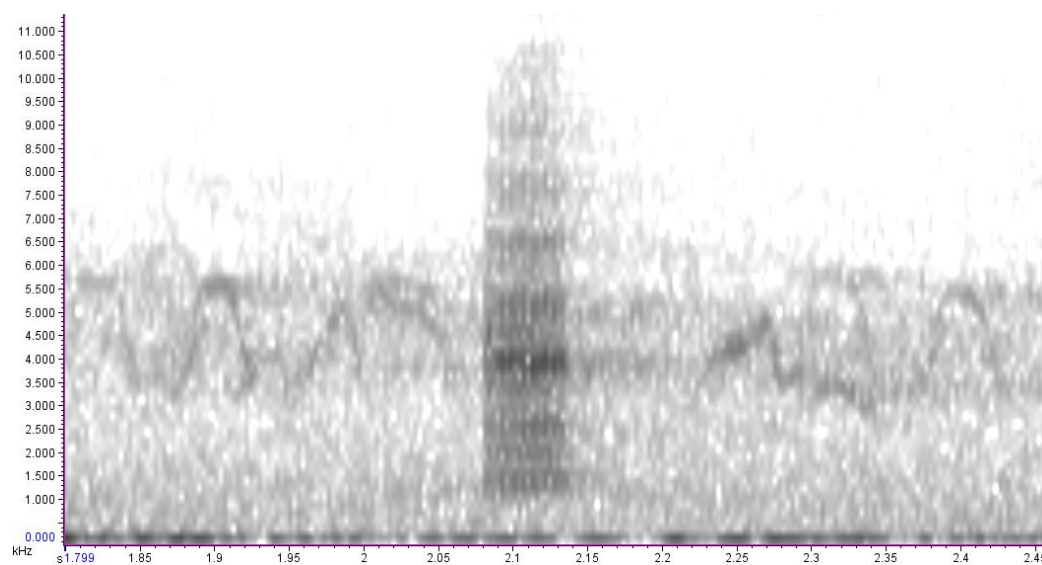


Syllables 3-5.

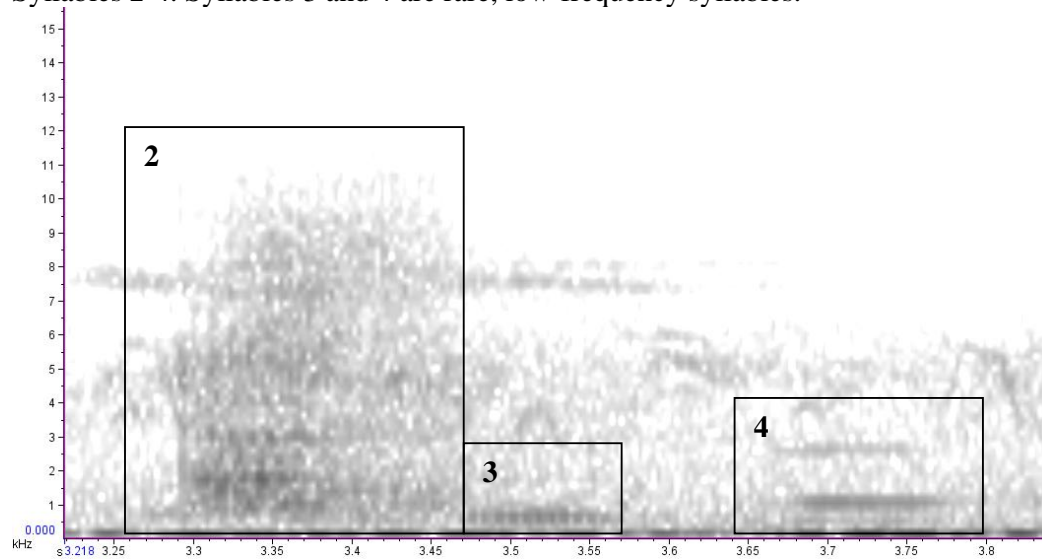


Song 49 – 1025 (YB-WM). Short

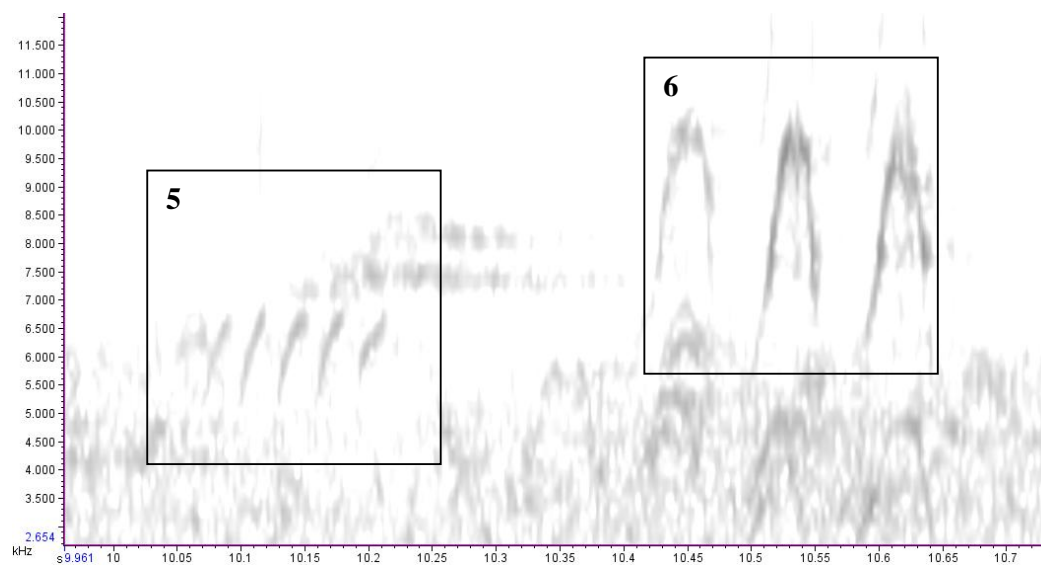
Syllable 1.



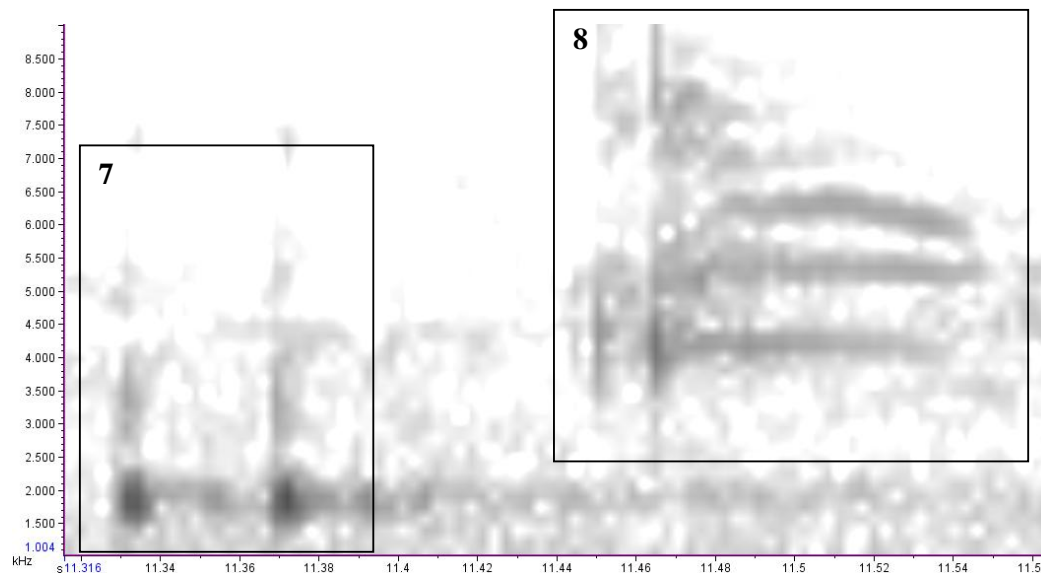
Syllables 2-4. Syllables 3 and 4 are rare, low-frequency syllables.



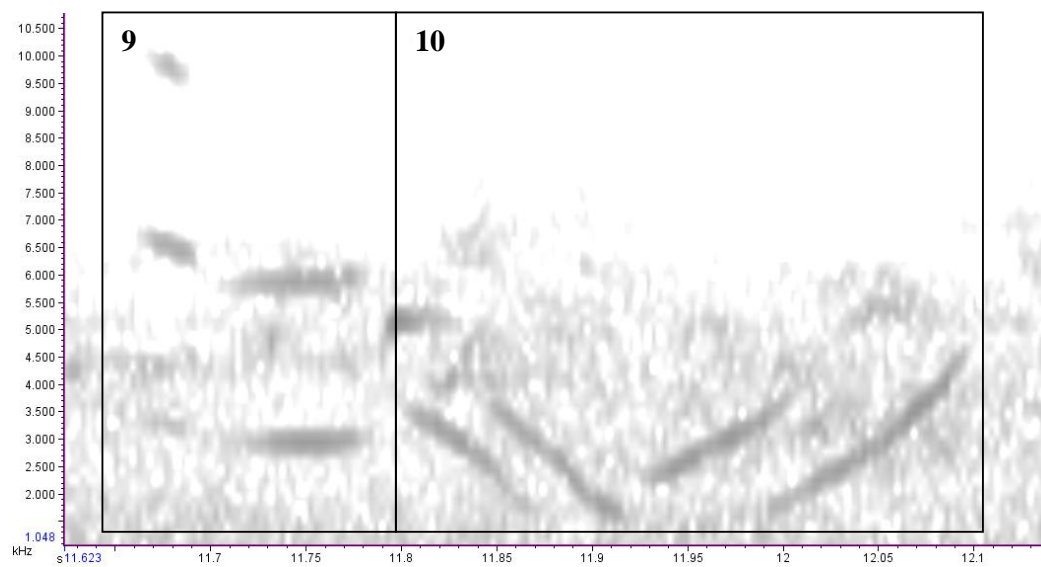
Syllables 5 and 6.



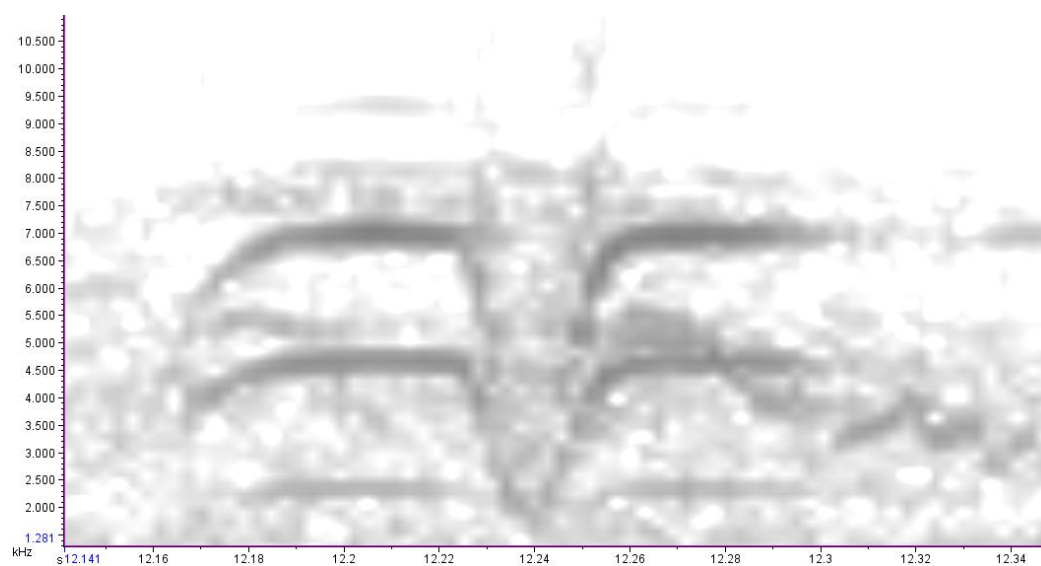
Syllables 7 and 8.



Syllables 9 and 10.

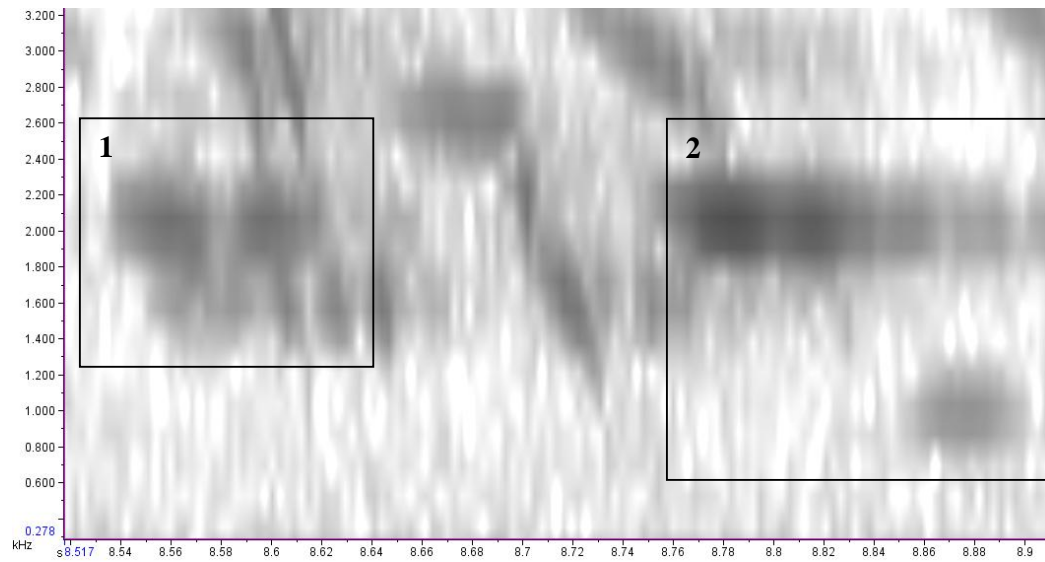


Syllable 11.

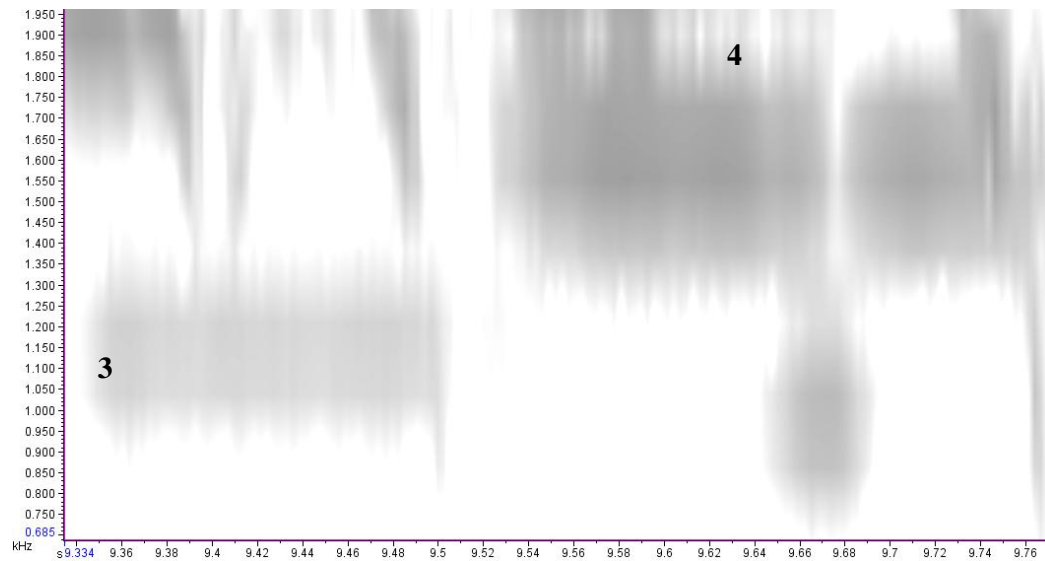


Song 50 - 020-2010-11-23 22_55_00. Short

Syllables 1 and 2. Maori Bay syllables.

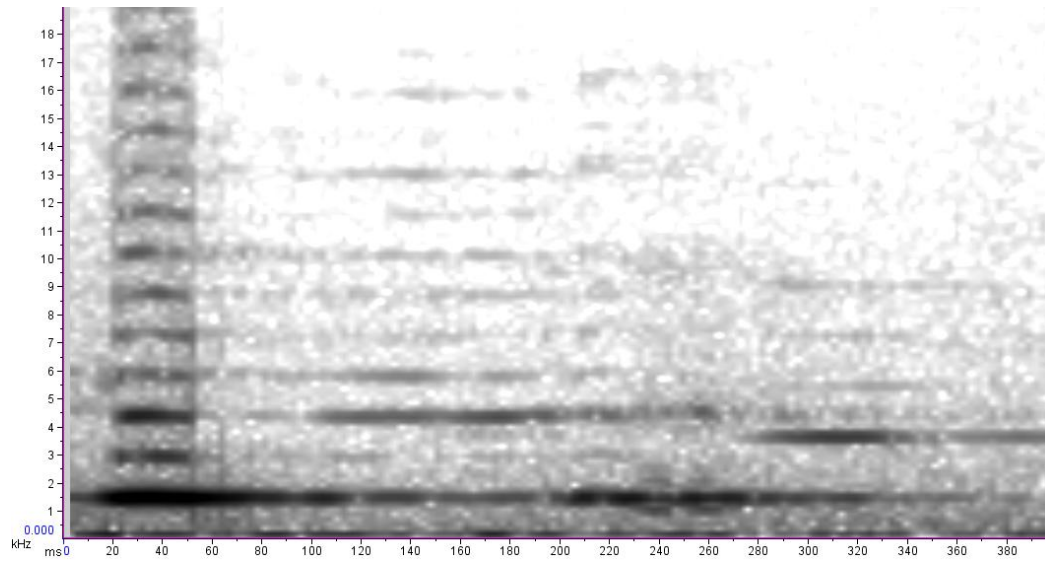


Syllables 3 and 4.

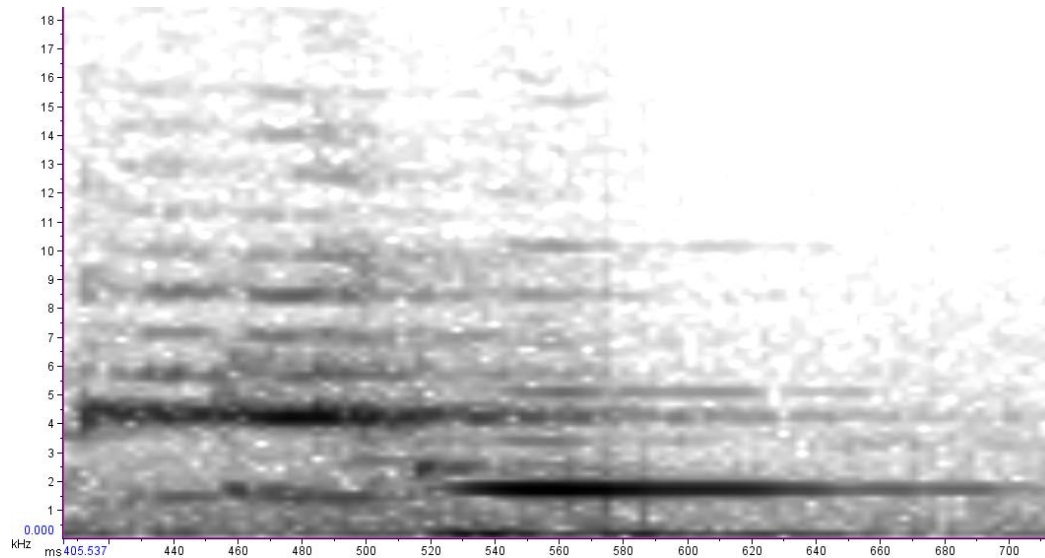


Appendix Three

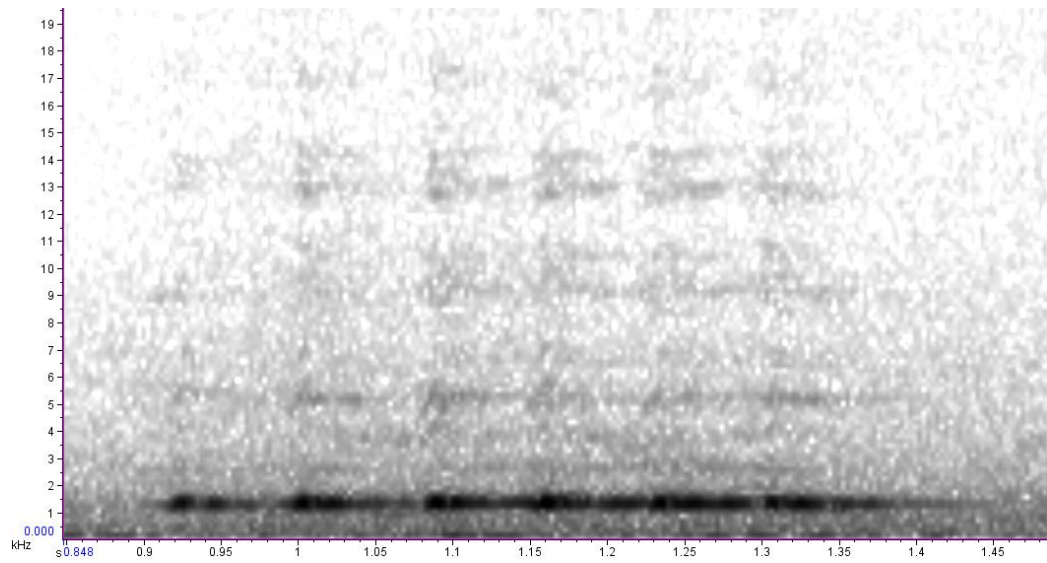
Appendix 3: 30 breeding season songs at Chatham Islands from which 241 different syllables were extracted (5.3.3).



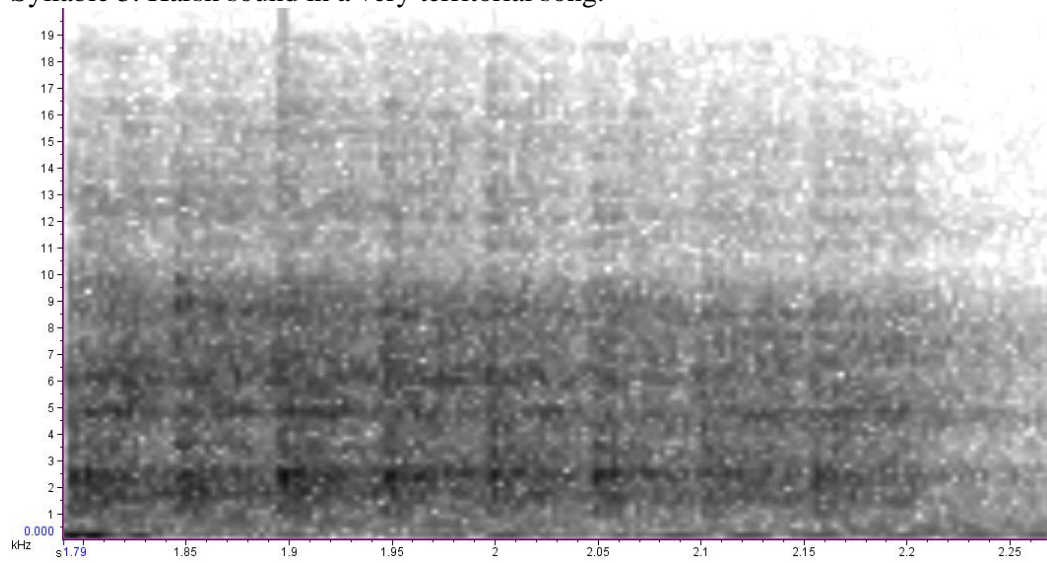
Syllable 2. Considered to be one syllable due to the conjoined components of this syllable.



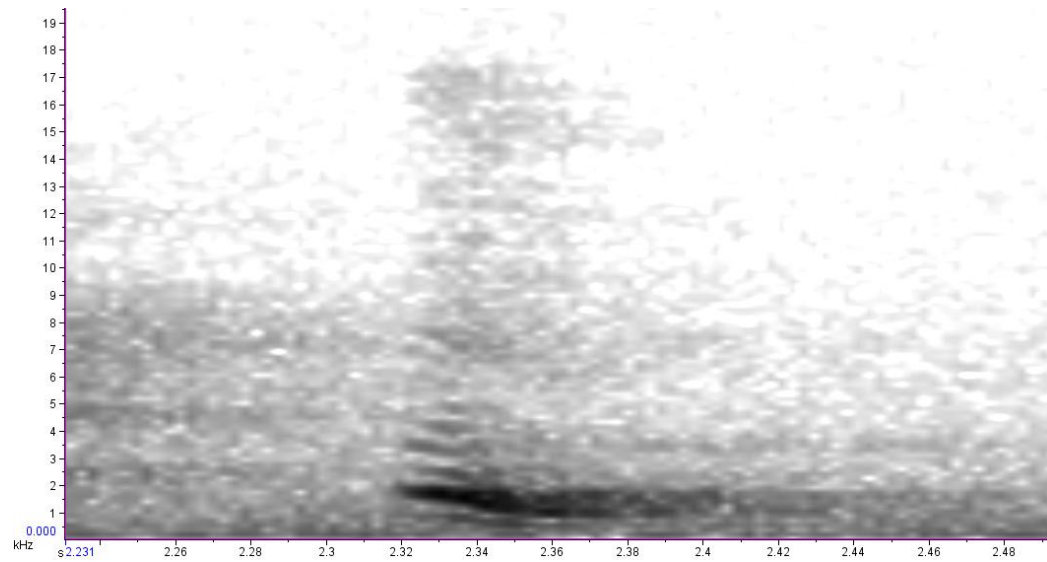
Syllable 3 proper.



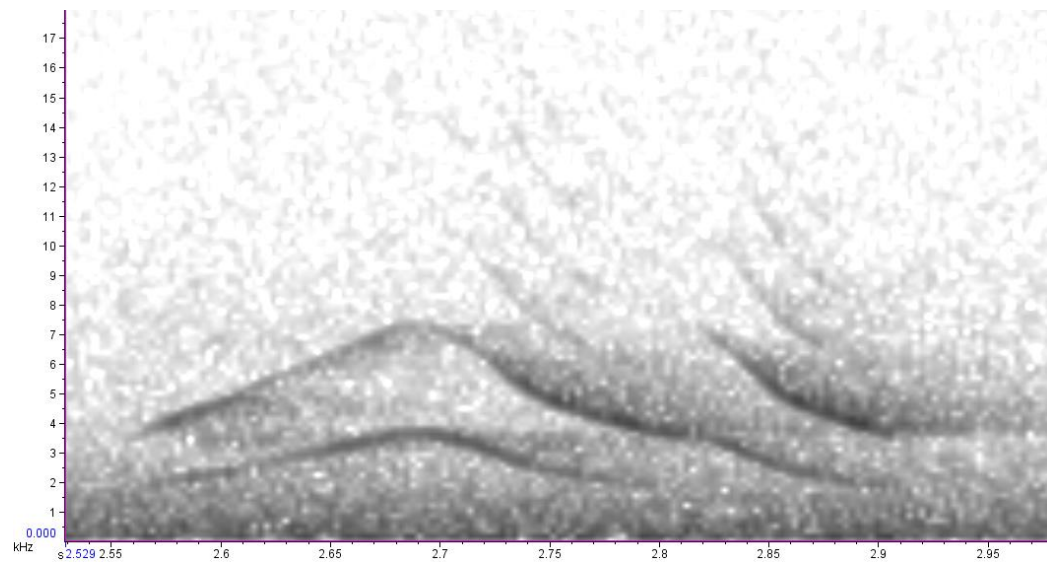
Syllable 3. Harsh sound in a very territorial song.



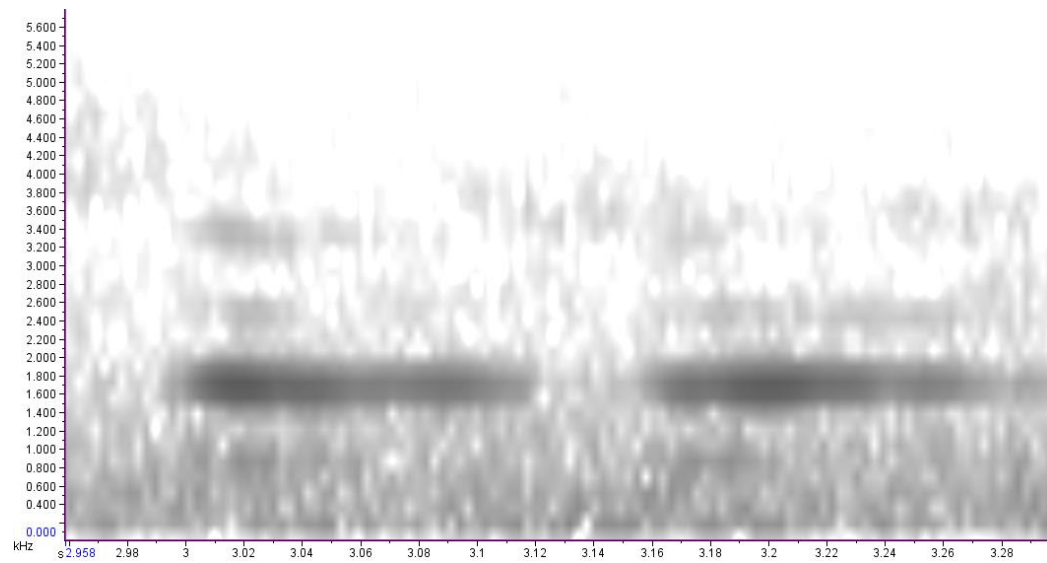
Syllable 4.



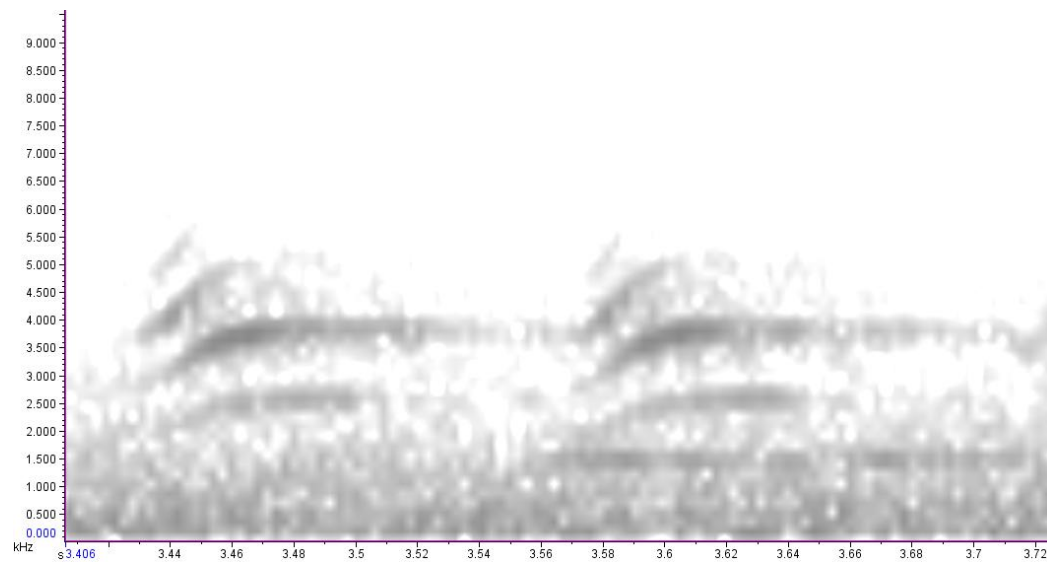
Syllable 5. Wavy syllable.



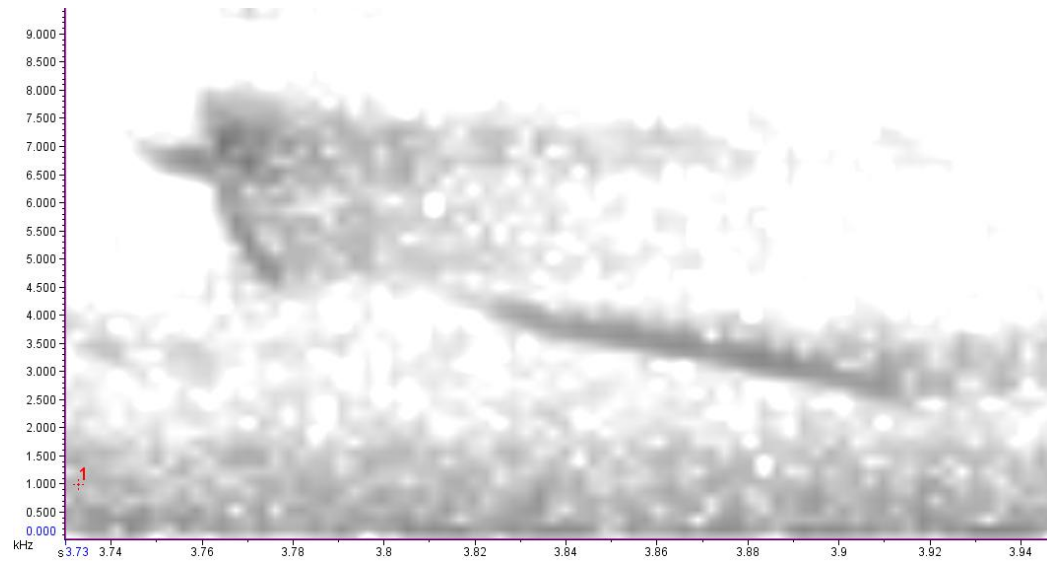
Syllable 6. A two-noted syllable.



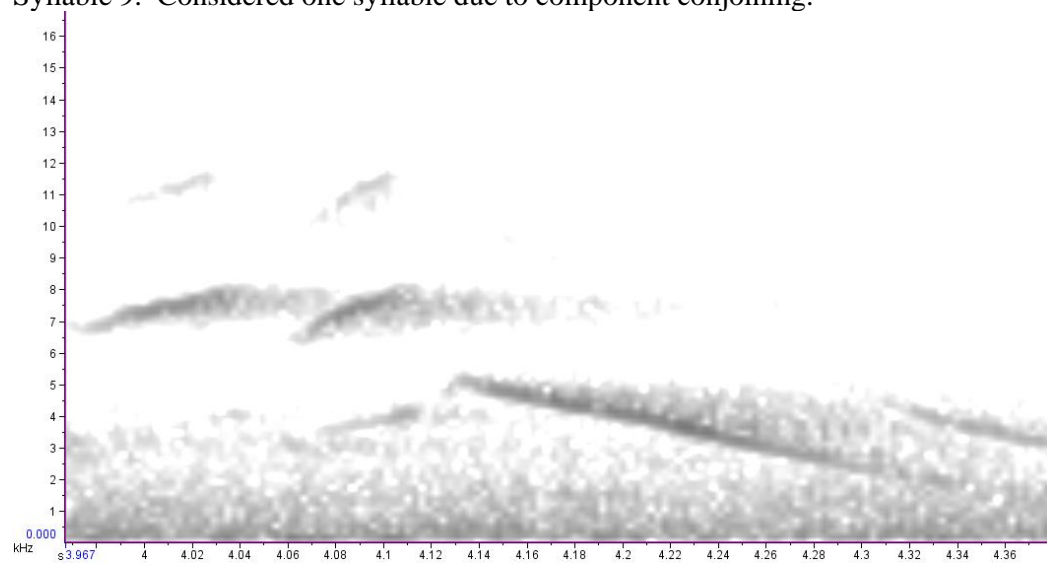
Syllable 7. Two-noted syllable.



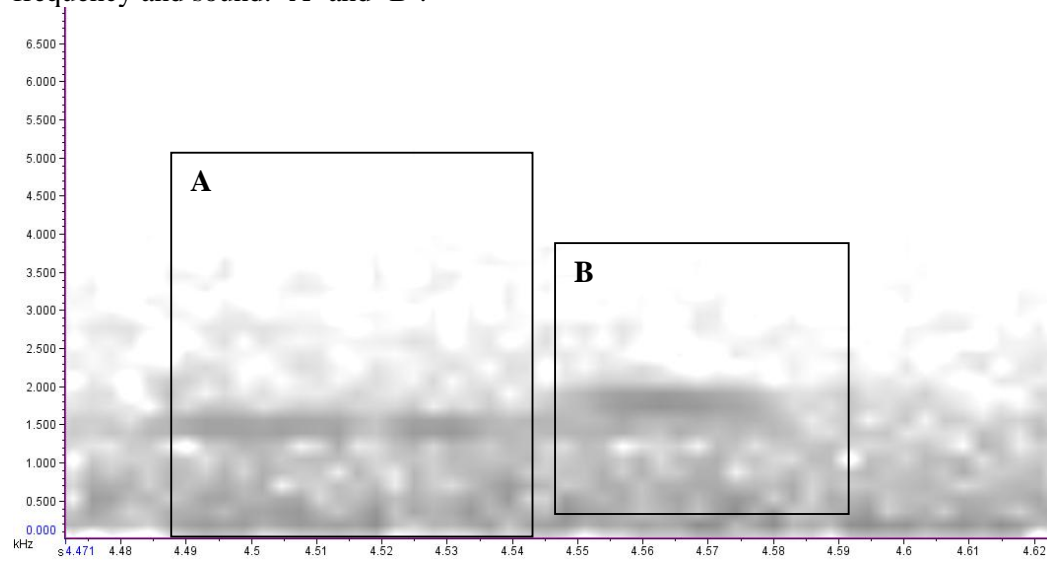
Syllable 8.



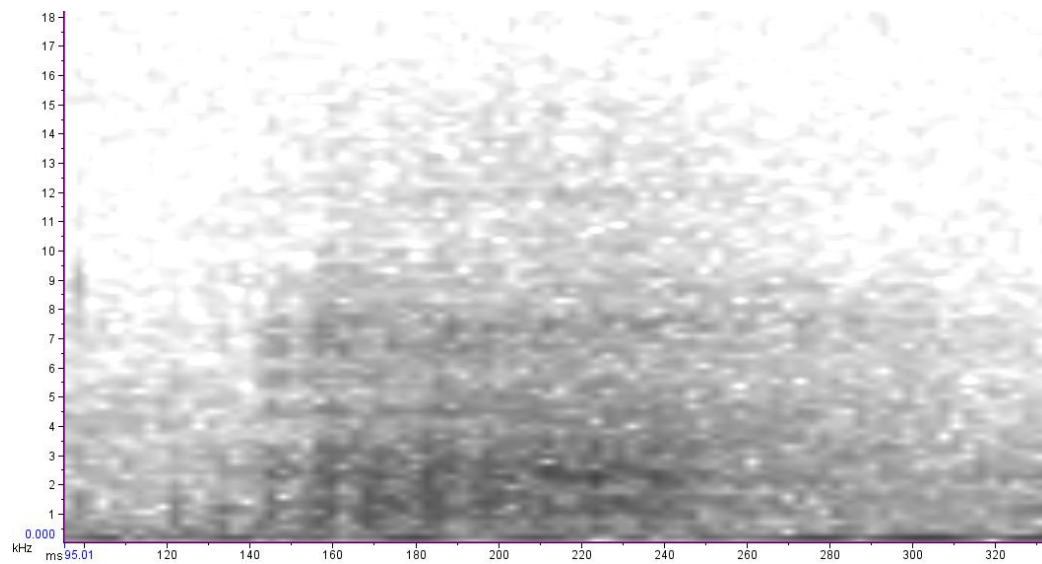
Syllable 9. Considered one syllable due to component conjoining.



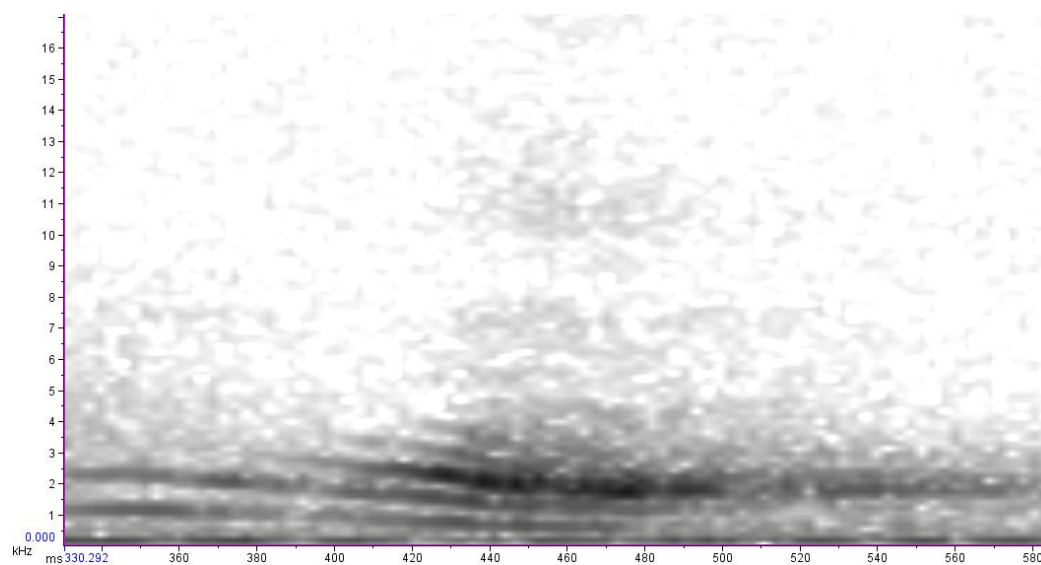
Subtle syllable 10 and 11. Considered two separate syllables due to change in frequency and sound. 'A' and 'B'.



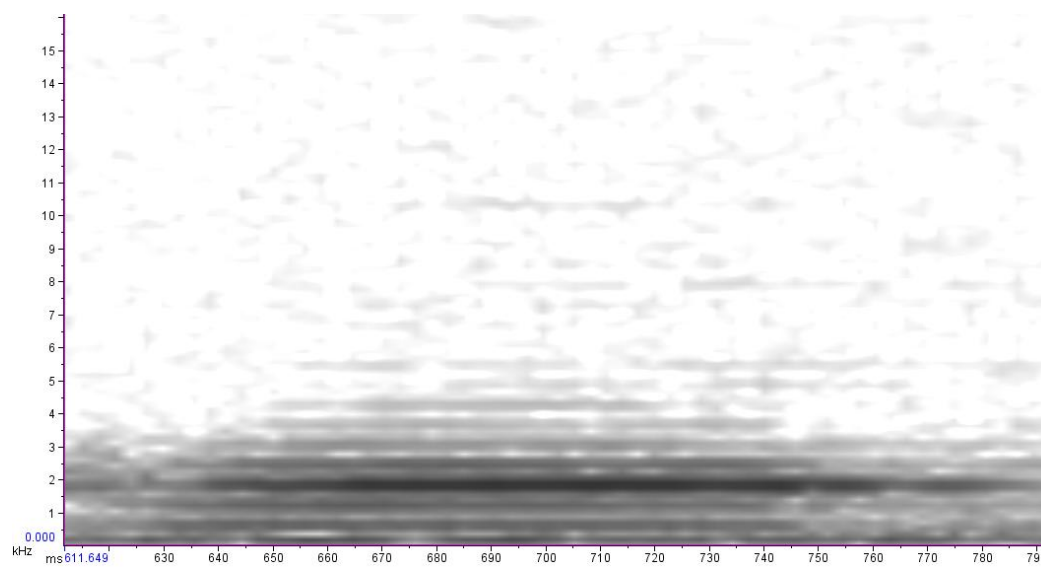
Song 2. Rangatira tui song - grp17.wav.
Syllable 12. Highly territorial, aggressive song.



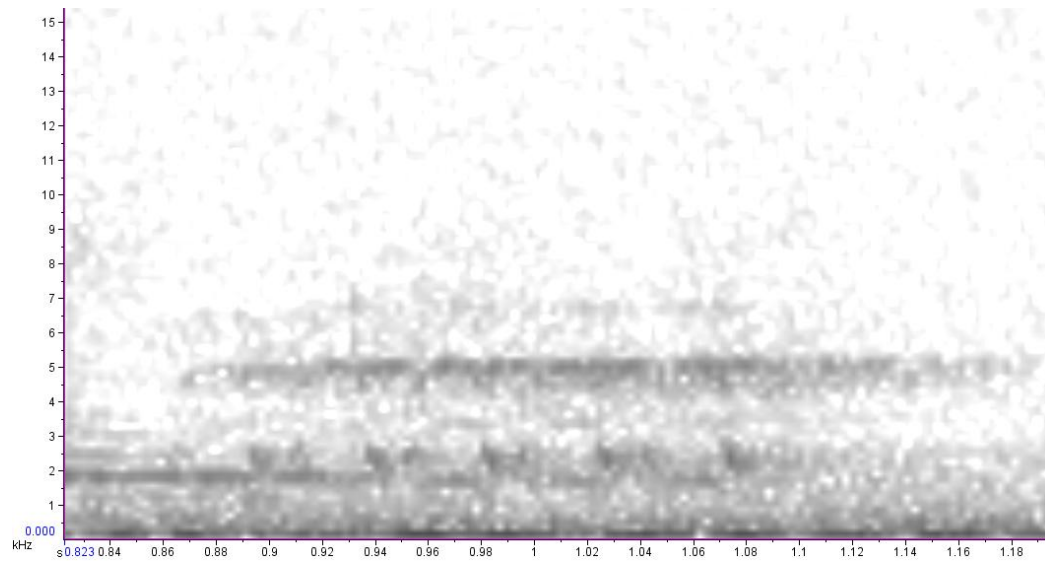
Repeated.



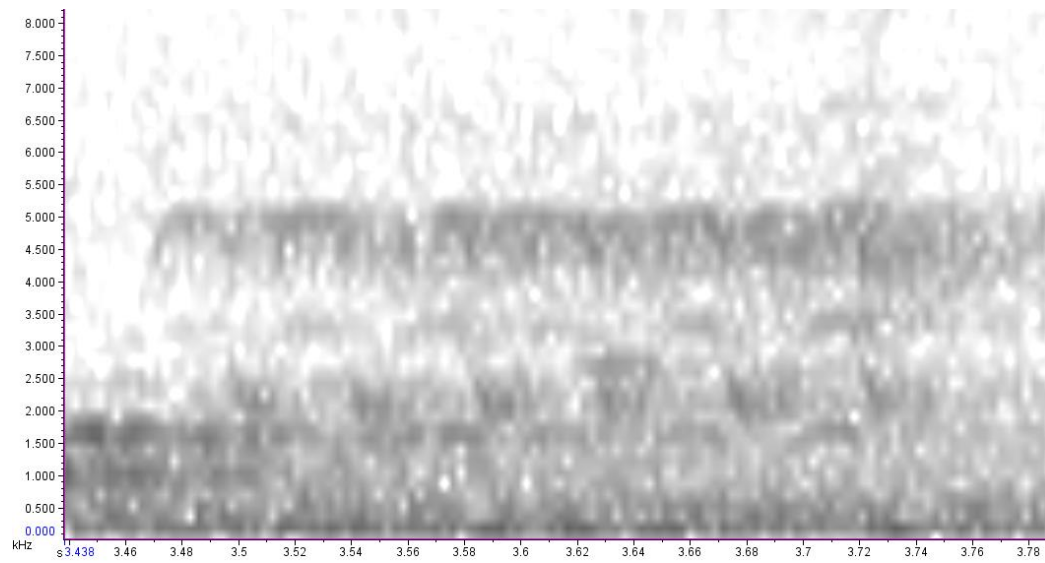
Syllable 13.



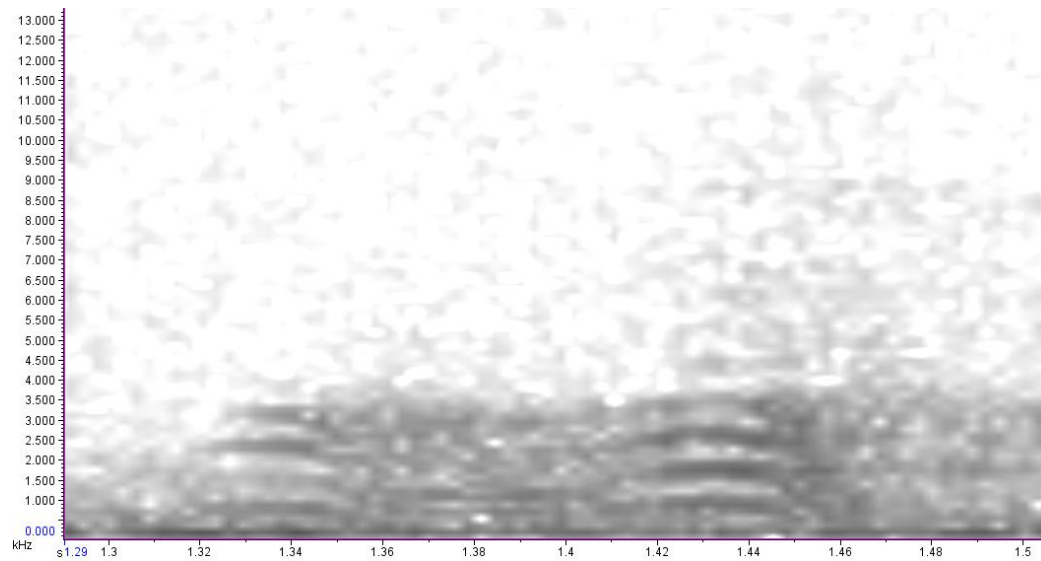
Syllable 14.



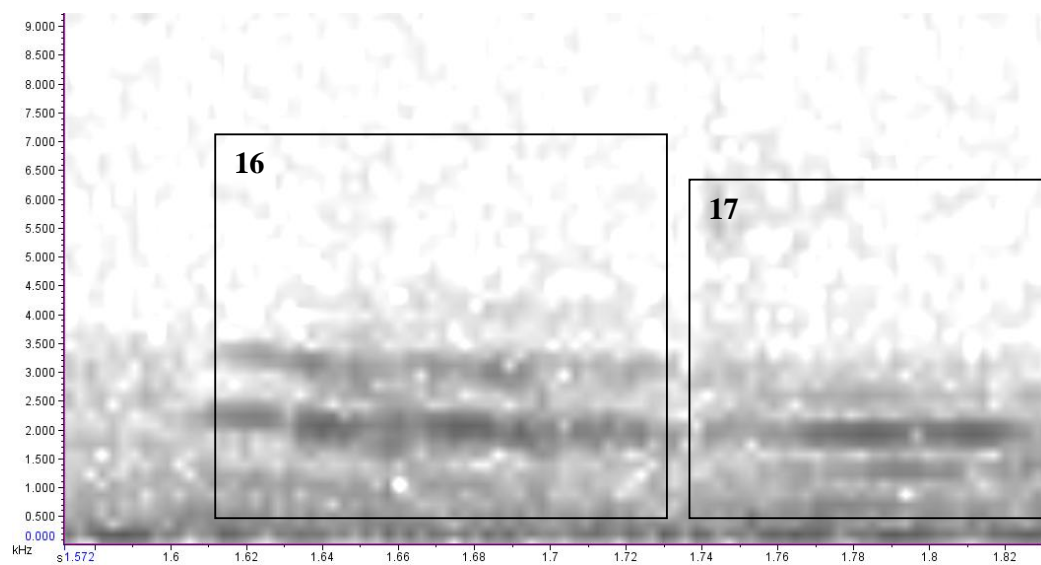
Repeated



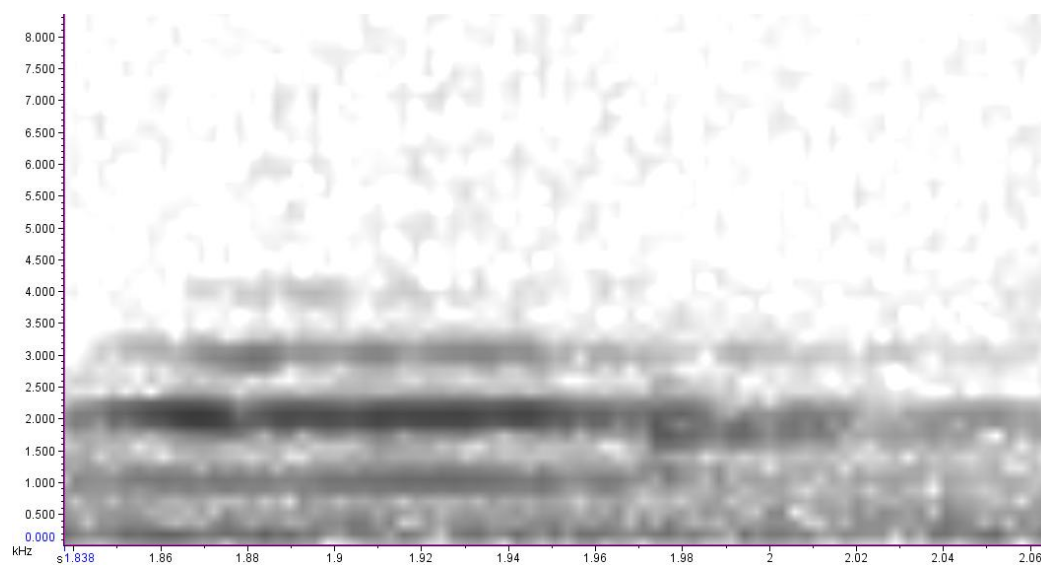
*Syllable 15. Conjoined so considered one syllable.



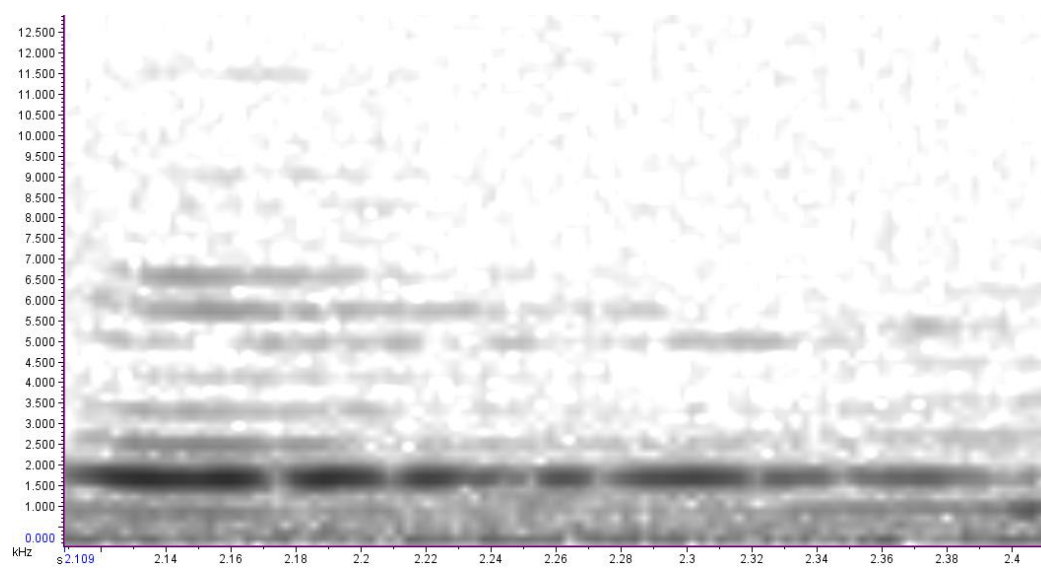
Syllables 16 and 17.



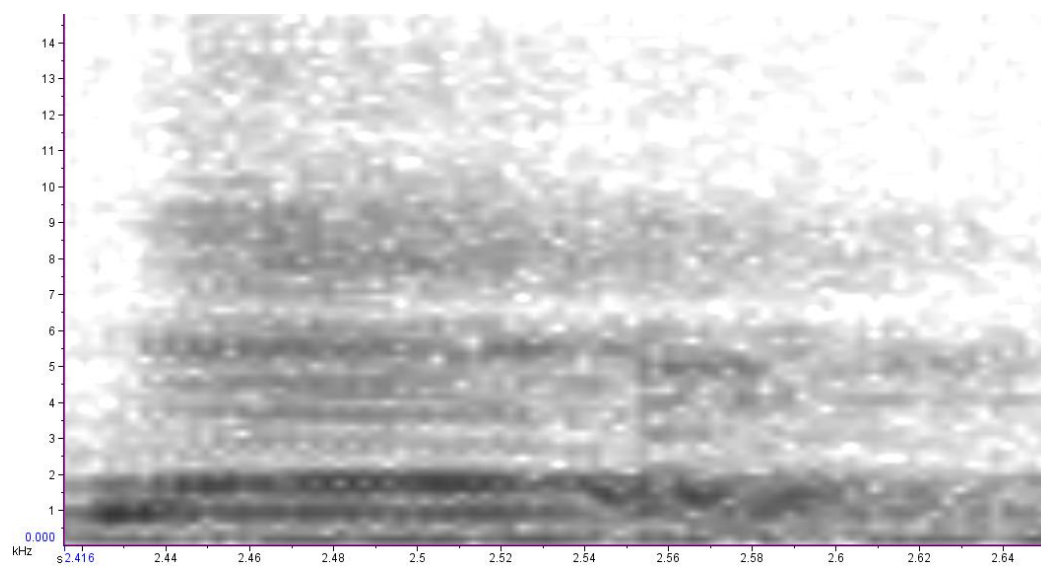
Syllable 18.



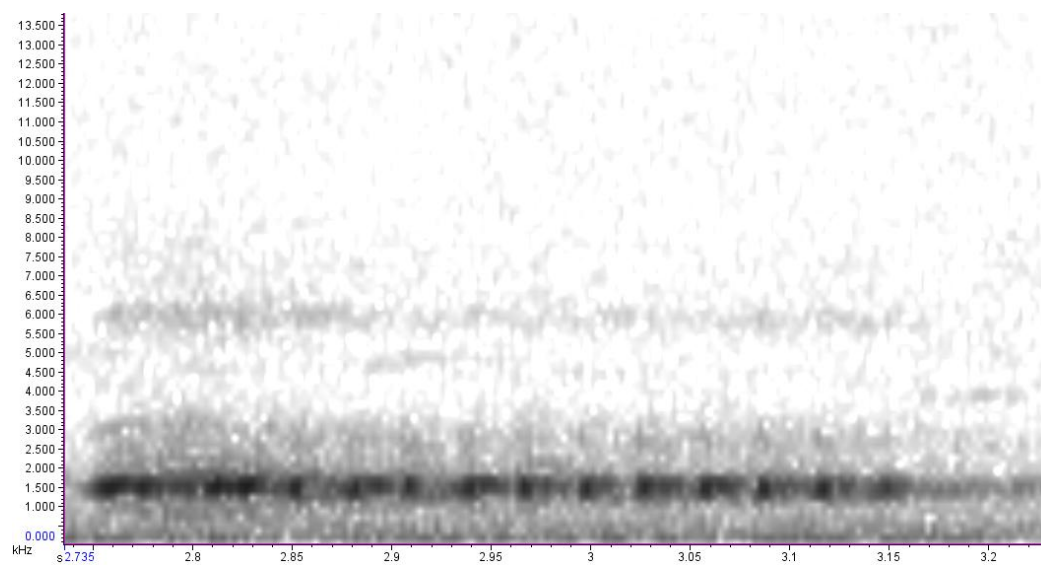
Syllable 19.



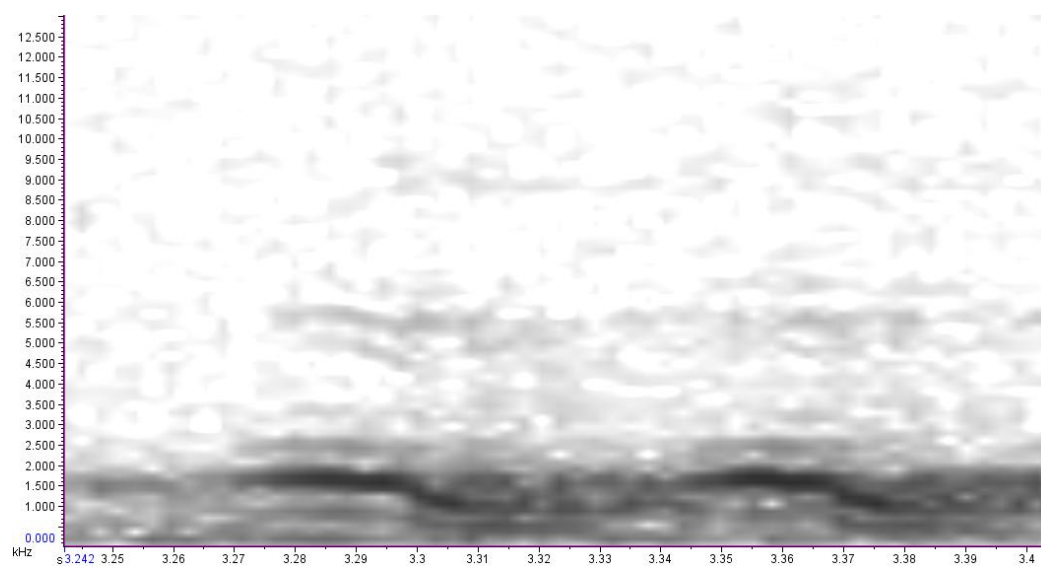
Syllable 20.



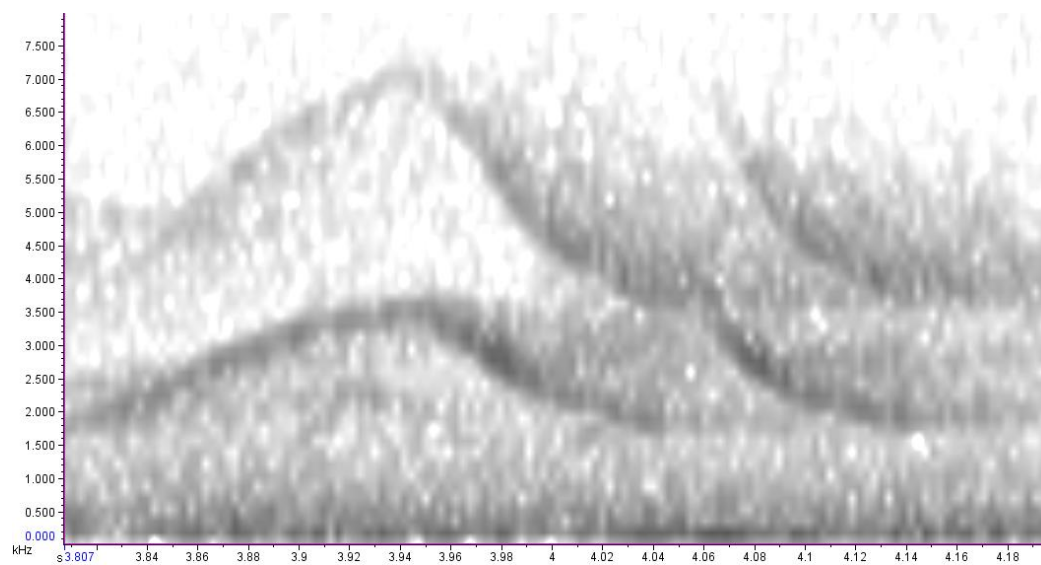
Repeated



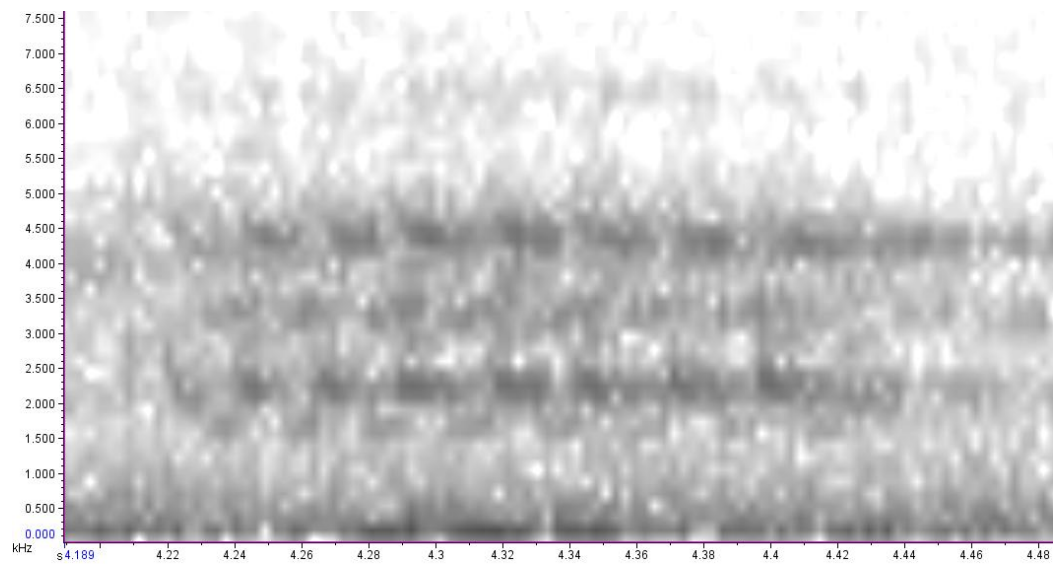
Syllable 21.



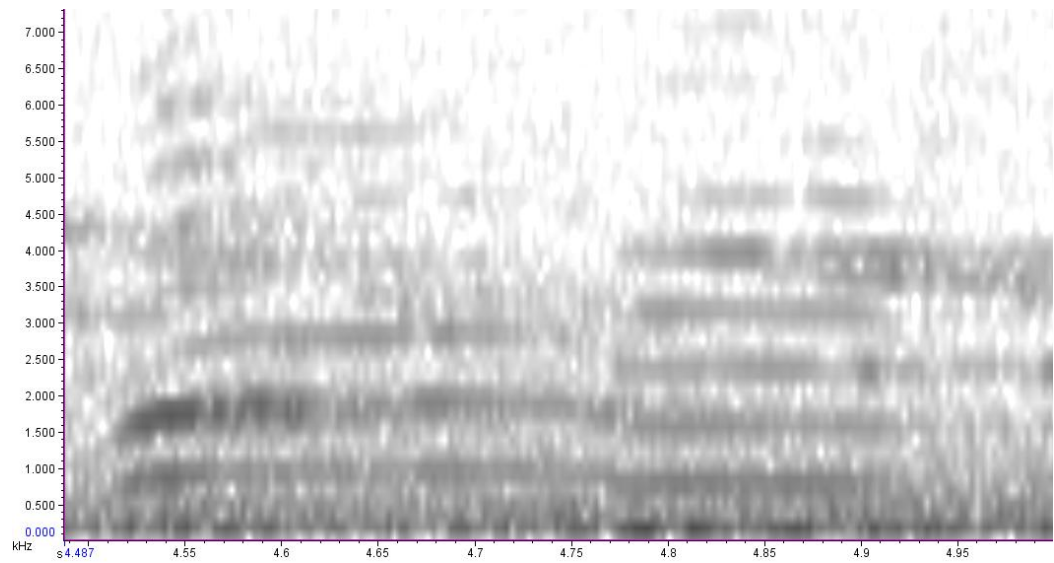
Syllable 22.



Repeated

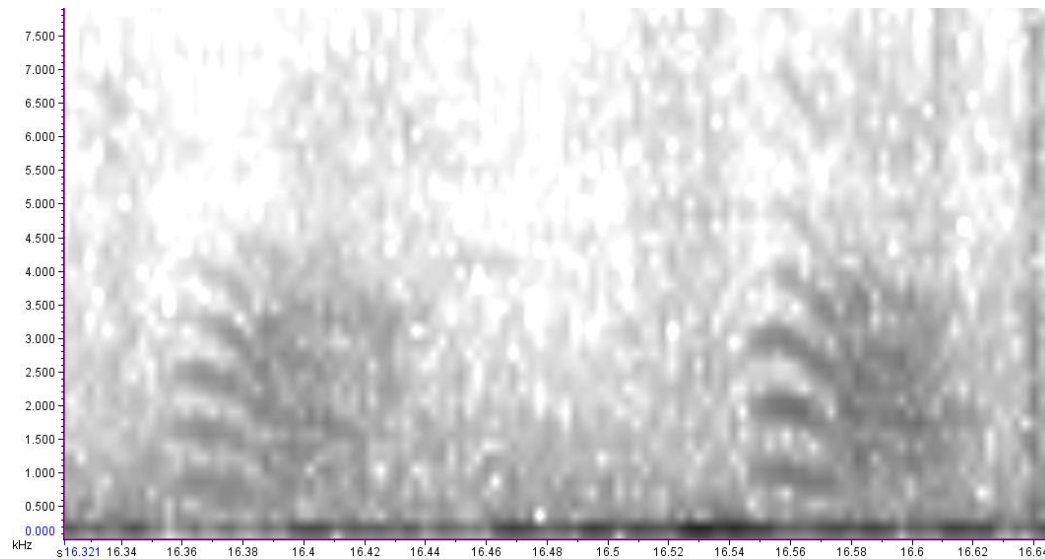


Syllables 23 and 24.

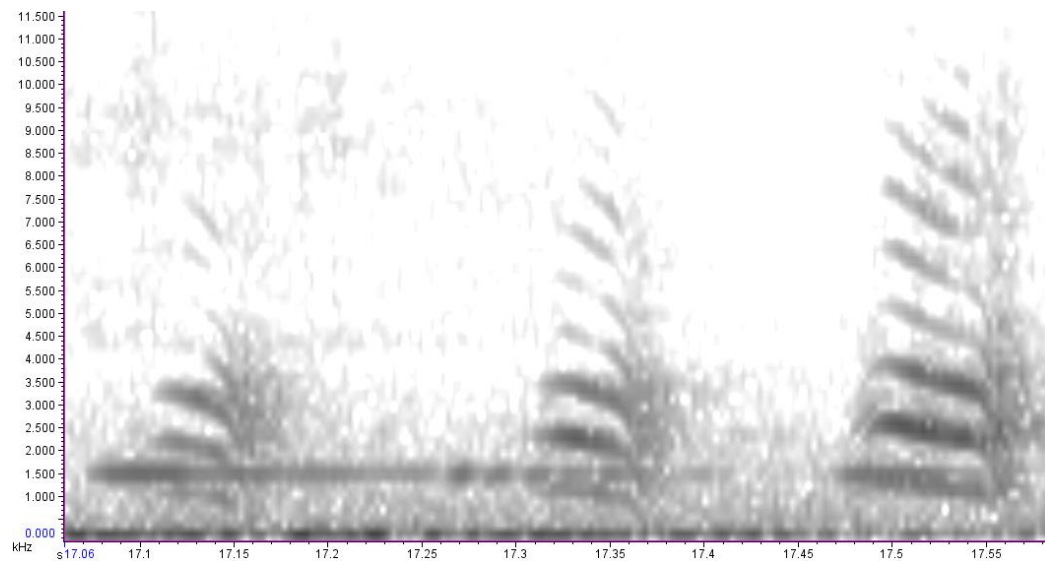


Song 3. 003-2010-11-22 02_21_19.wav

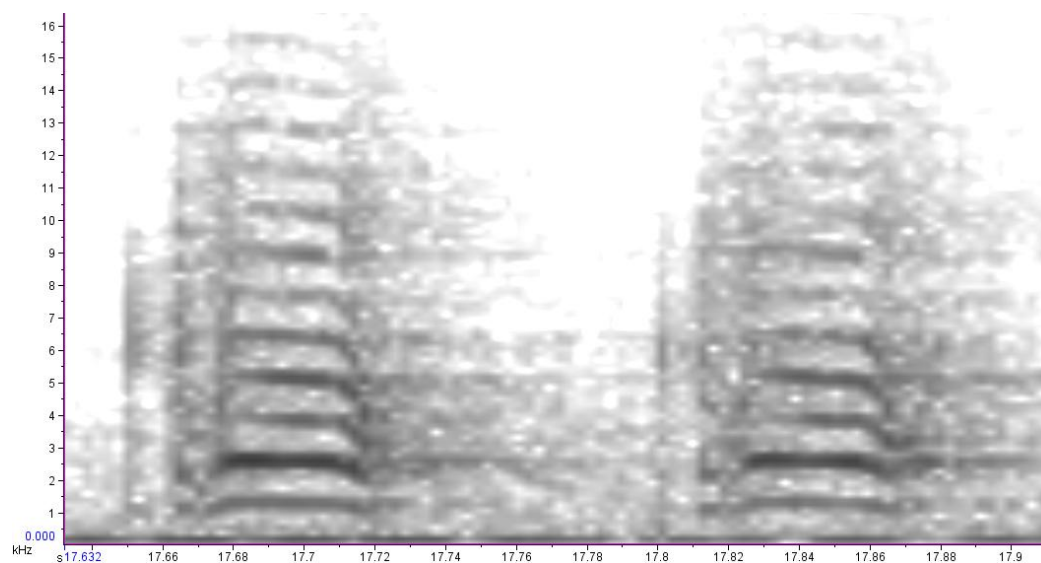
Repeated. Part of the ascending crescendo. Considered one syllable due to the huge similarities in structure and sound. The second syllable here is a slightly higher pitch.



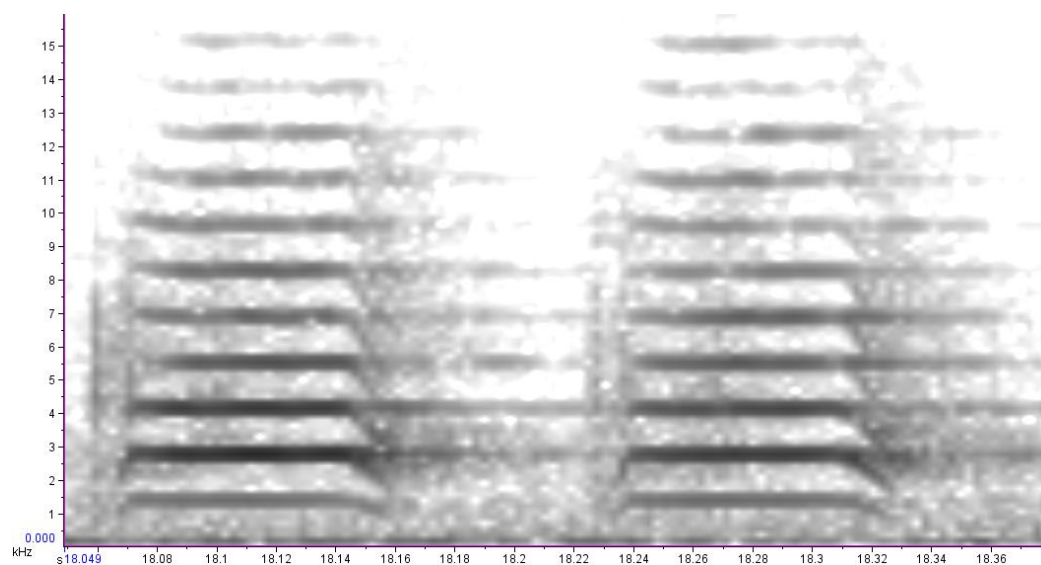
Repeated. Also part of the ascending crescendo. Considered the same syllable due to high similarities between structure and sound.



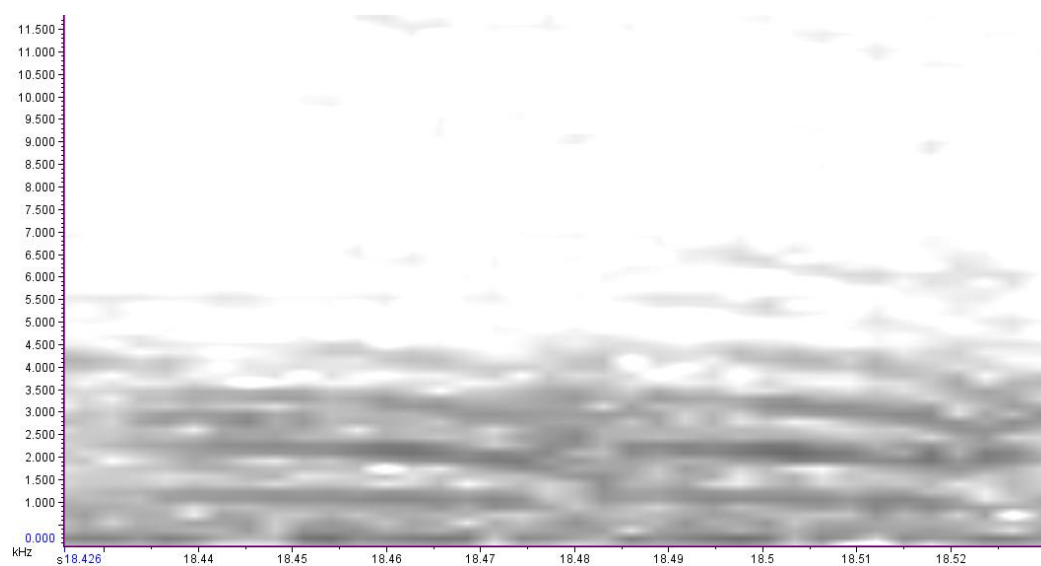
Syllable 25. Syllables immediately following the ascending crescendo. Different (though relatively similar) in sound and structure to the ascending crescendo syllables.



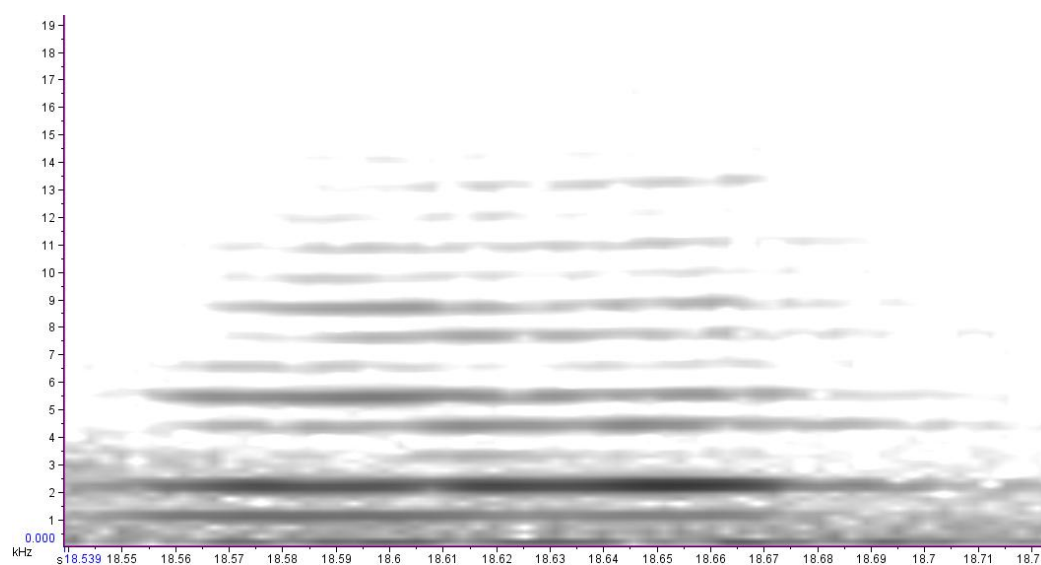
Repeated



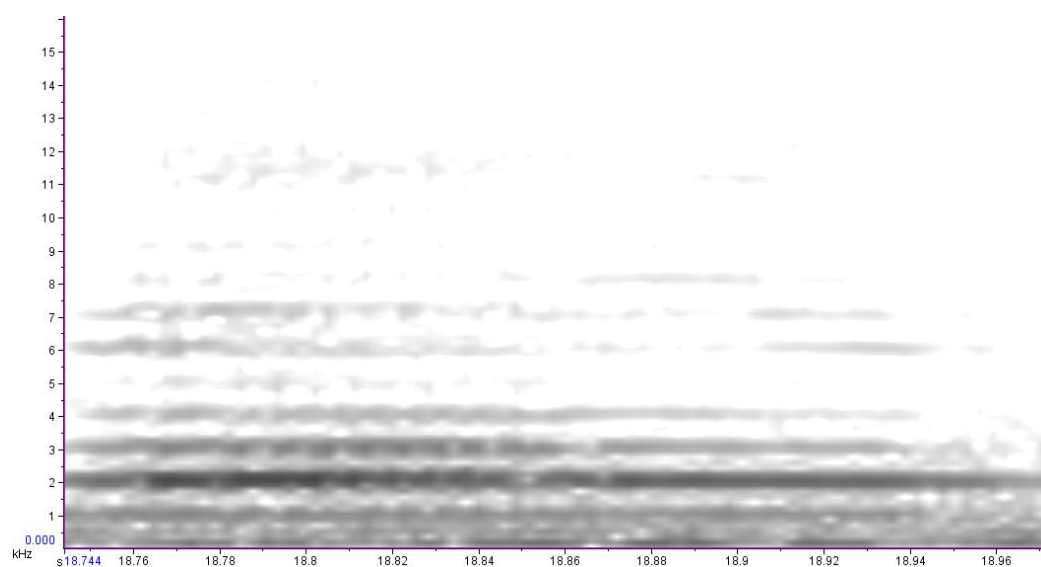
Repeated.



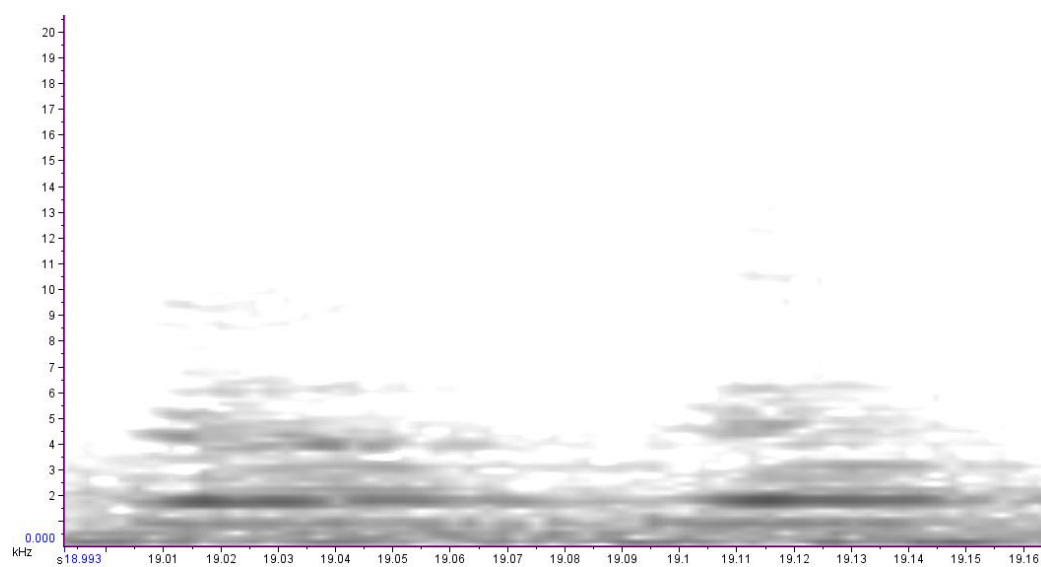
Repeated



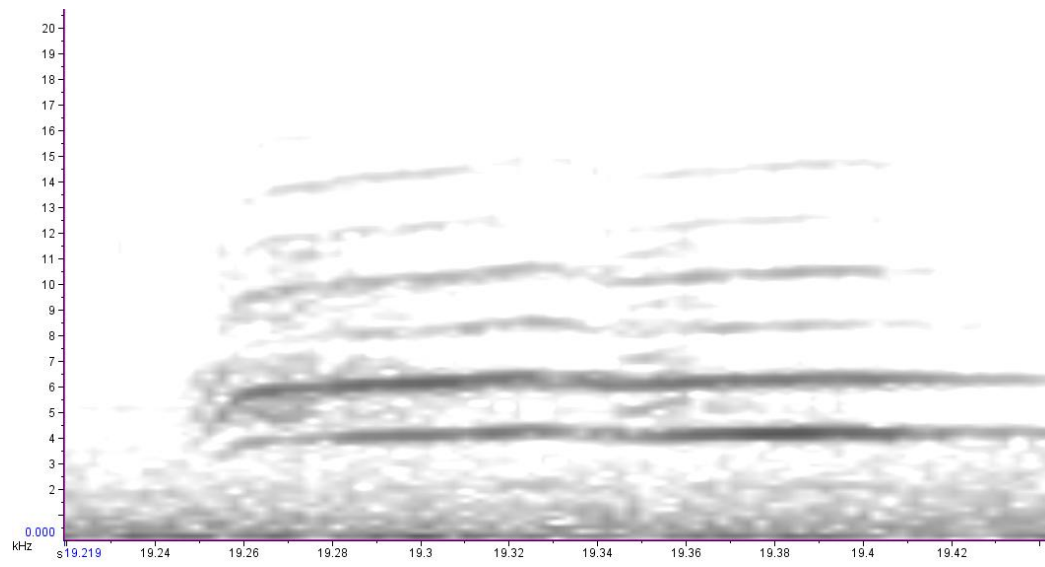
Repeated



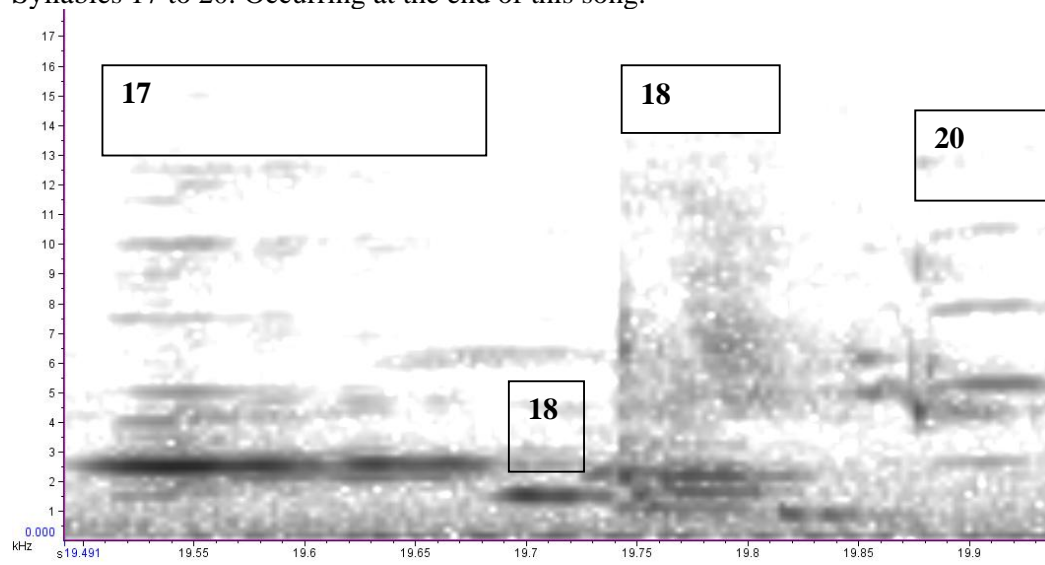
Repeated



Syllable 26.

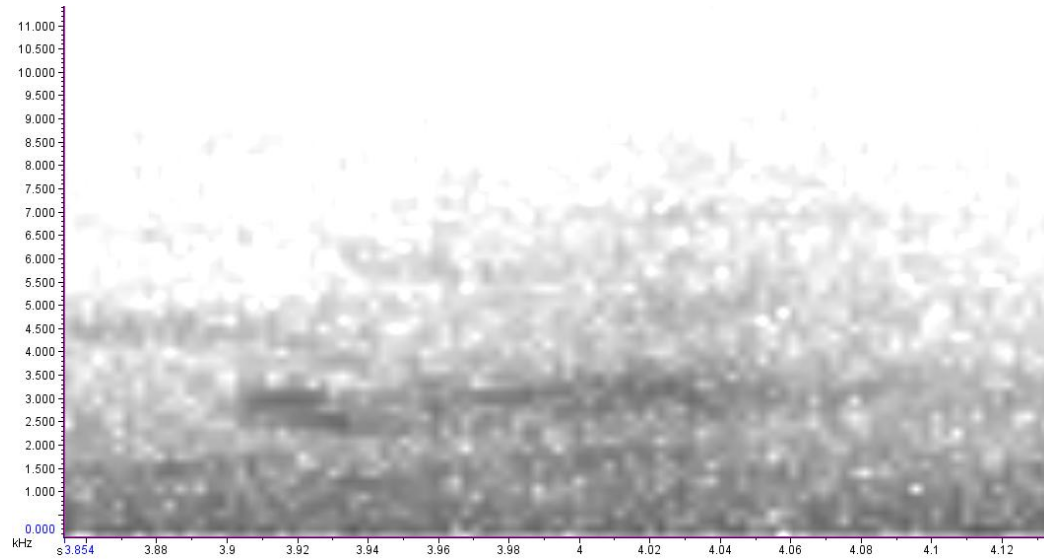


Syllables 17 to 20. Occurring at the end of this song.

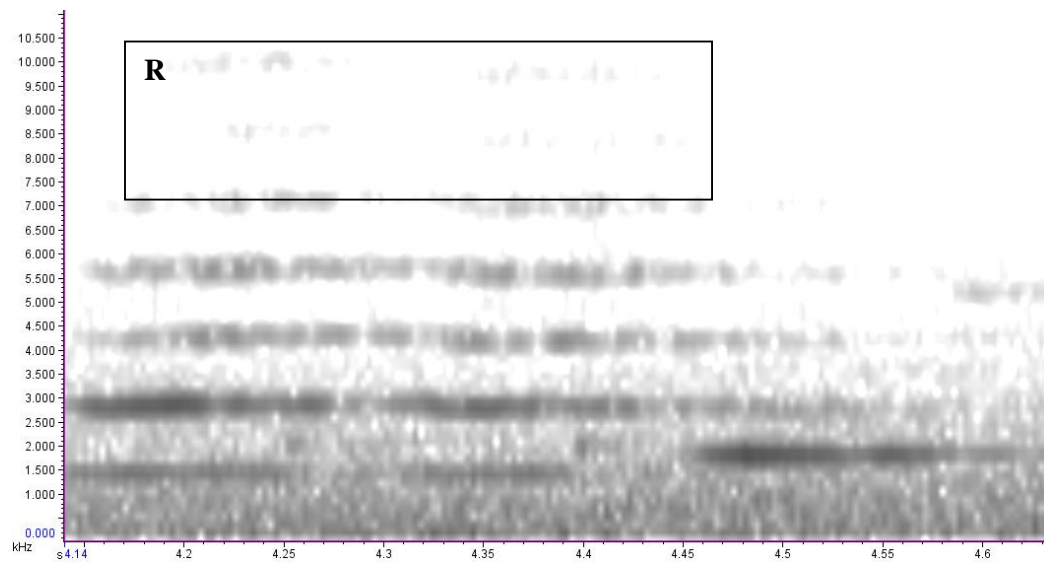


Song 4. 010-2010-11-22 04_36_39

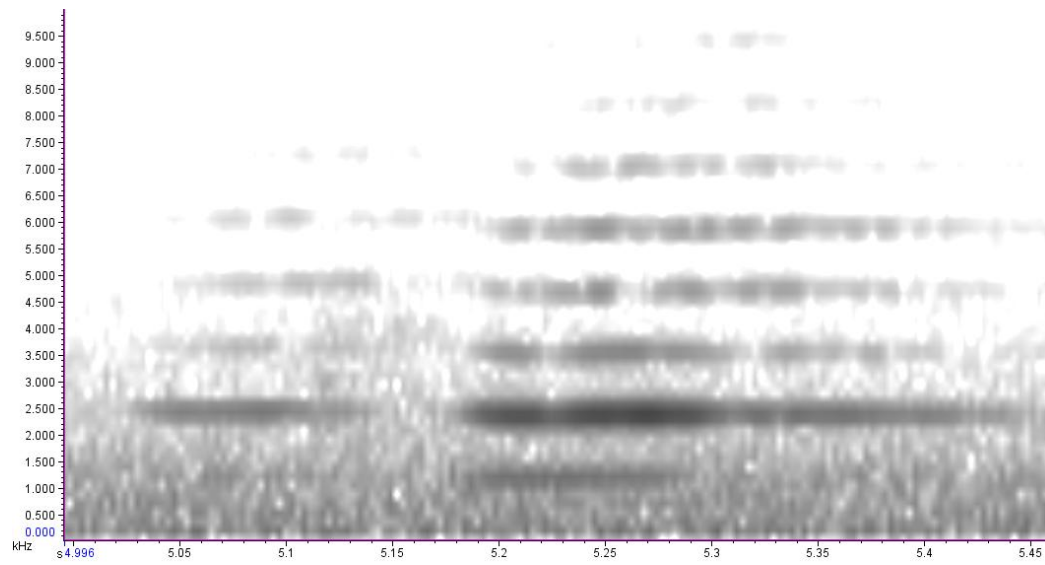
Syllable 21. Two of these syllables as a form of preliminary ‘crescendo’ before the main part of the song.



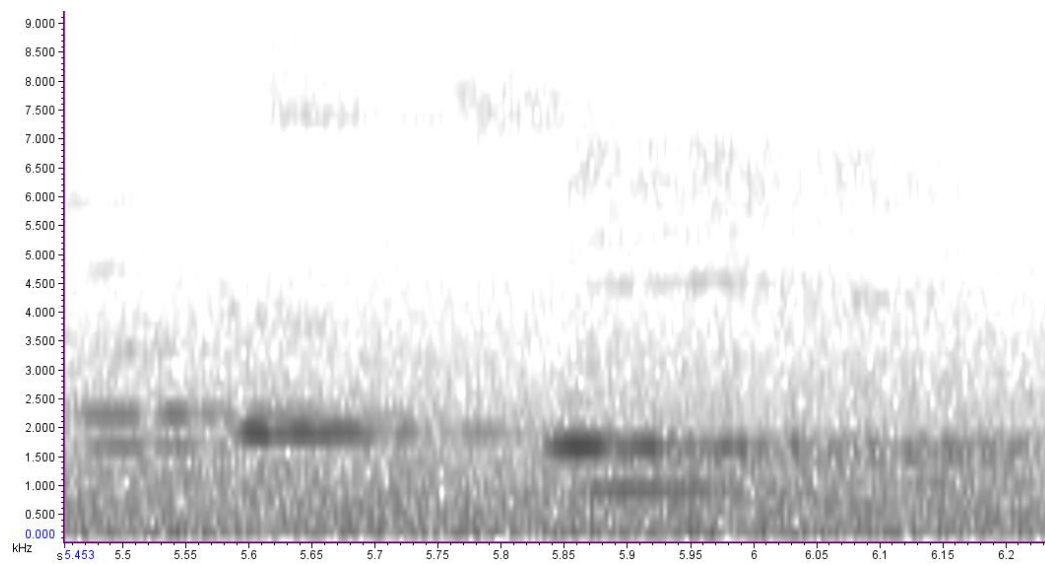
Repeated. Considered just one syllable due to conjoined components.



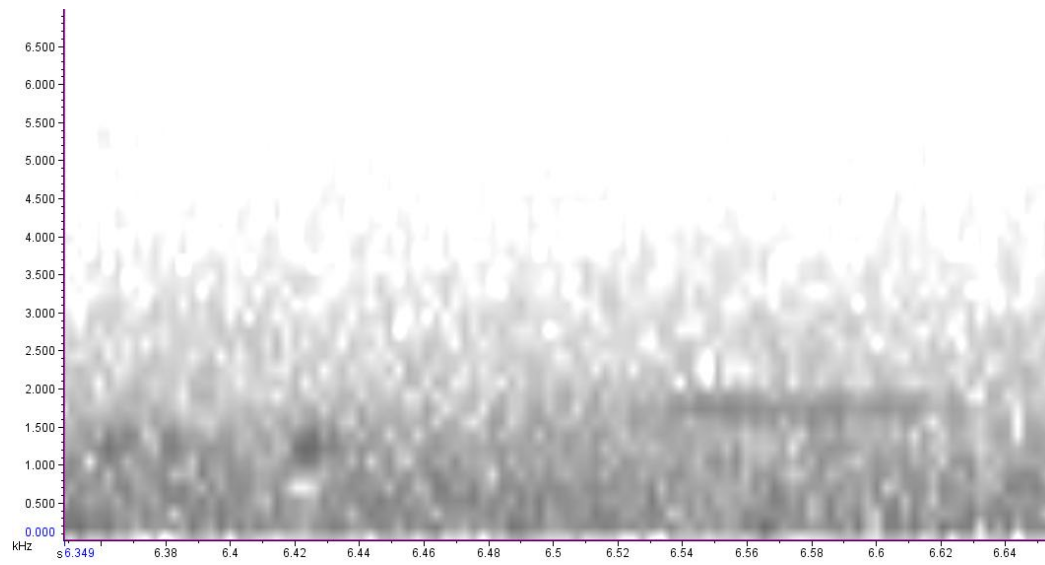
Repeated x2.



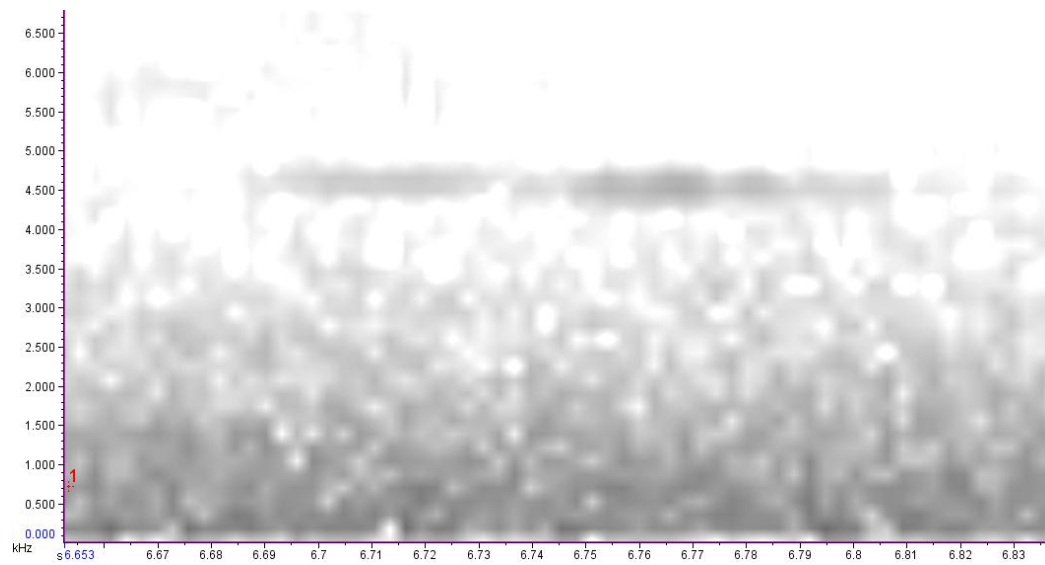
Syllables 22 to 24.



Syllables 25 and 26. Syllable 5 is subtle.

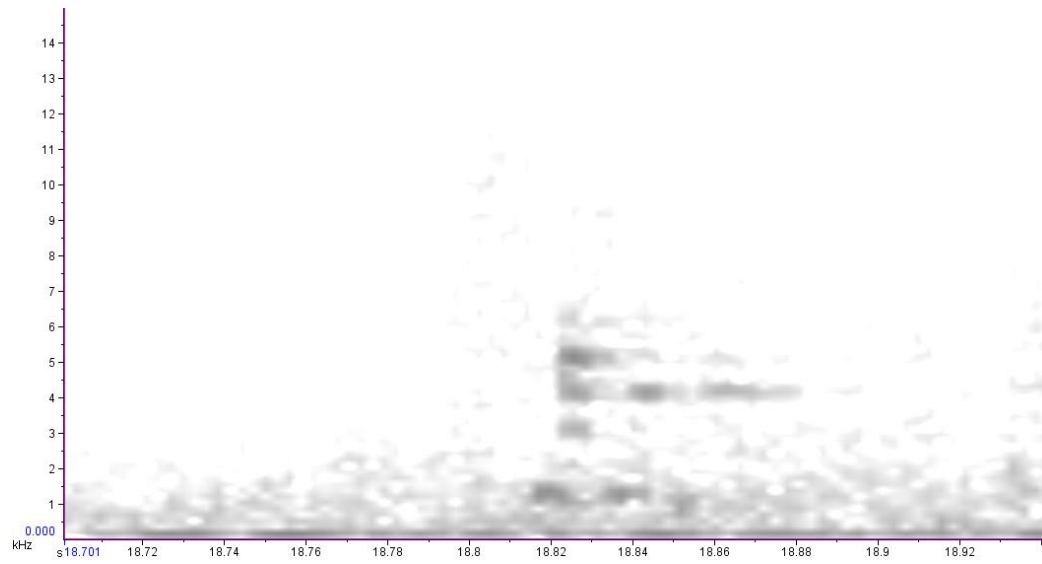


Syllable 27. Another very subtle syllable.

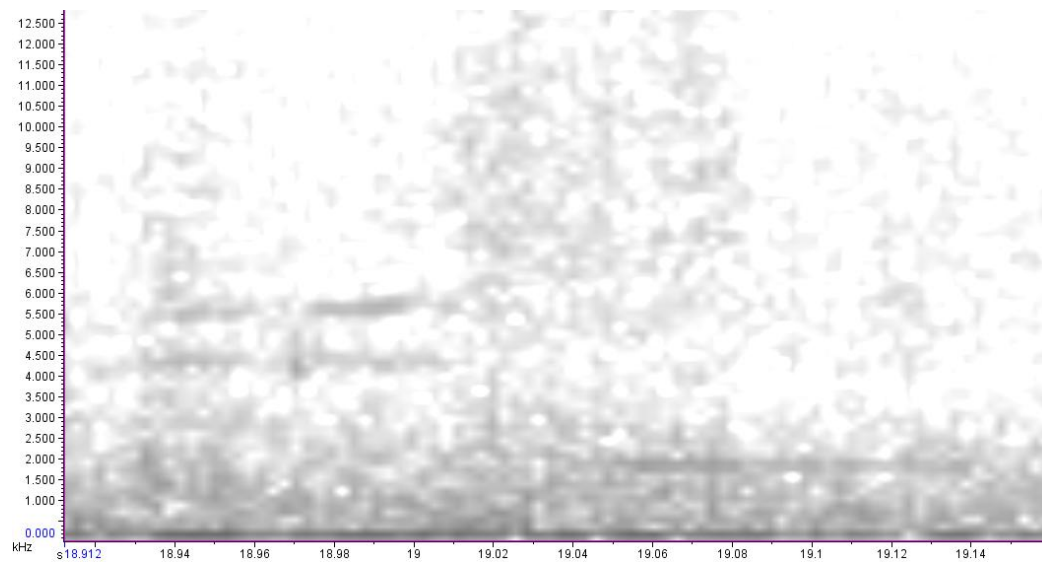


Song 5 - 001-2010-11-22 07_26_53

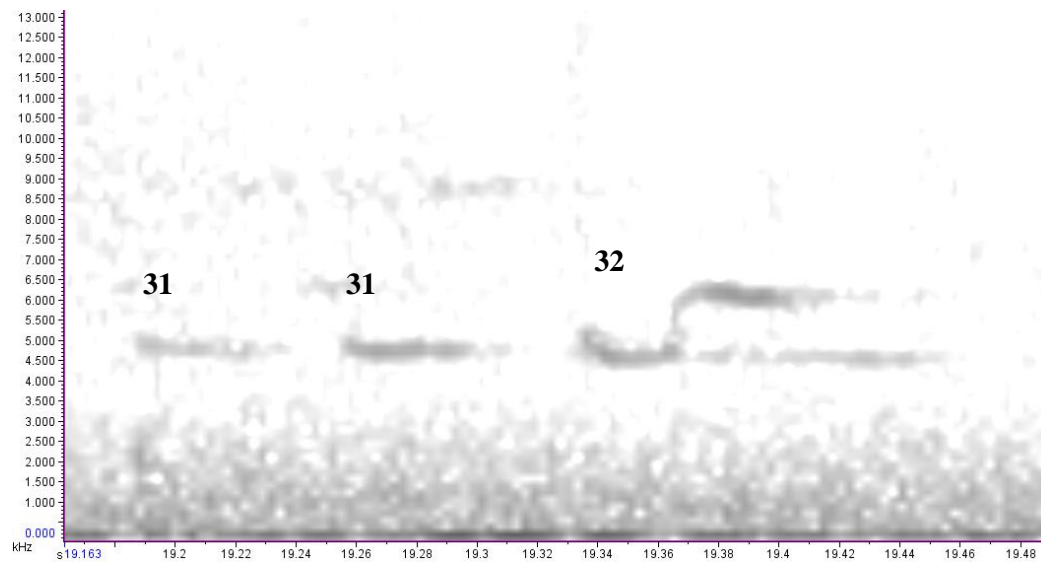
Syllable 28.



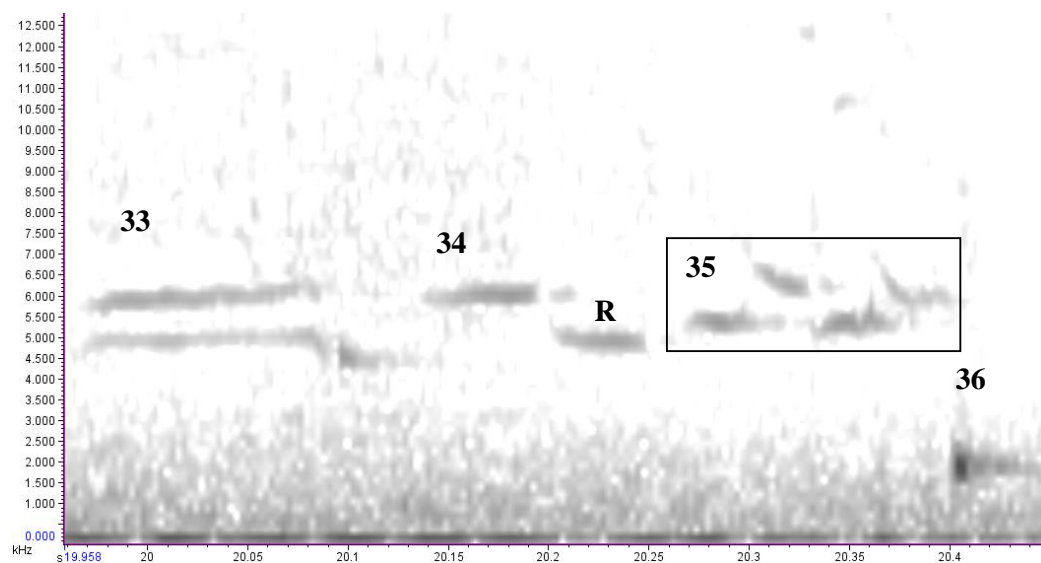
Syllables 29 and 30.



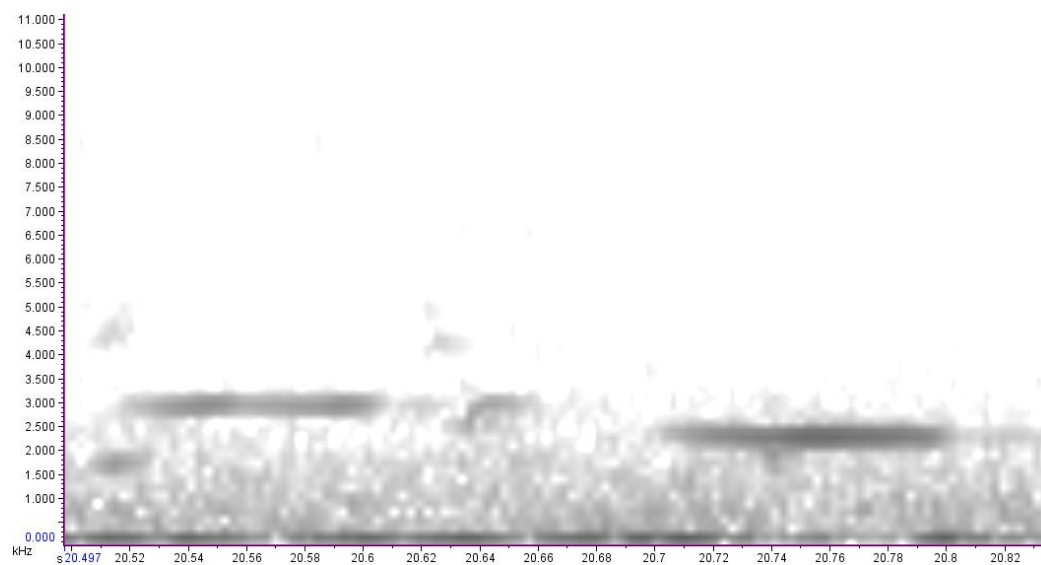
Syllables 31 and 32.



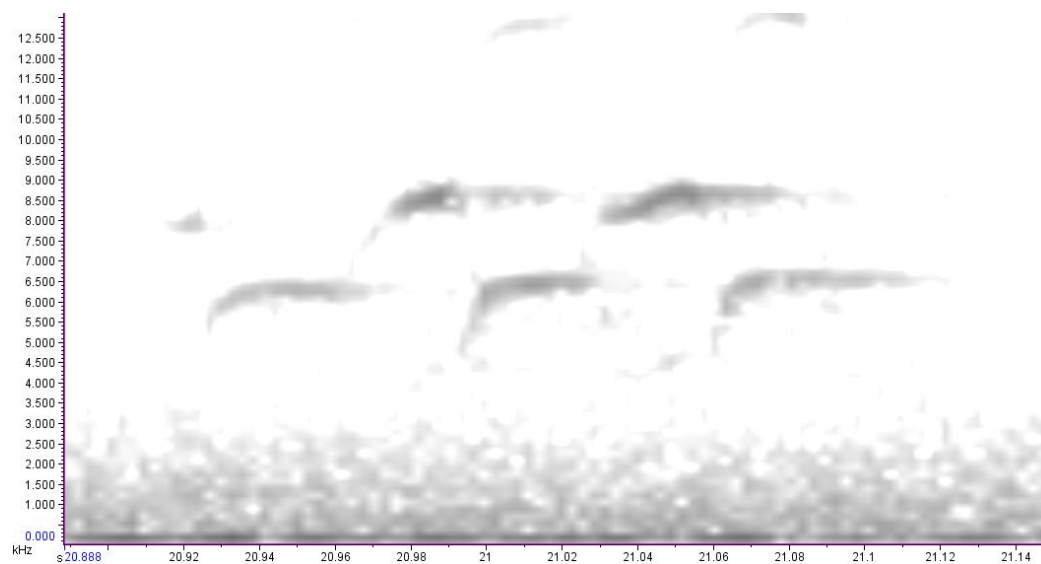
Syllables 33-36. Including a repeat of syllable 4.



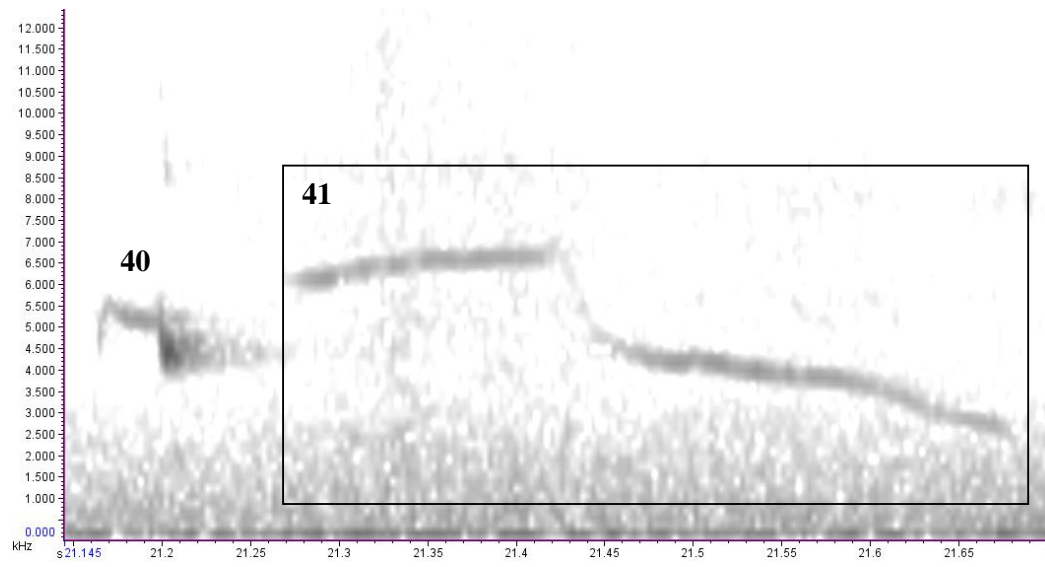
Syllables 37 and 38.



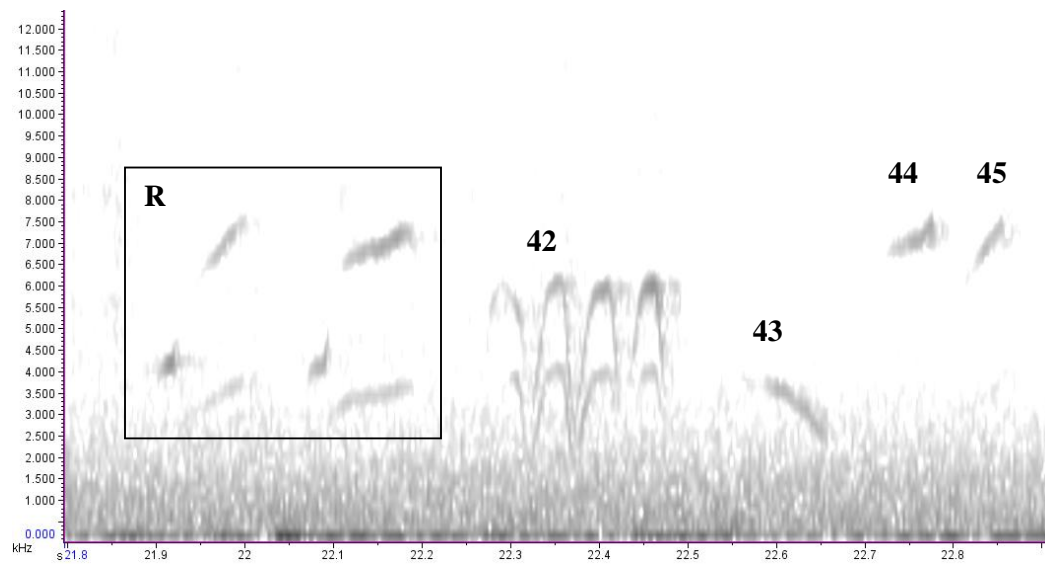
Syllable 39.



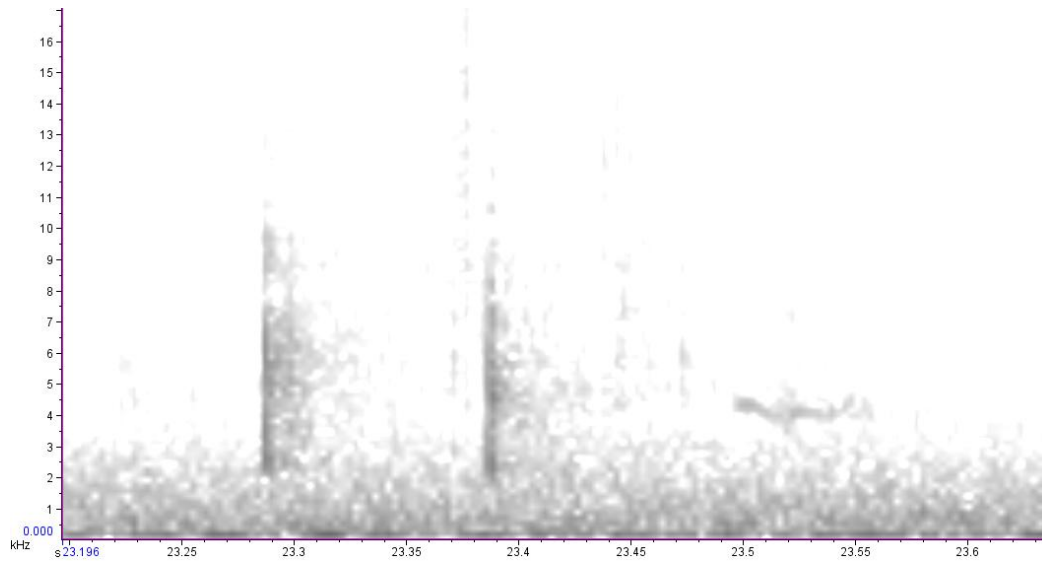
Syllables 40 and 41.



Syllables 42-45.

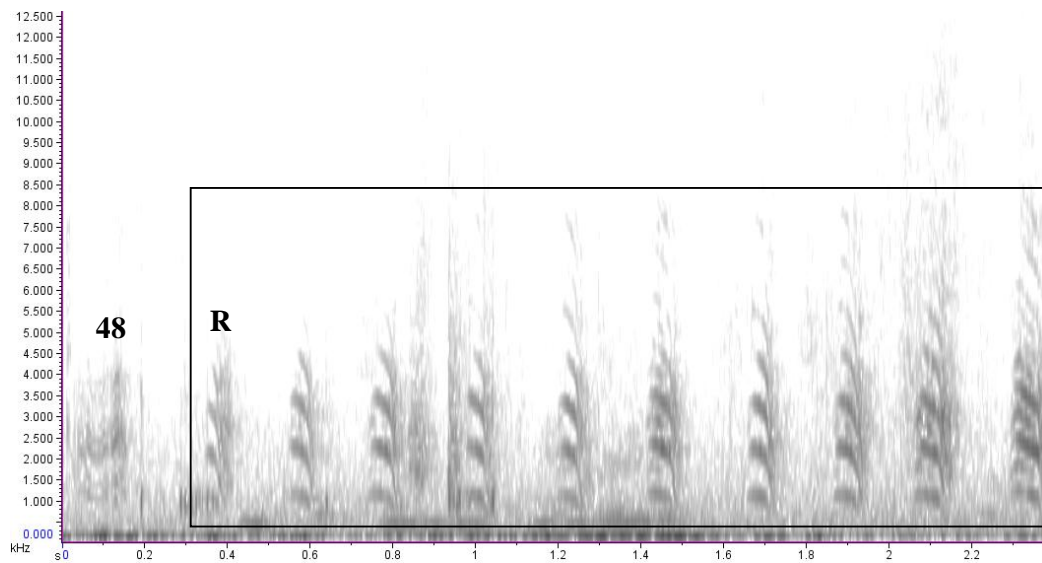


Syllables 46 and 47. Syllable 46 consists of the two clicks. Syllable 21 a subtle trill sounding syllable.

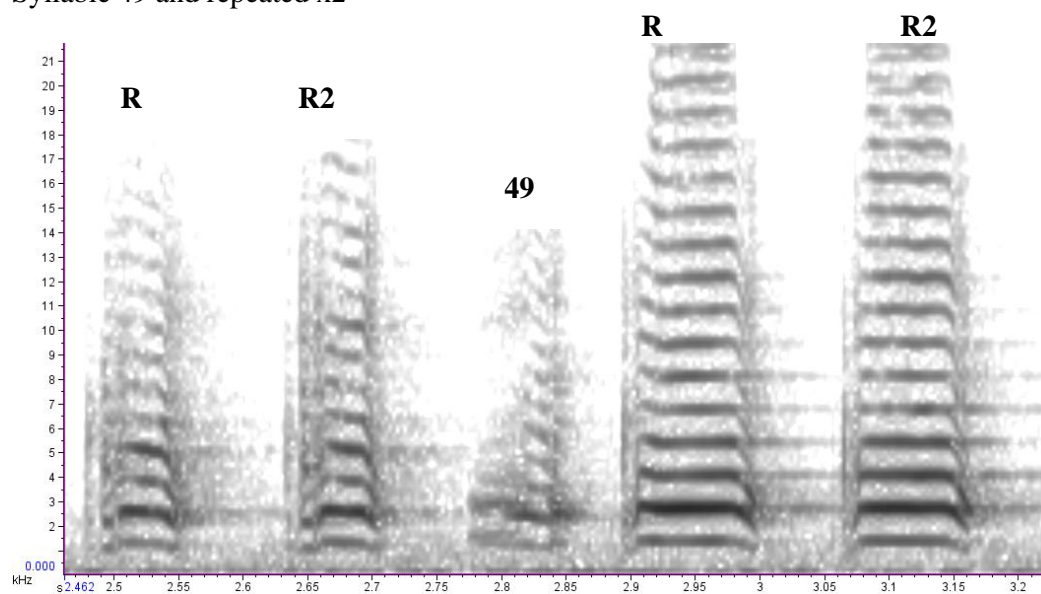


Song 6 - 020-2010-11-22 05_21_24 (very common West Landing song, Rangatira).

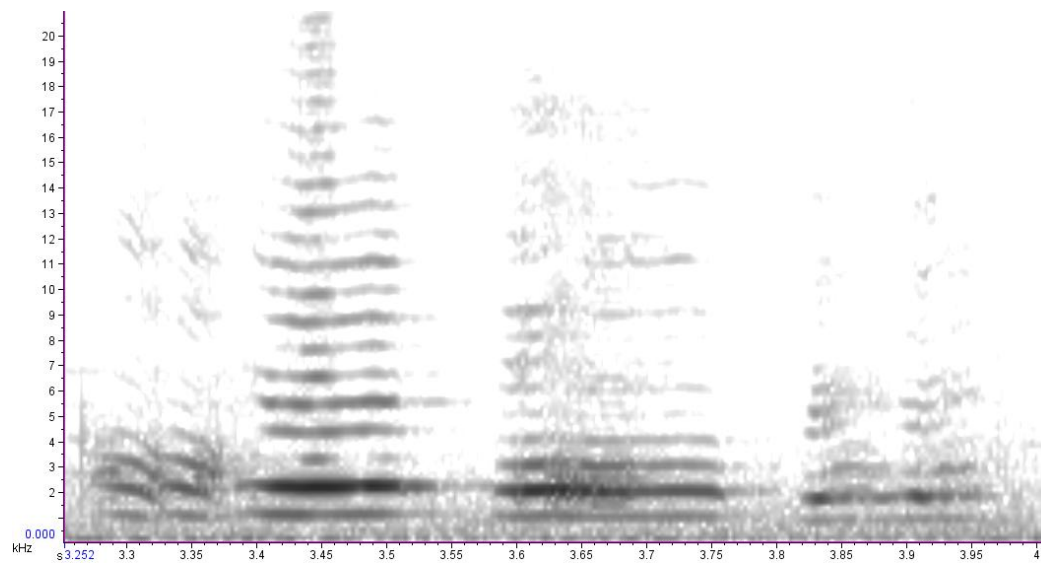
Syllables 48 and repeated syllables. The ascending crescendo leading up to the main part of the song. Consists of two different syllables. The second syllable being repeated, in this case, 10 times but each time at a slightly higher frequency and with a slightly 'fuller' note.



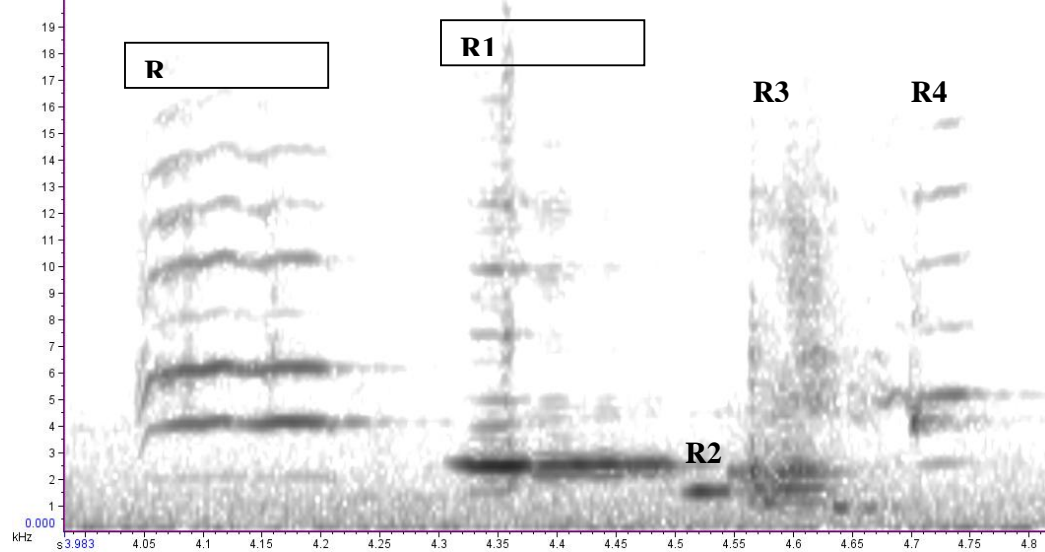
Syllable 49 and repeated x2



Repeated x 4

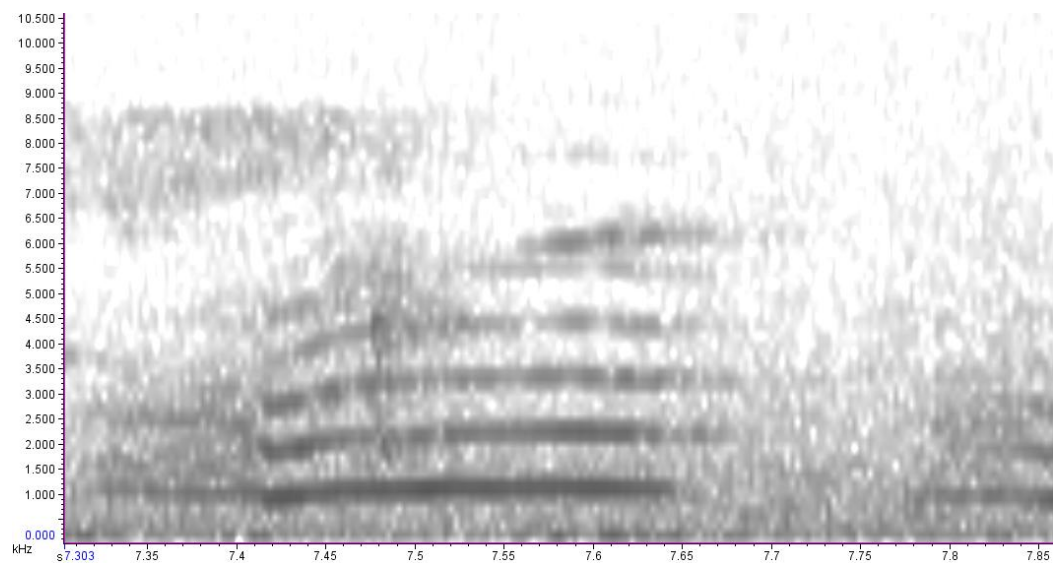


Repeated x 5

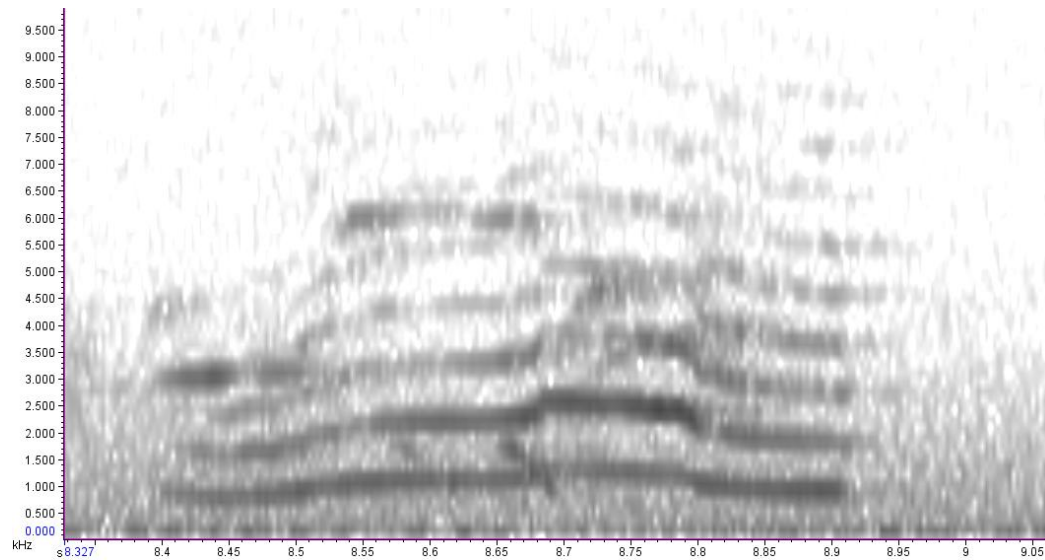


Song 7 - 020-2010-11-22 06_16_50. Female to male distress call. Consists of repeated syllable 1s and syllable 2 at the beginning and end of the call. The two syllable 2s are very similar not the same, but are considered as just one syllable type, due to this high similarity.

Repeated

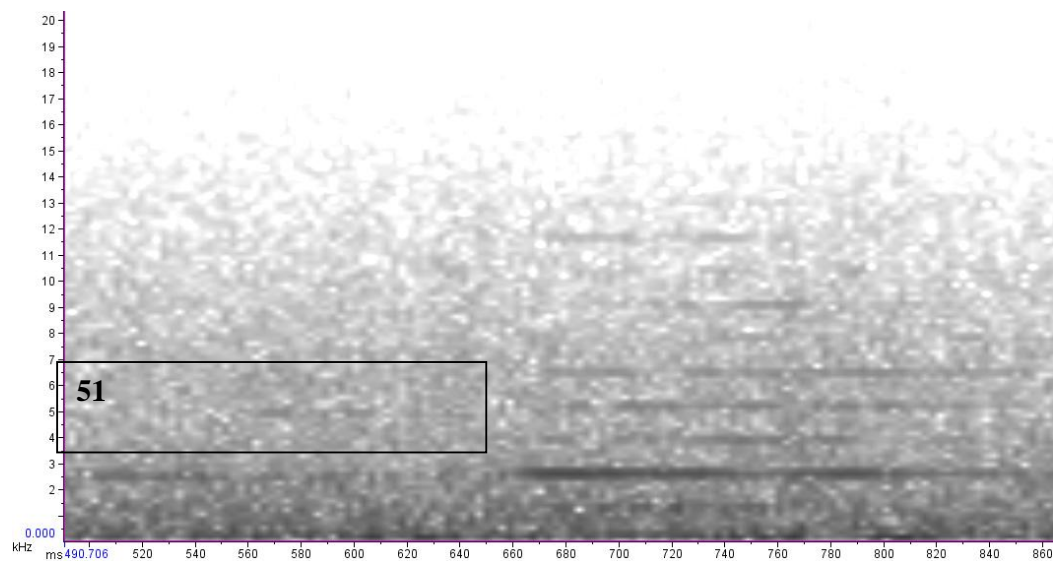


Syllable 50.

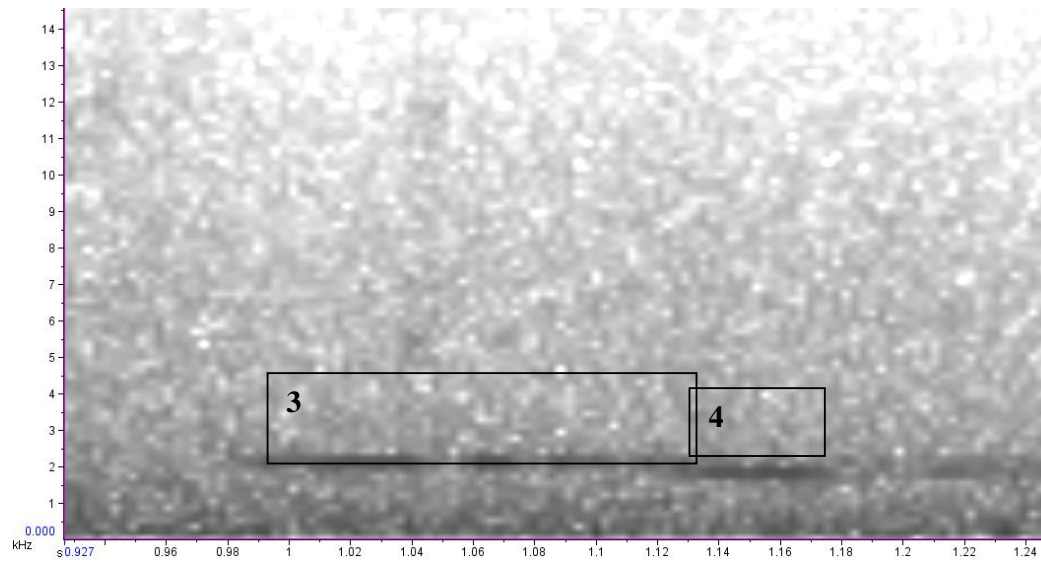


Song 8 - 001-2010-11-22 08_26_45. Pitt Island. This song contains 7 syllables, but only the prominent ones are included, due to the other syllables being very faint and trilly.

Syllable 51 and a repeated syllable.

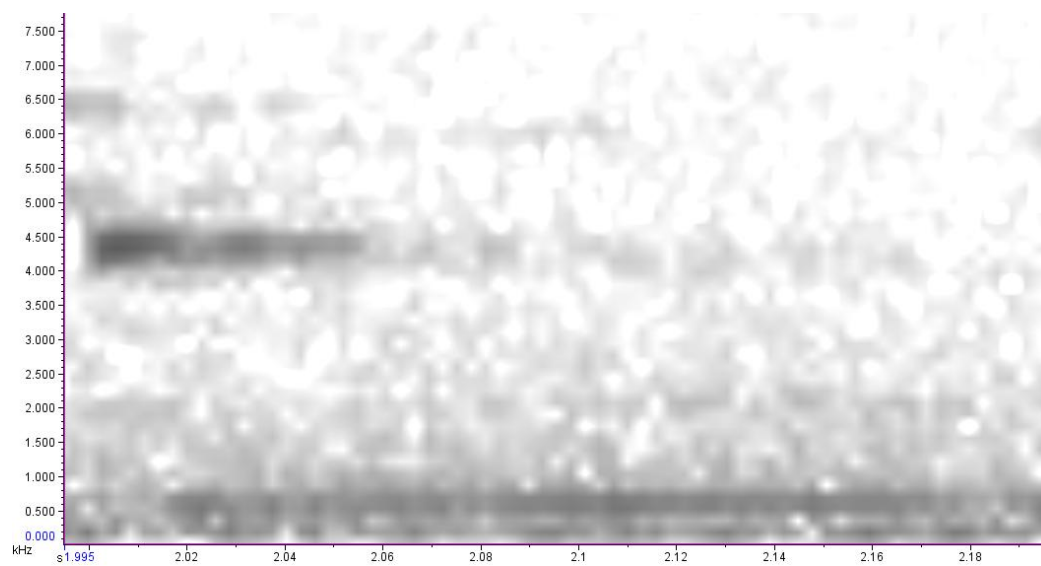


Repeated x2

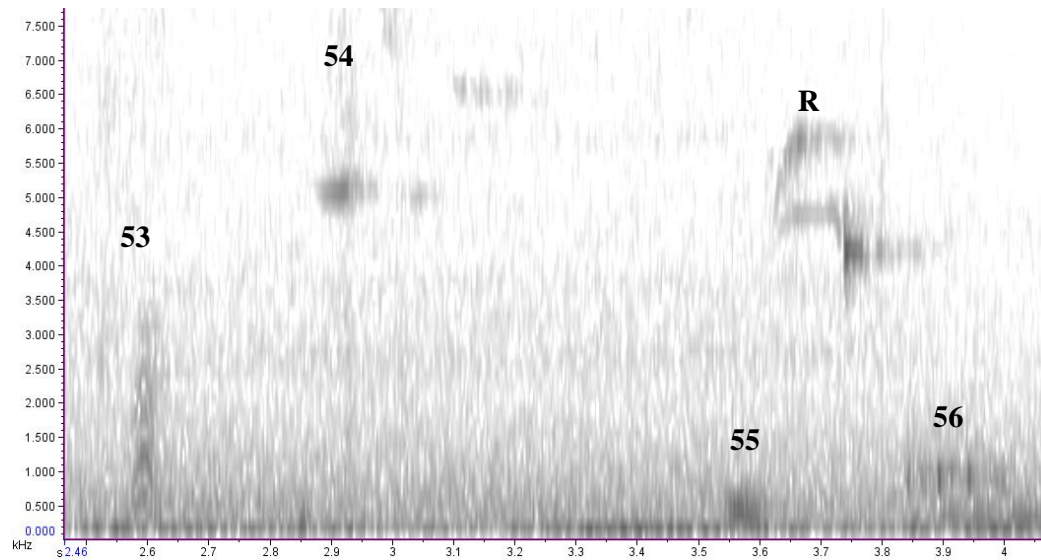


Song 9 - 001-2010-11-22 03_33_46. Male to female. Rangatira.

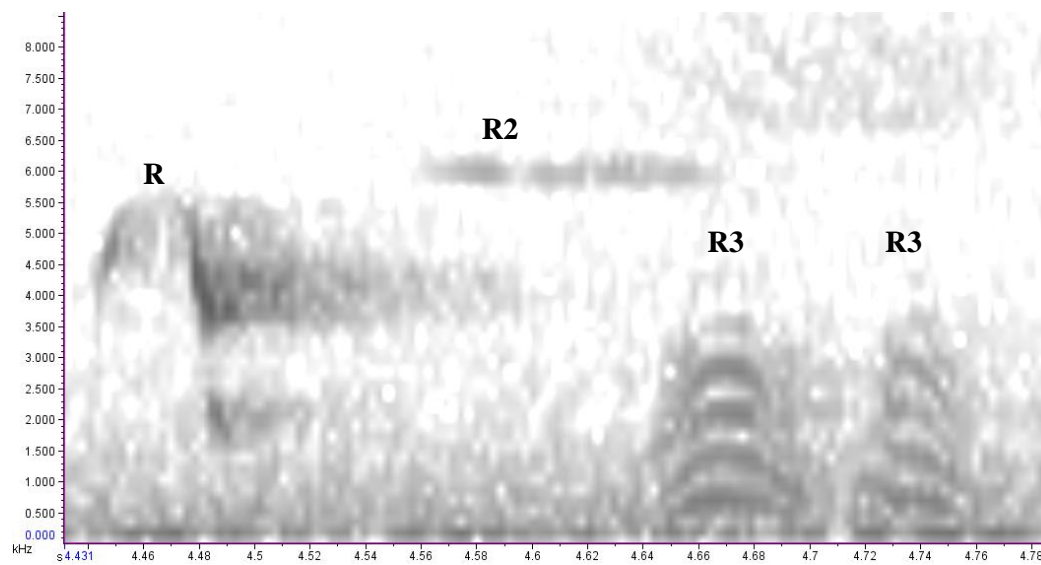
Syllable 52



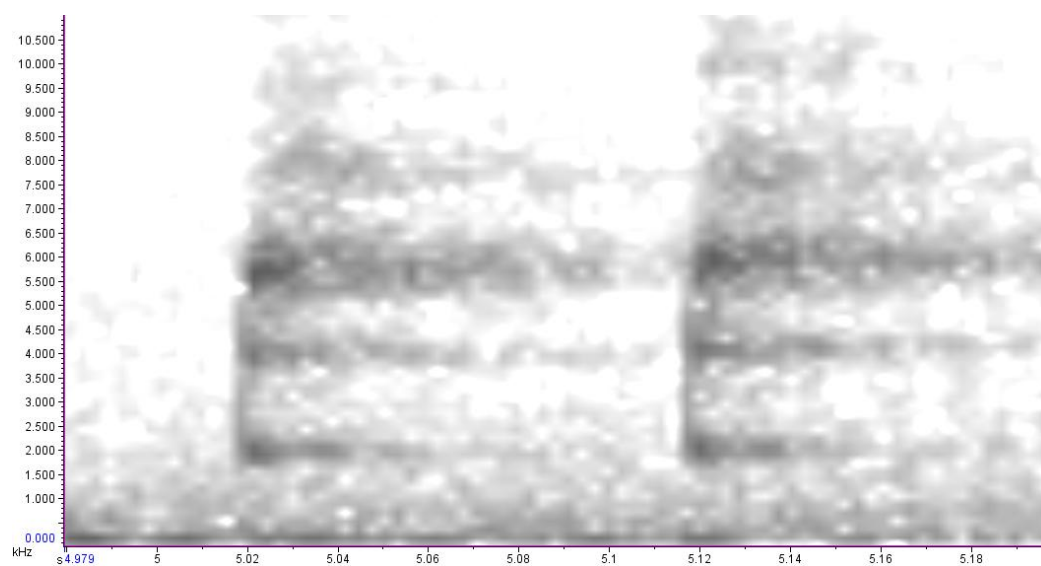
Syllables 53-56.



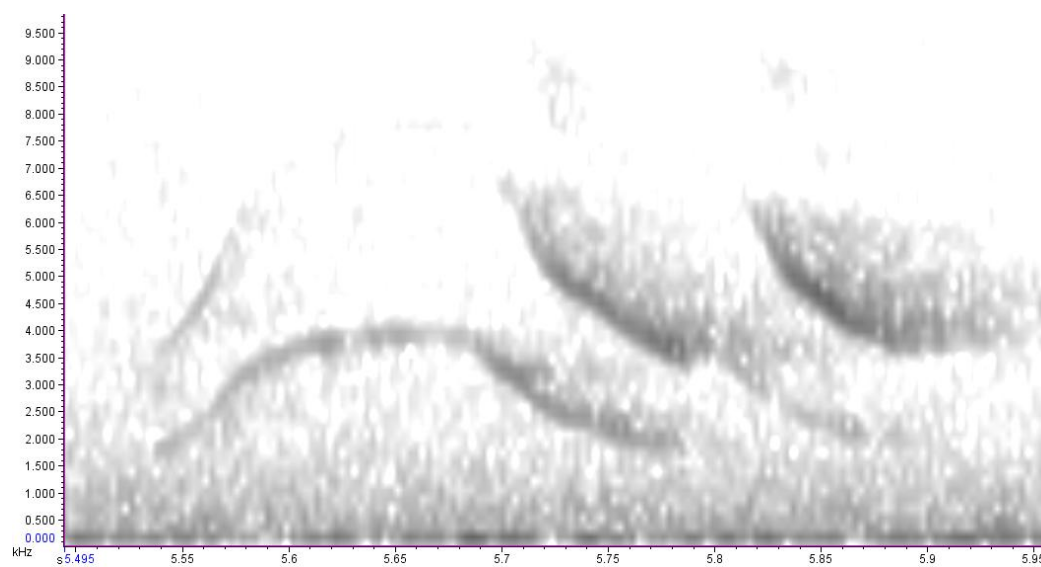
Repeated x3



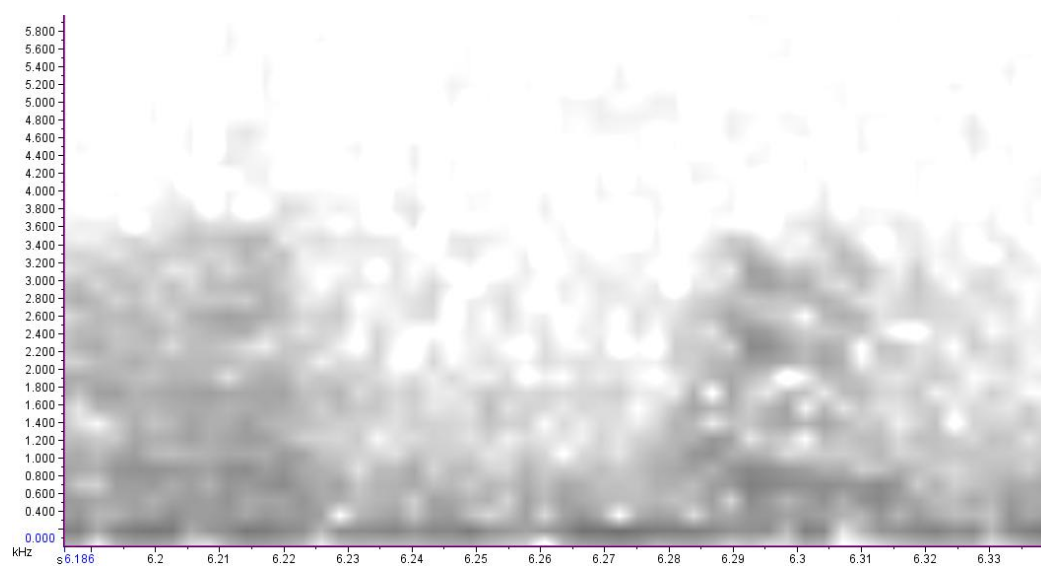
Repeated



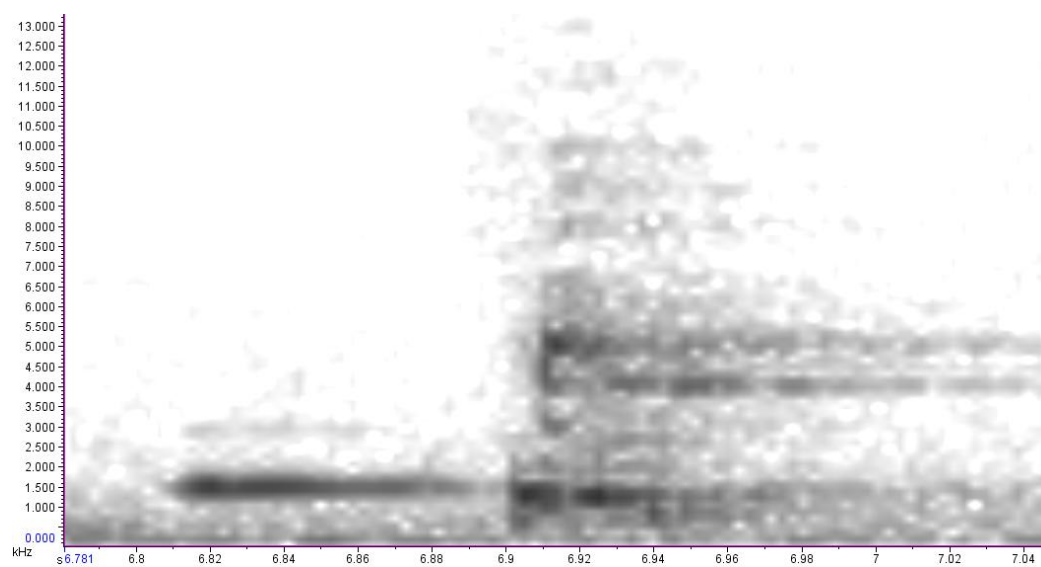
Repeated



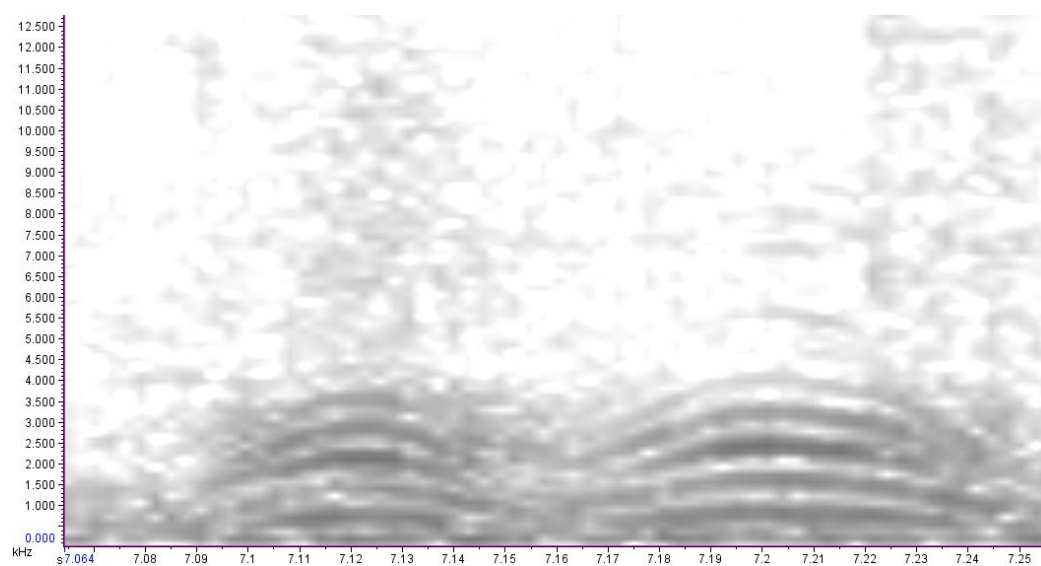
Repeated. 2 notes.



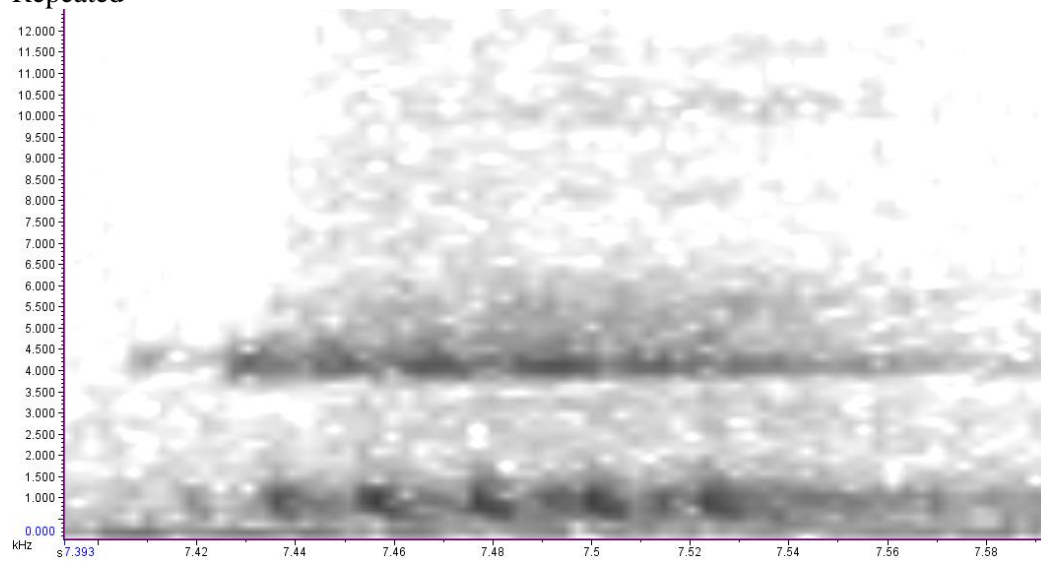
Repeated.



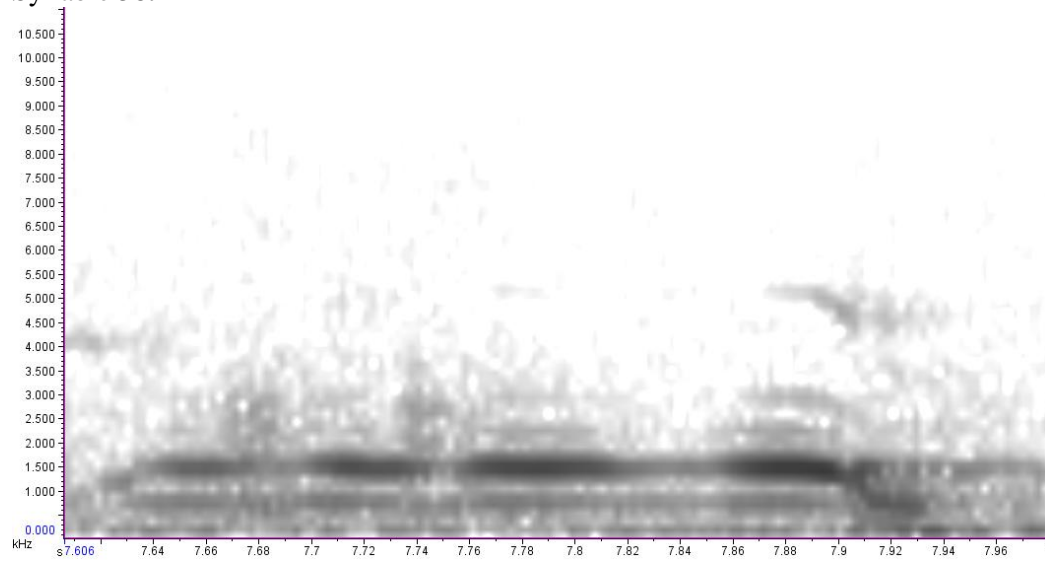
Syllable 57. Double note.



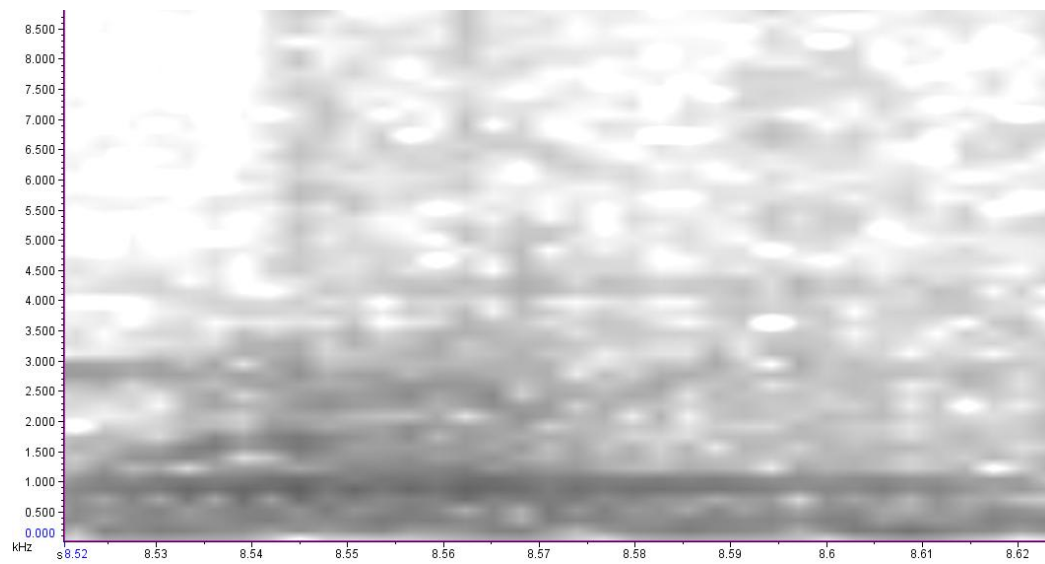
Repeated



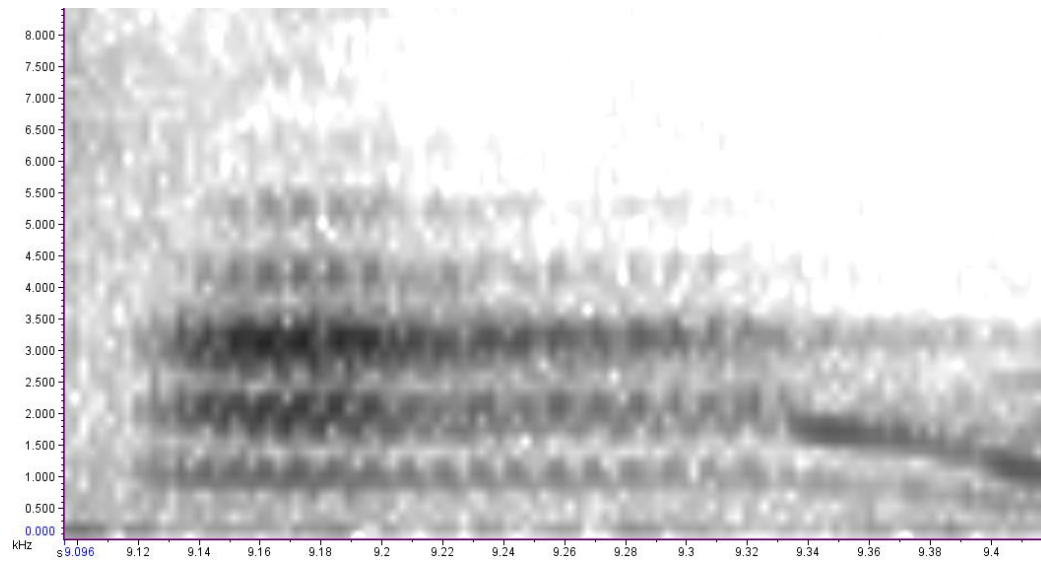
Syllable 58.



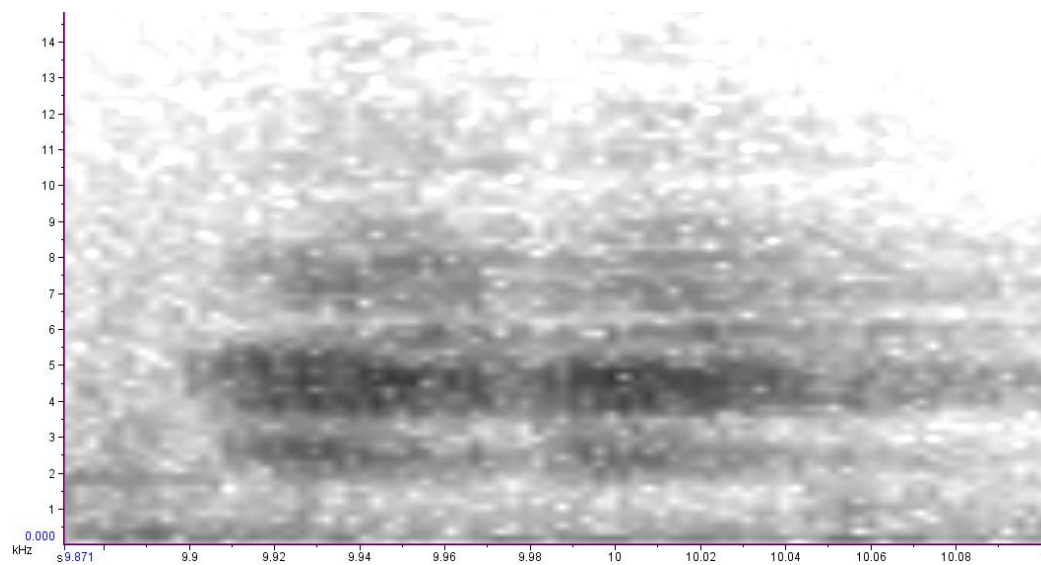
Syllable 59. A horn syllable (Similar to Tawh Syl 7, Song 43).



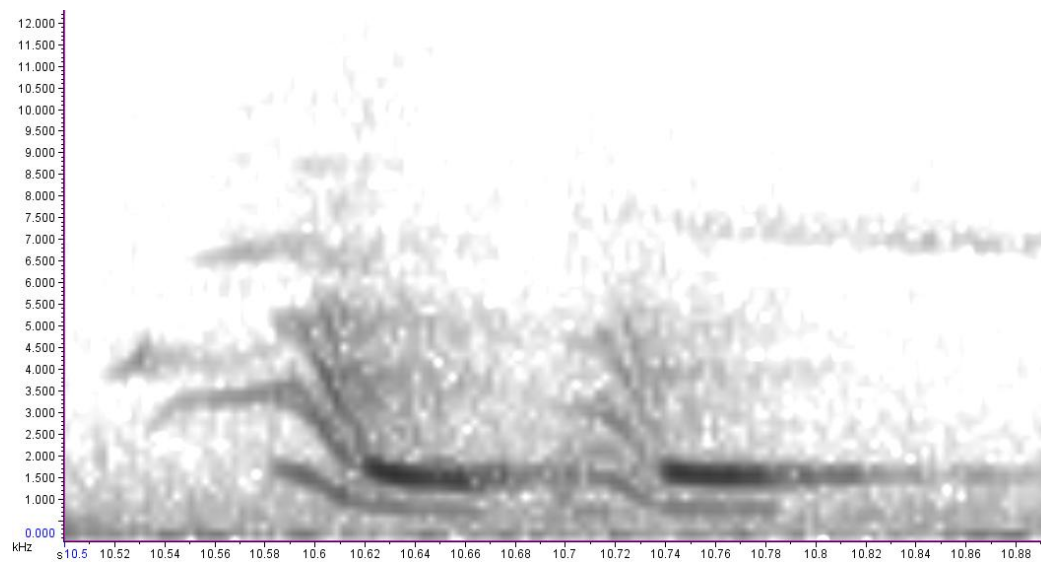
Syllable 60. Cat's meow-like syllable.



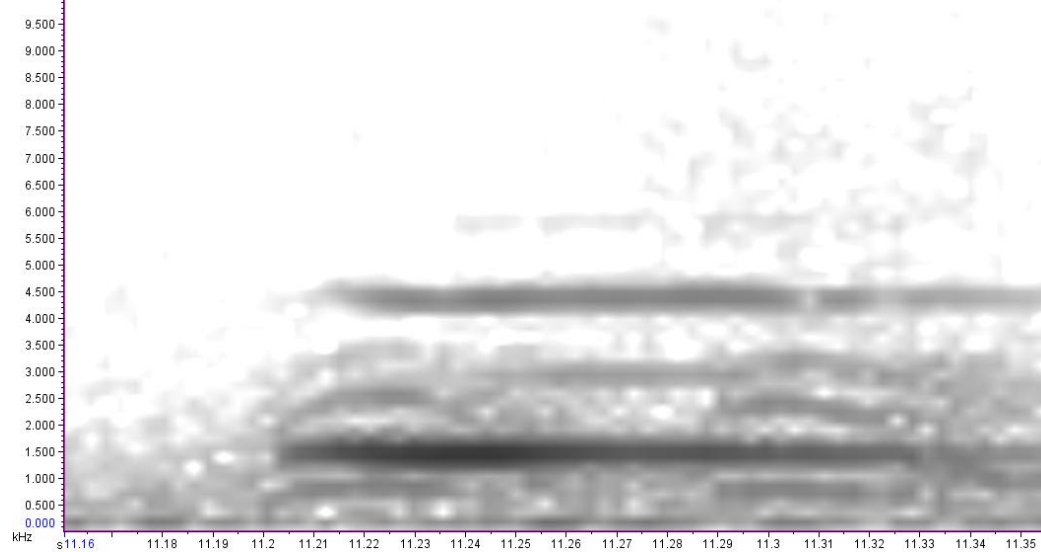
Syllable 61. 2-noted maracas-like syllable.



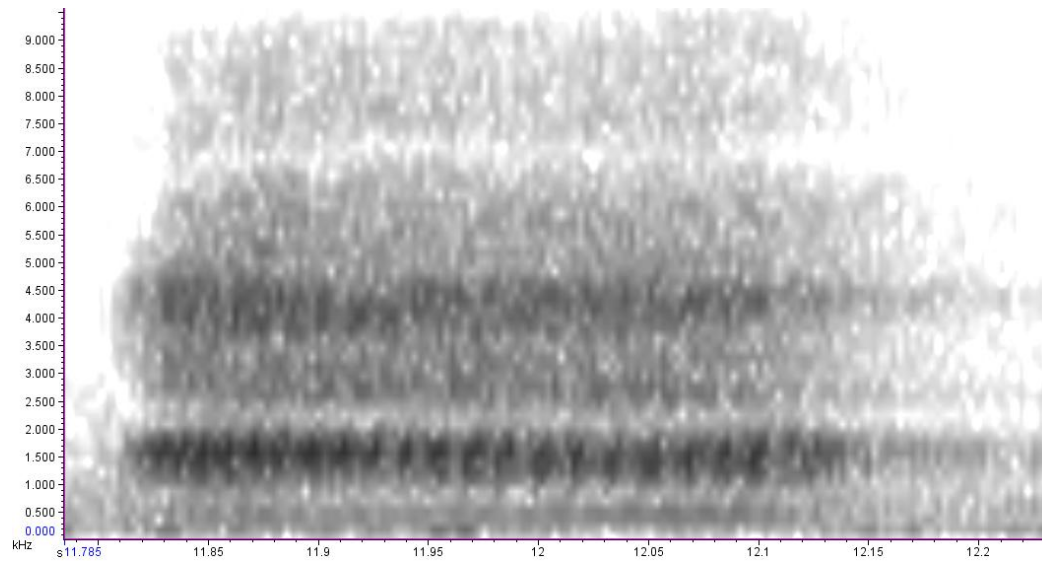
Syllable 62. All conjoined/interlinked, so considered one syllable.



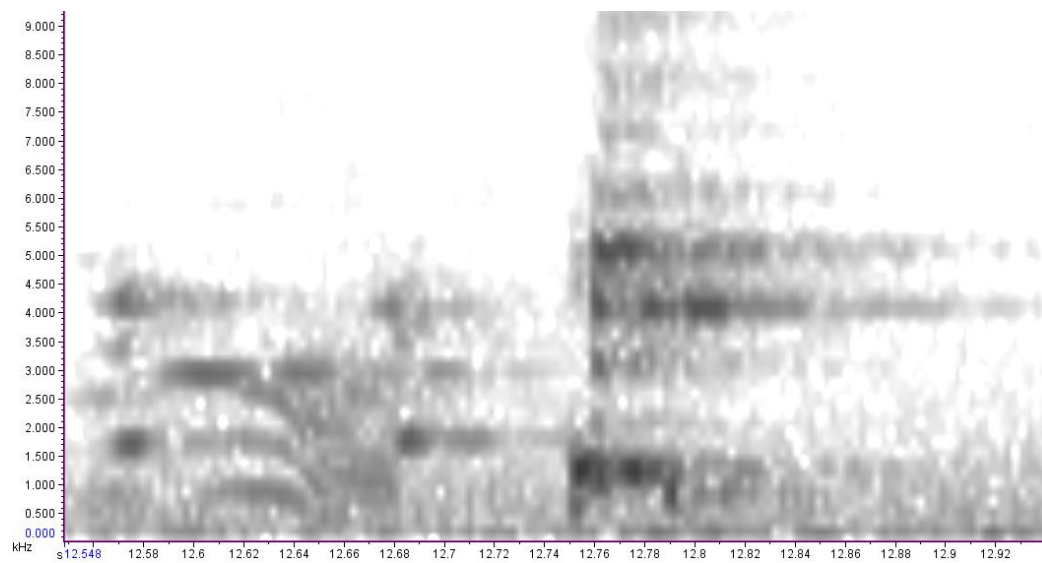
Repeated



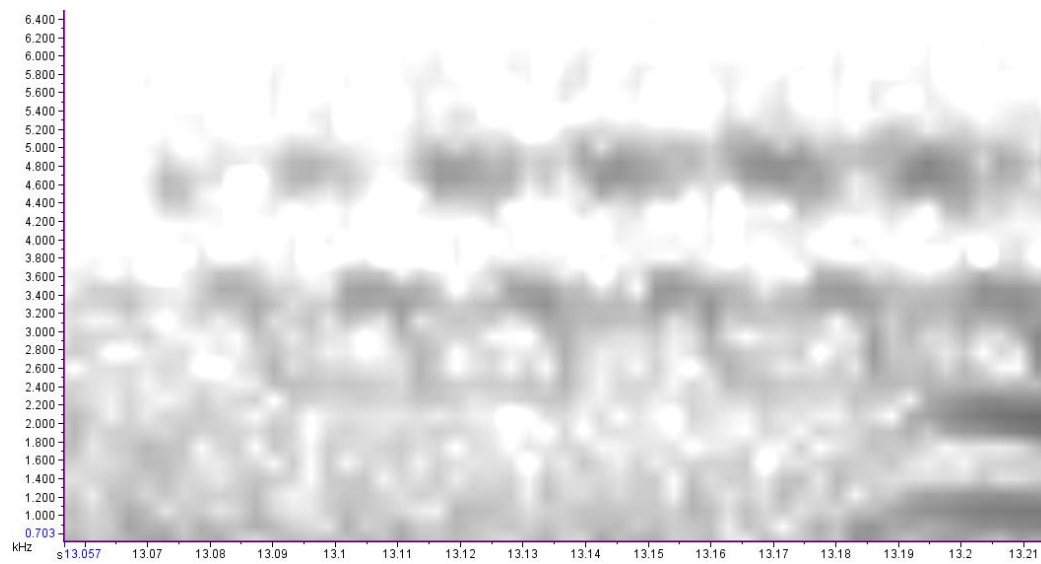
Syllable 63. A crow-like syllable (Similar to Tawh syllable 25, Song 7).



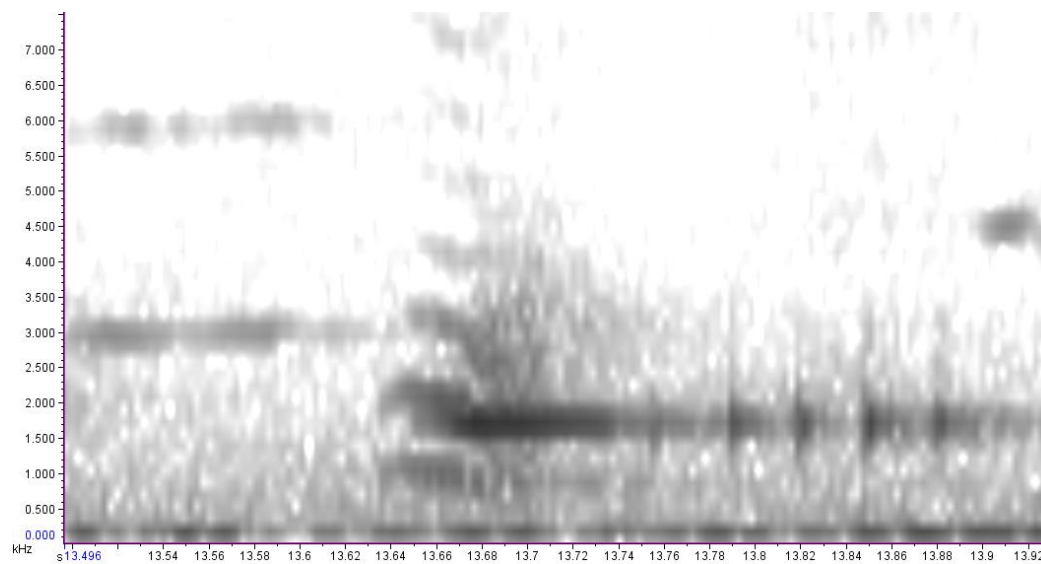
Repeated x2



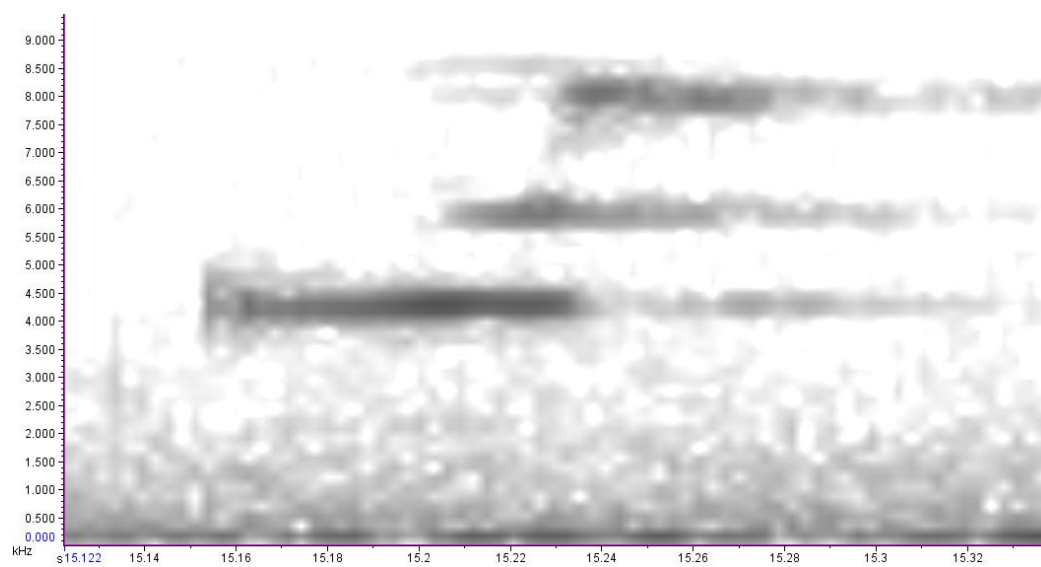
Repeated



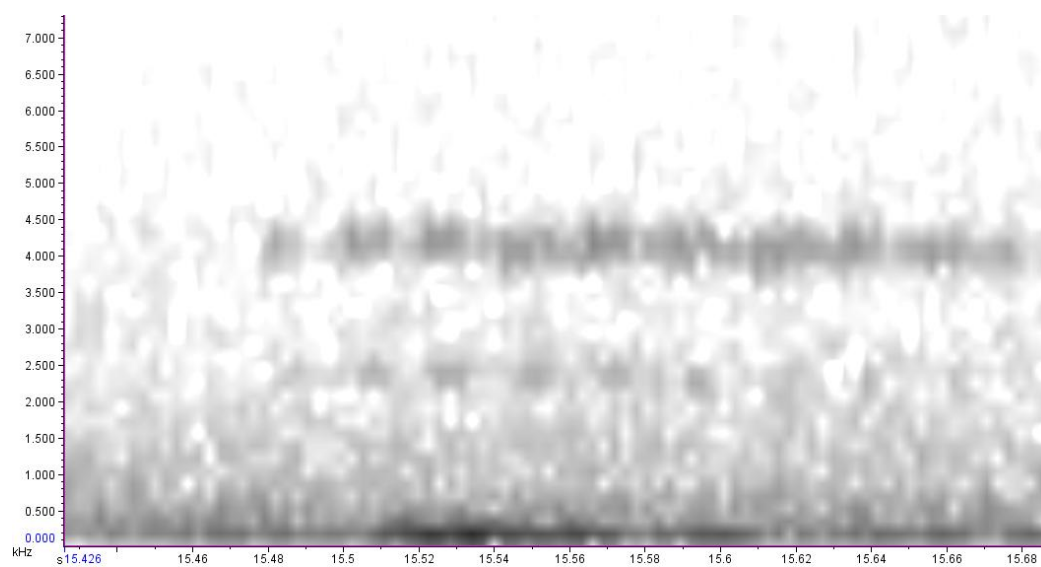
Syllables 64 and 65.



Syllable 66.

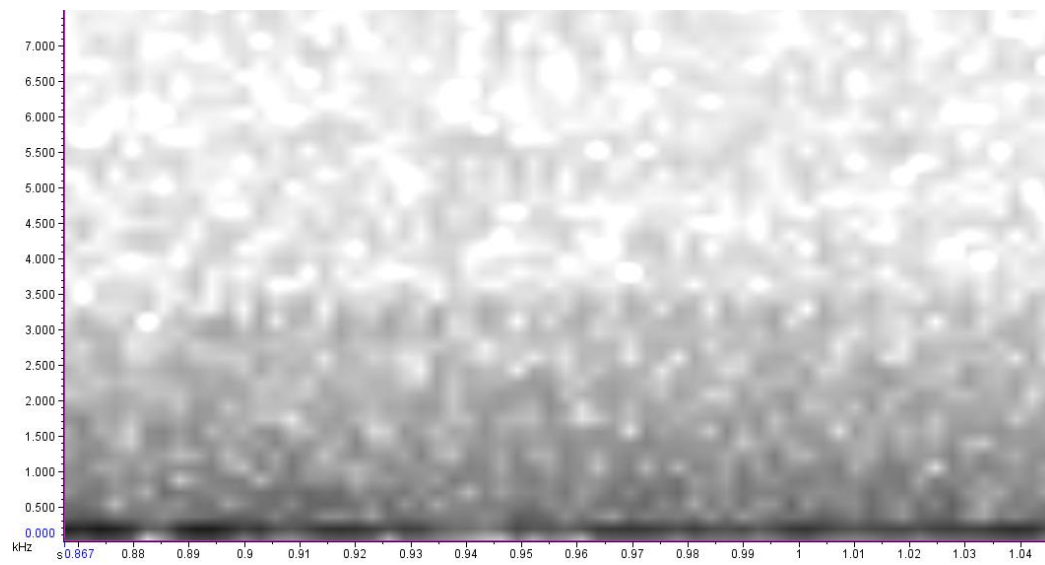


Repeated

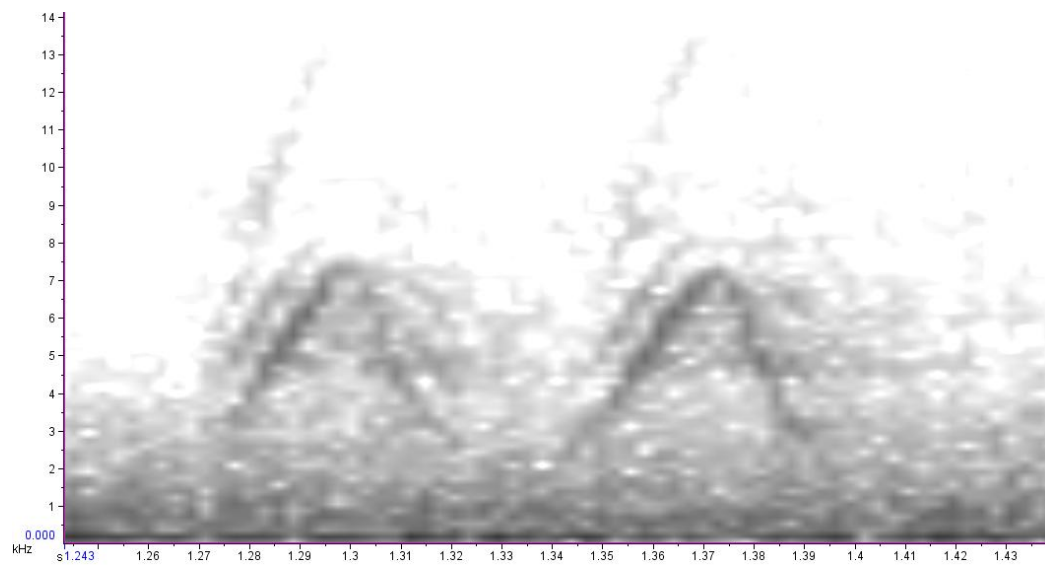


Song 10 - 006-2010-11-19 22_56_24

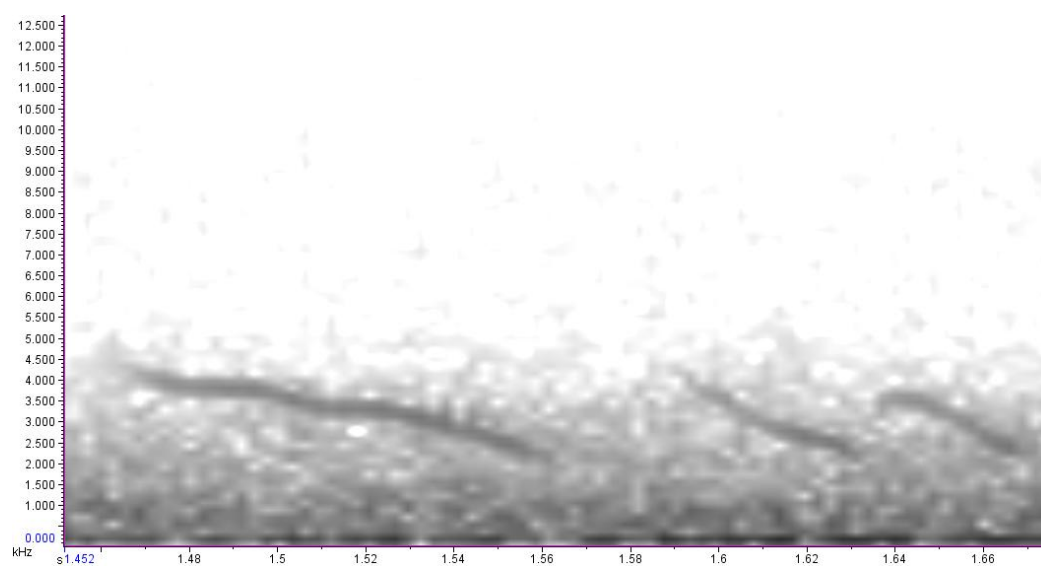
Syllable 67.



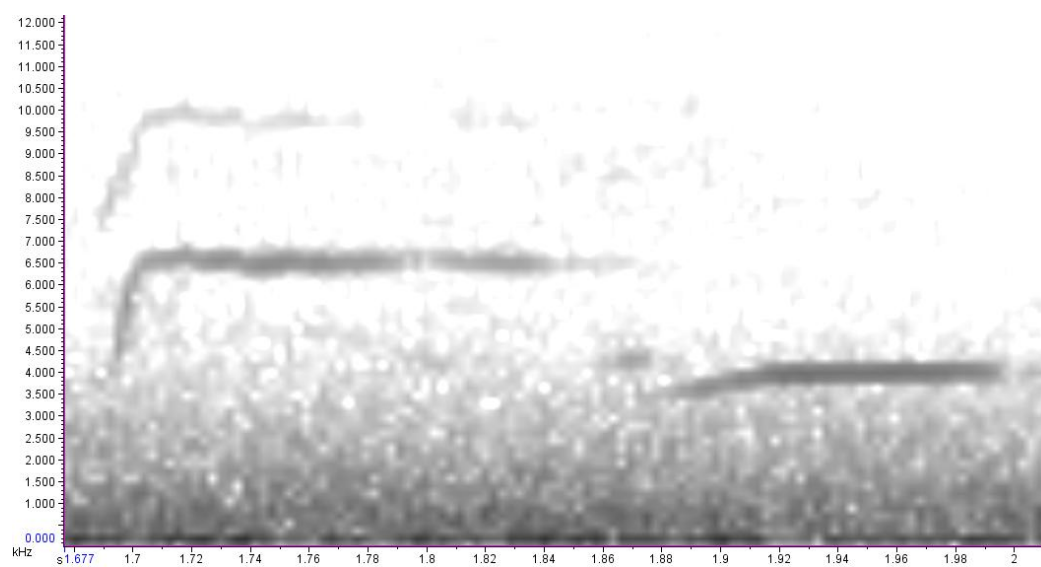
Repeated



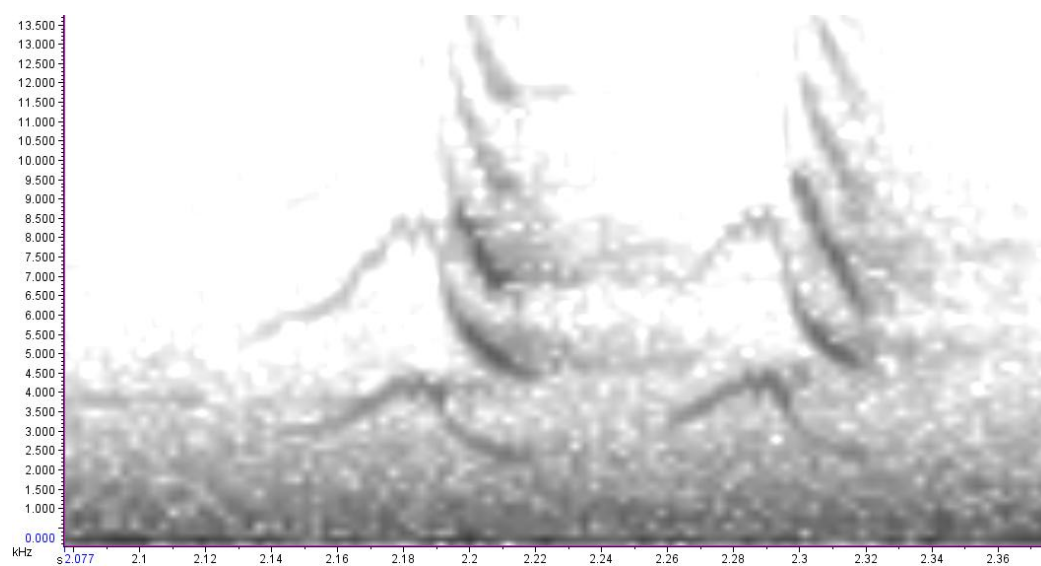
Syllables 68 and 69.



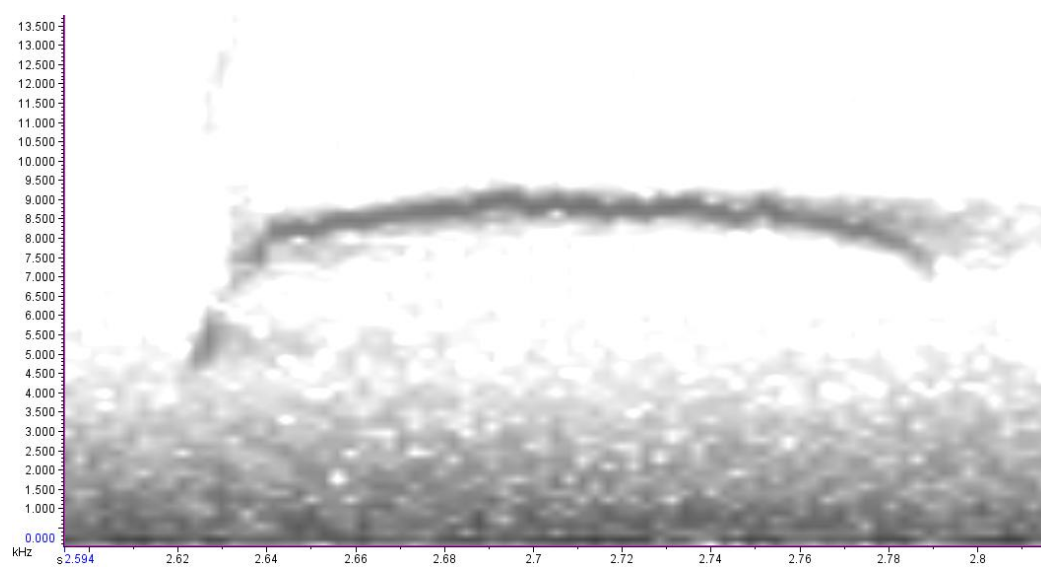
Syllables 70 and 71.



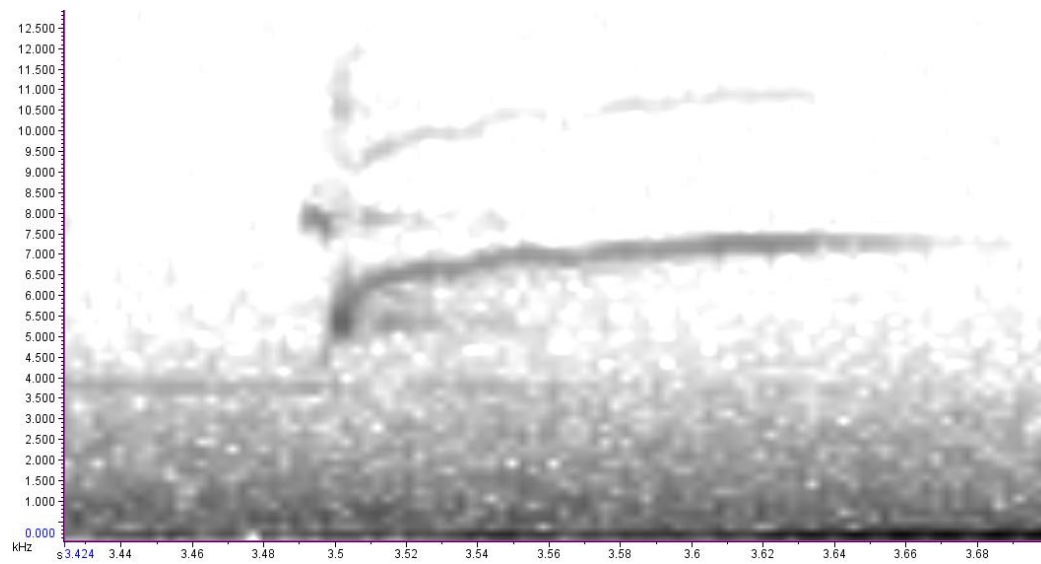
Repeated.



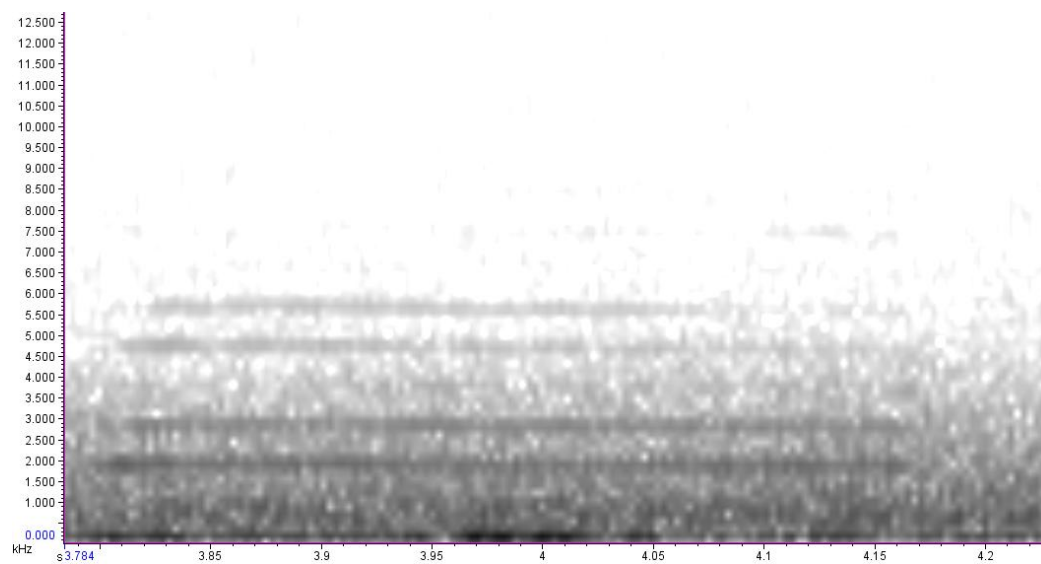
Repeated.



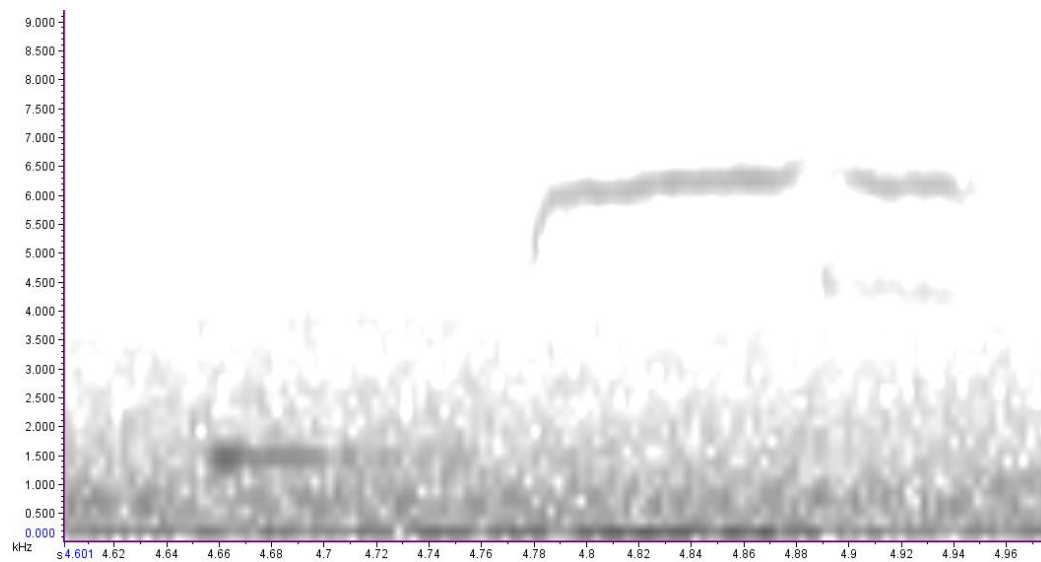
Repeated



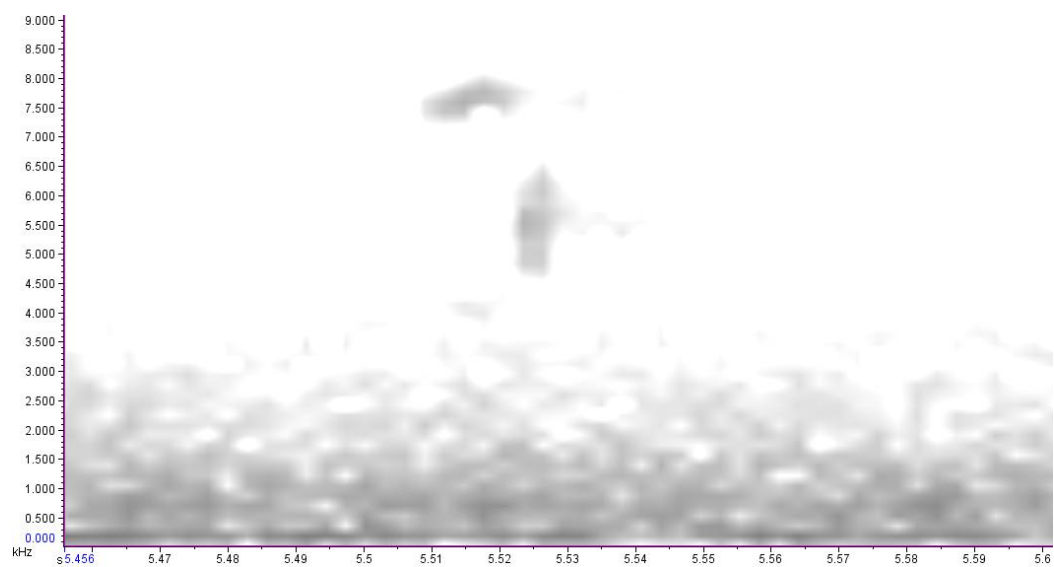
Repeated



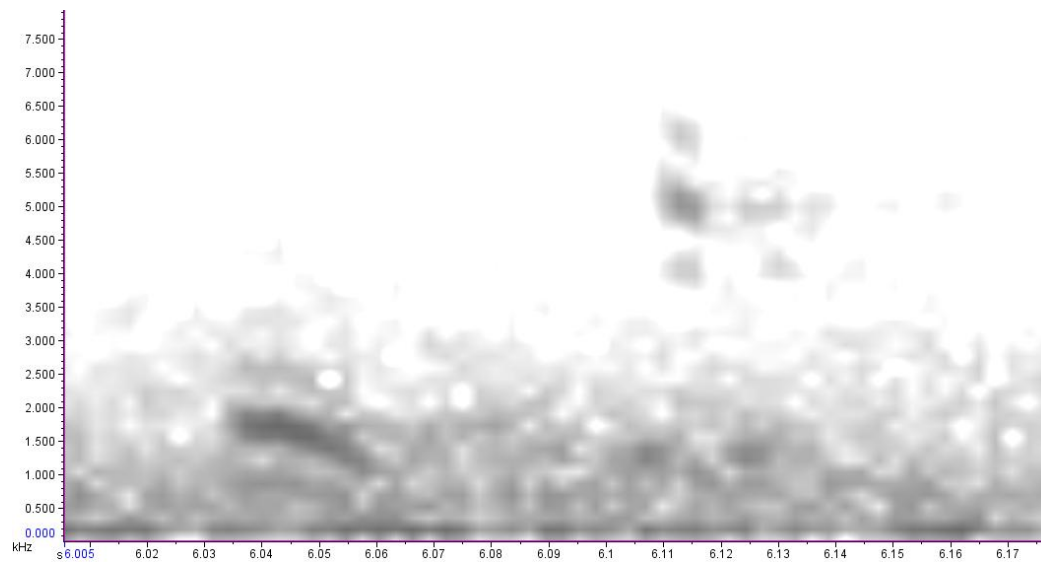
Syllable 72 and repeated syllable.



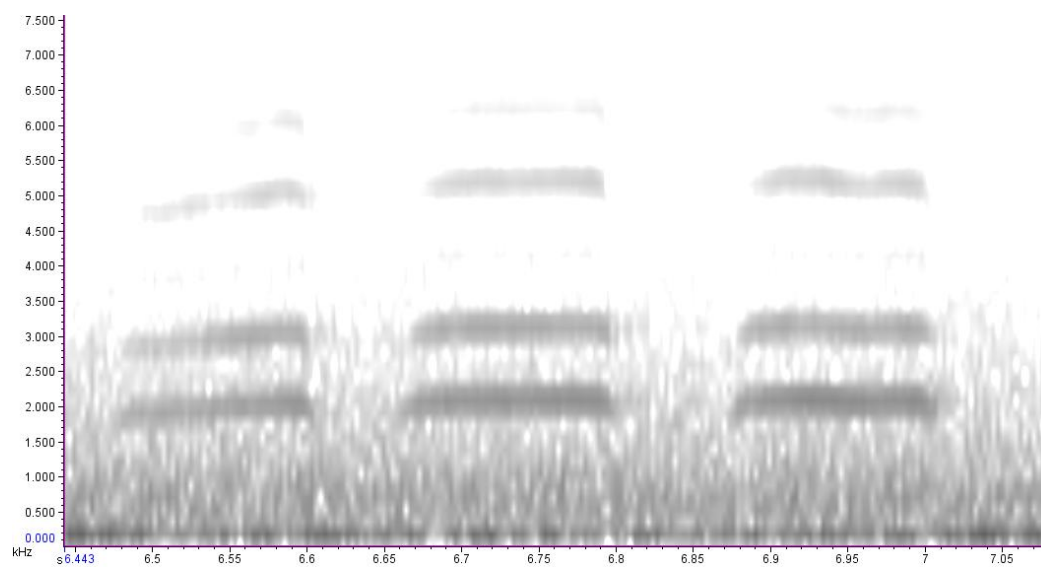
Syllable 73.



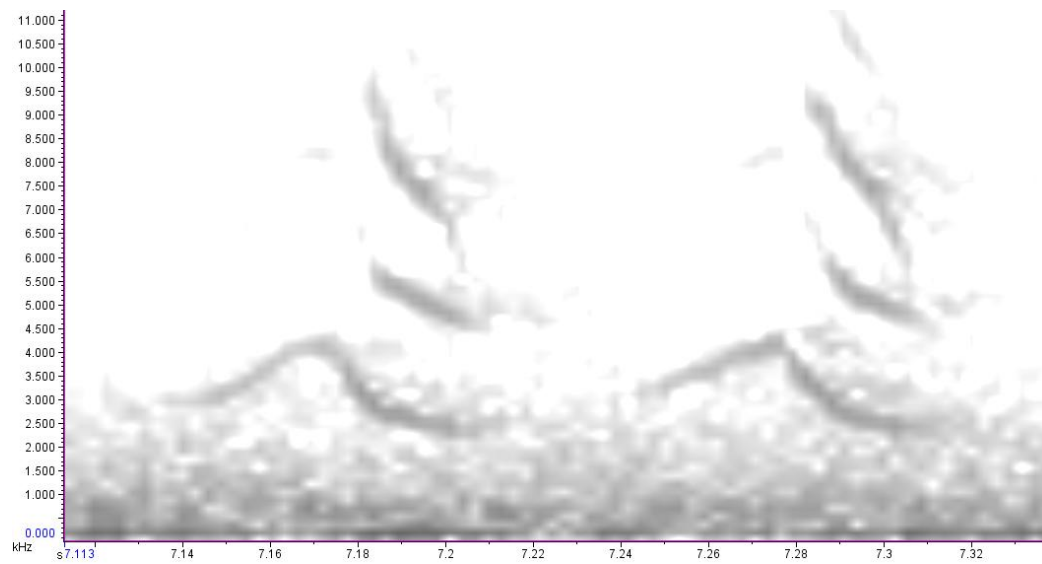
Syllable 74 and Repeated.



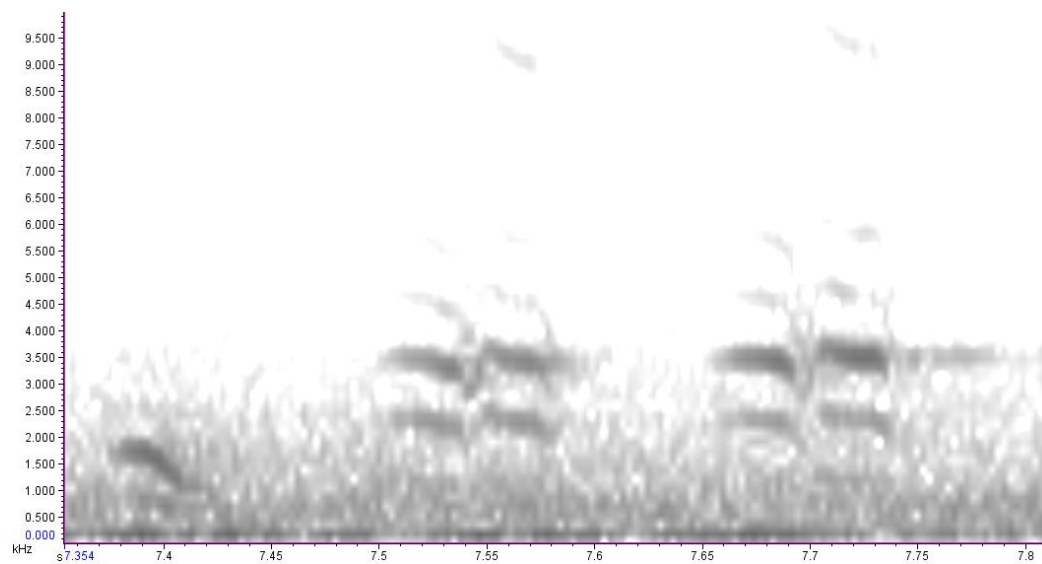
Syllable 75. Similar to distress/alarm call.



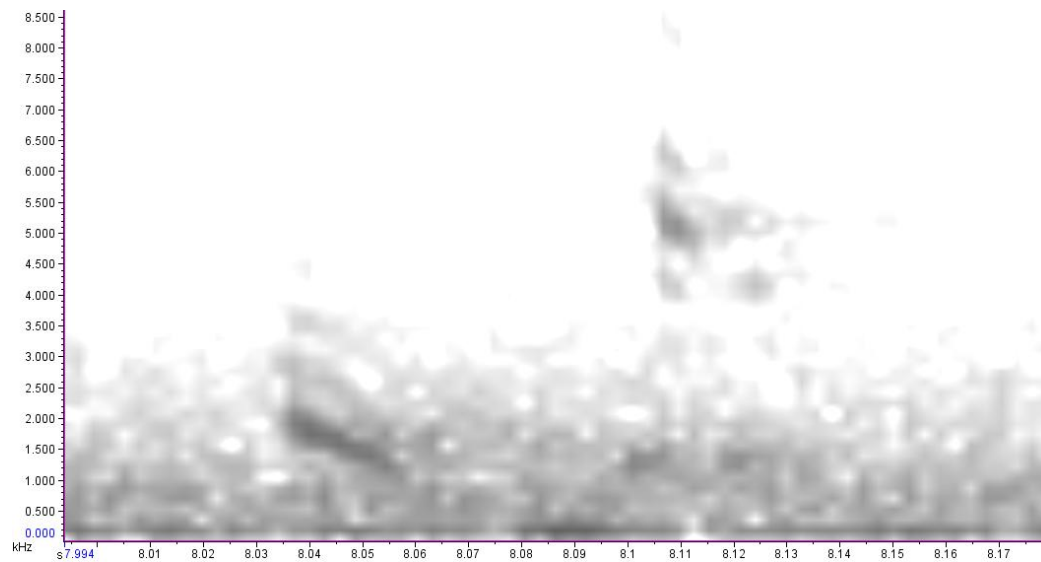
Repeated



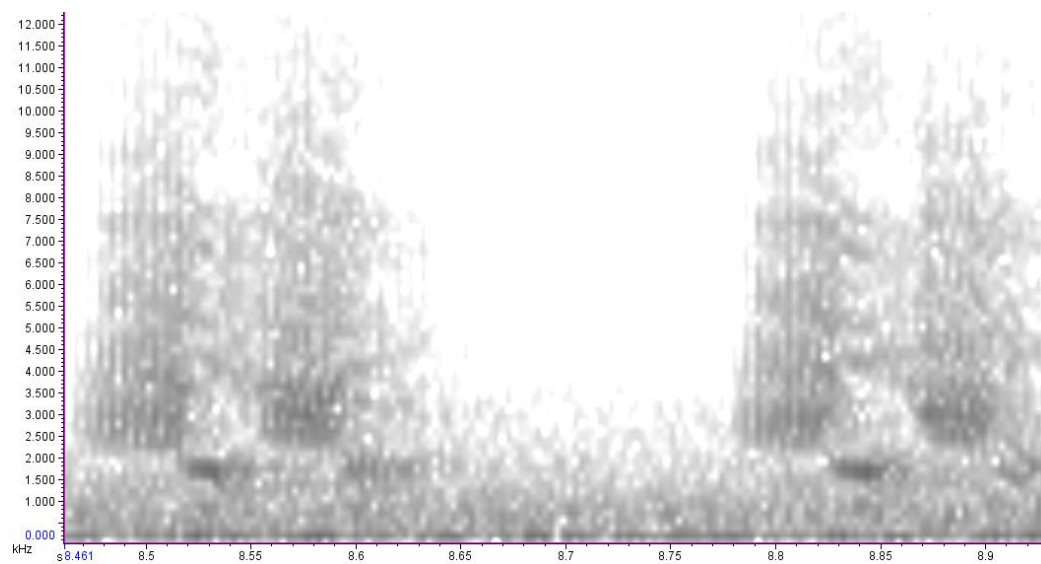
Syllable 76 and 77.



Syllable Repeated and 78.

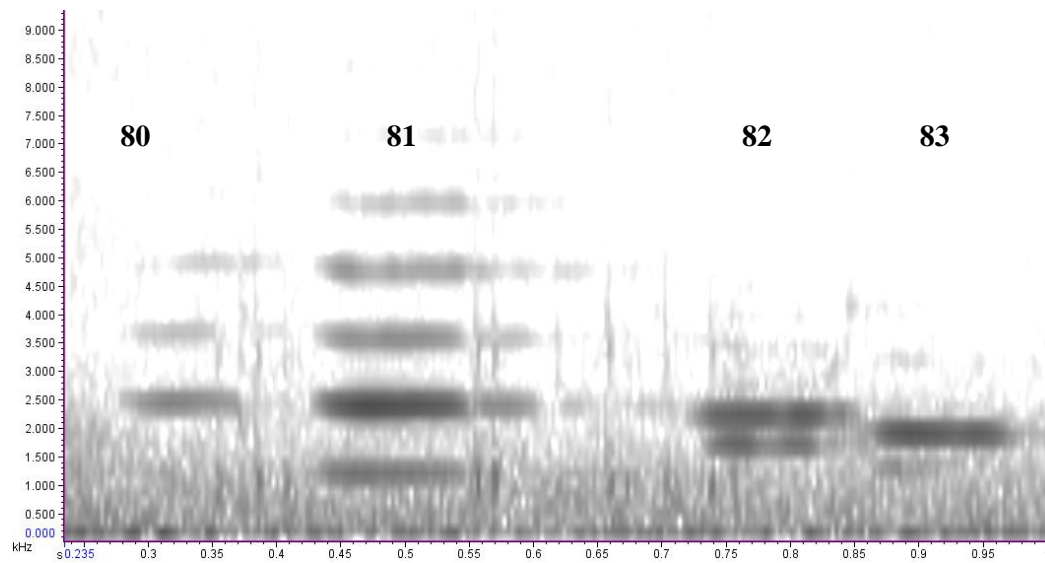


Syllable 79. Double type-writer syllables.

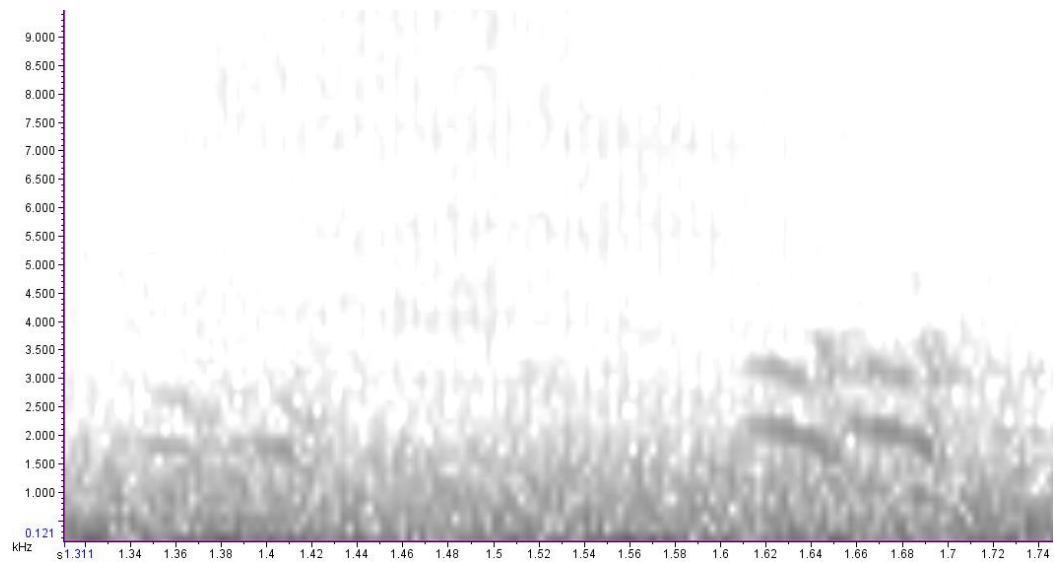


Song 11 - 003-2010-11-19 22_39_55. Pitt Island.

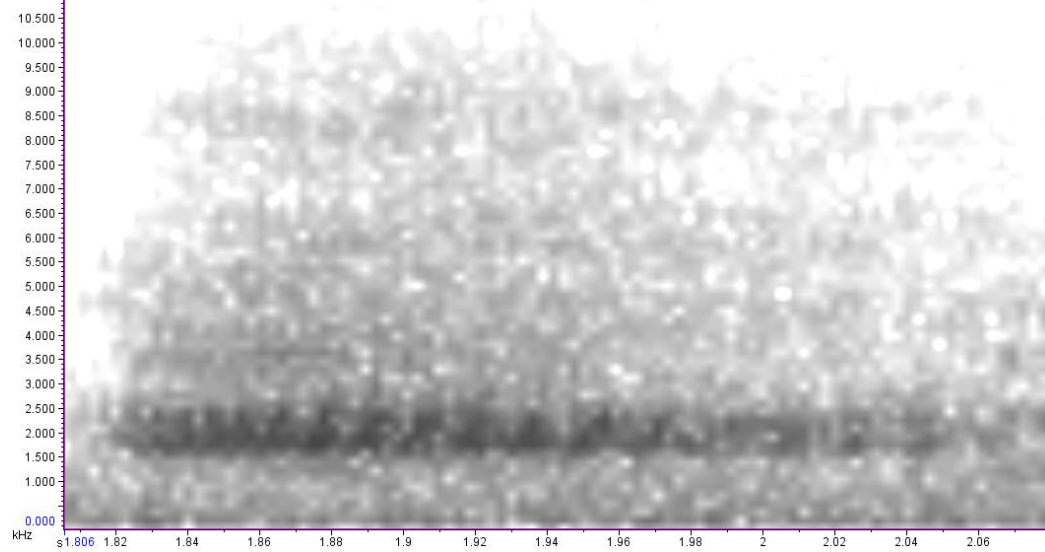
Syllables 80-83. Syllable 2 similar to Tawh syllables 4/5, song 19.



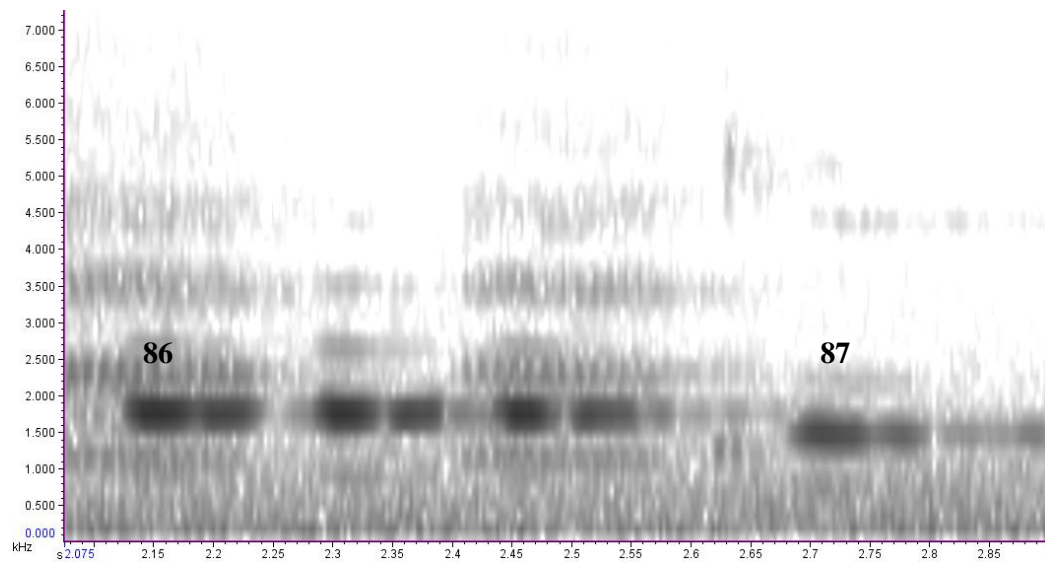
Syllables 84-85.



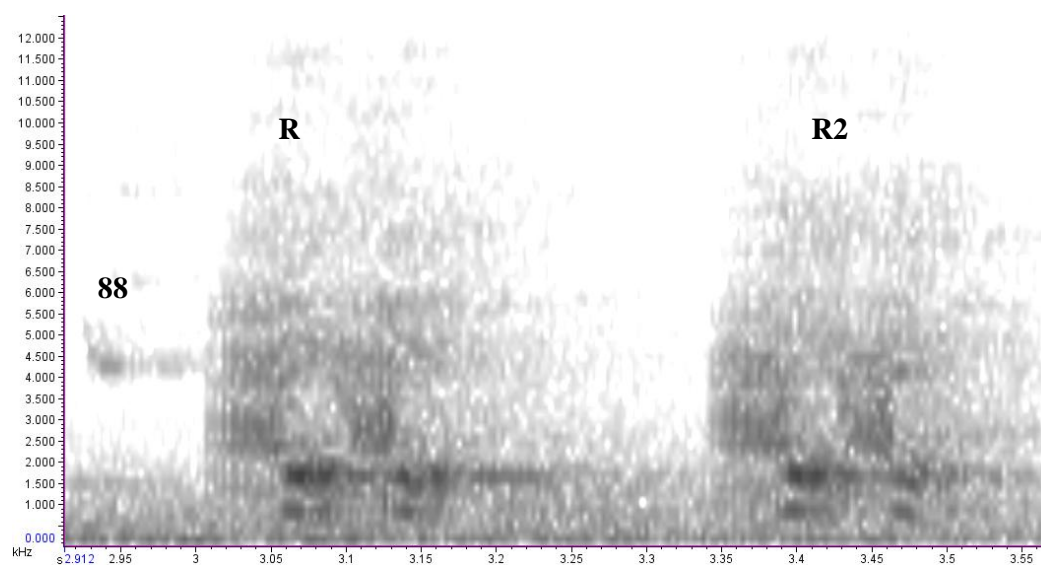
Repeated



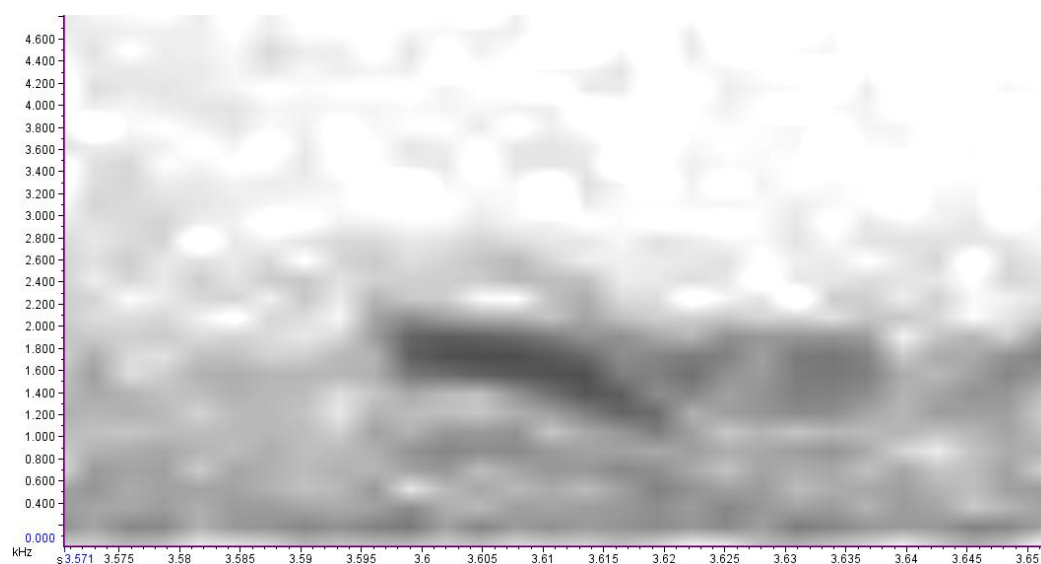
Syllables 86 and 87. Syllable 87 slightly different structure to syllable 8 and at a lower frequency.



Syllables 88 and Repeated. Syllable 88 is a subtle note followed by the double typewriter-like syllable.

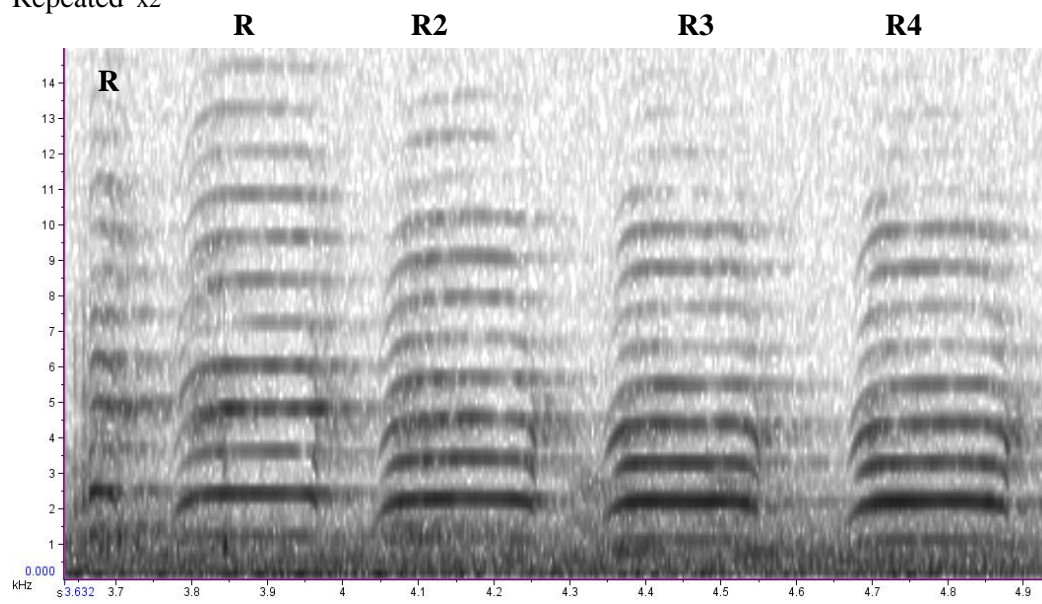


Repeated.

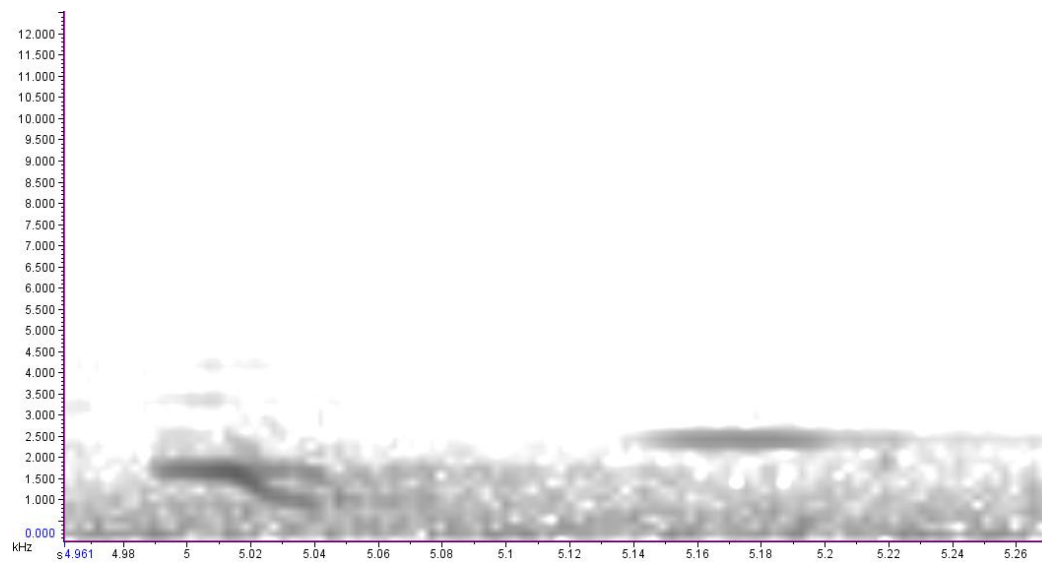


Song 12 - 009-2010-11-19 22_39_55

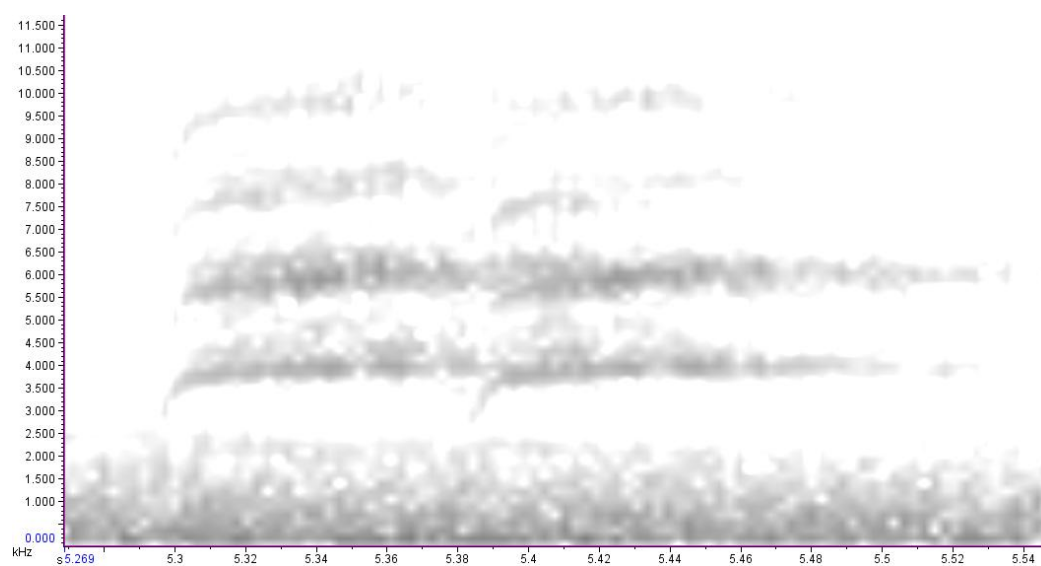
Repeated x2



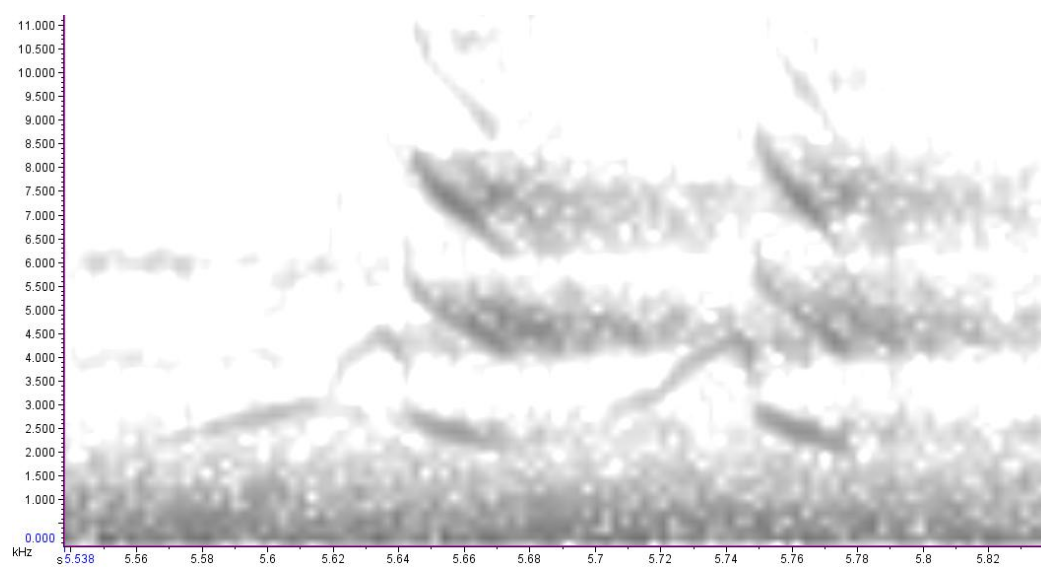
Repeated x2



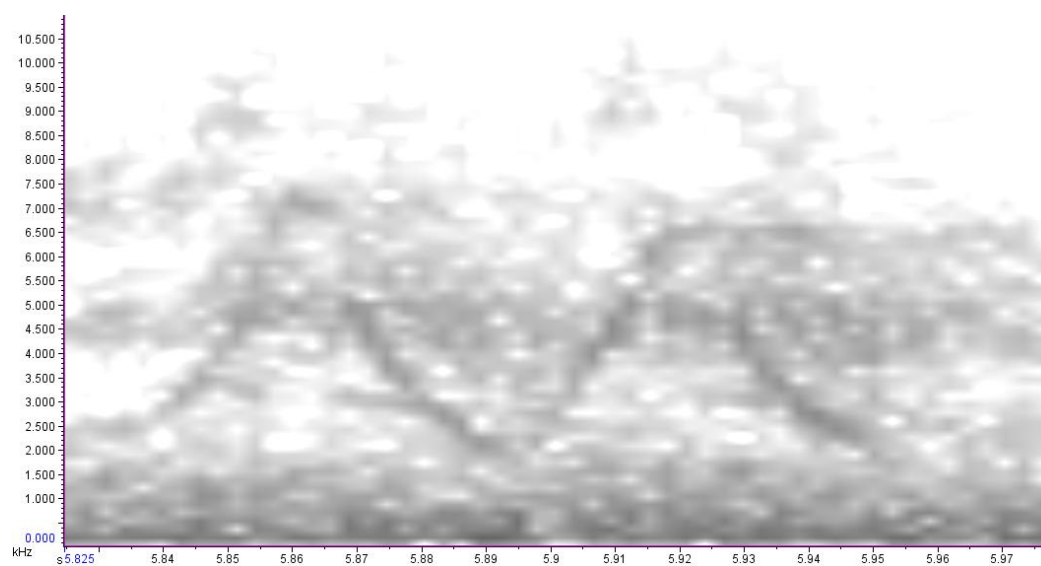
Syllable 89.



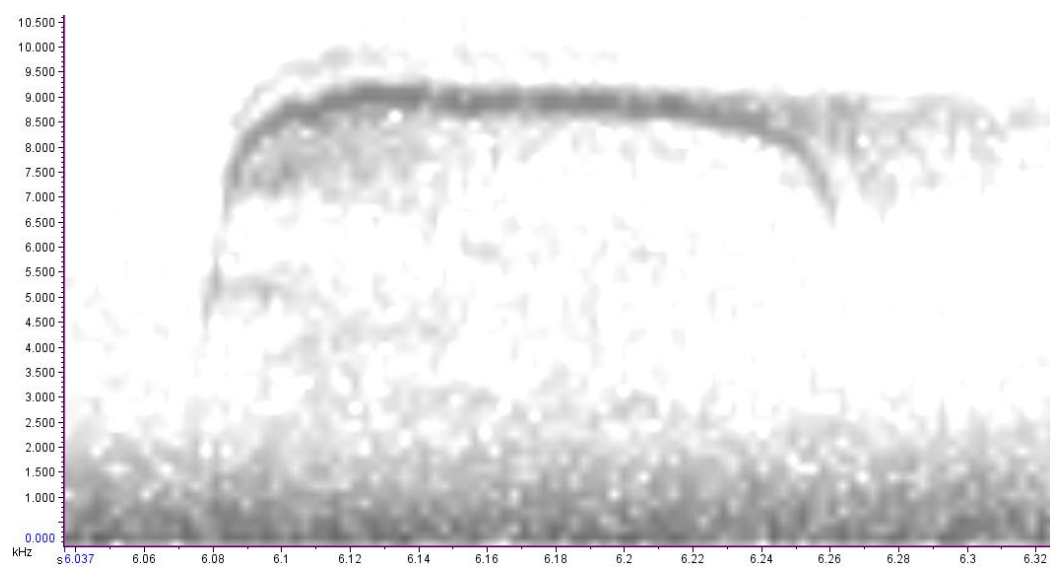
Repeated



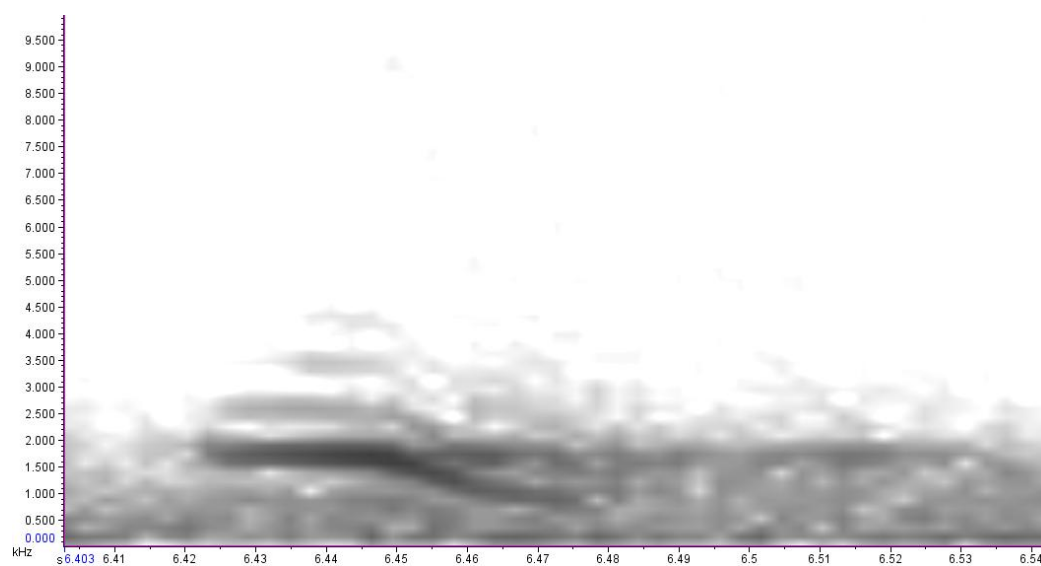
Syllable 90. An 'M' syllable.



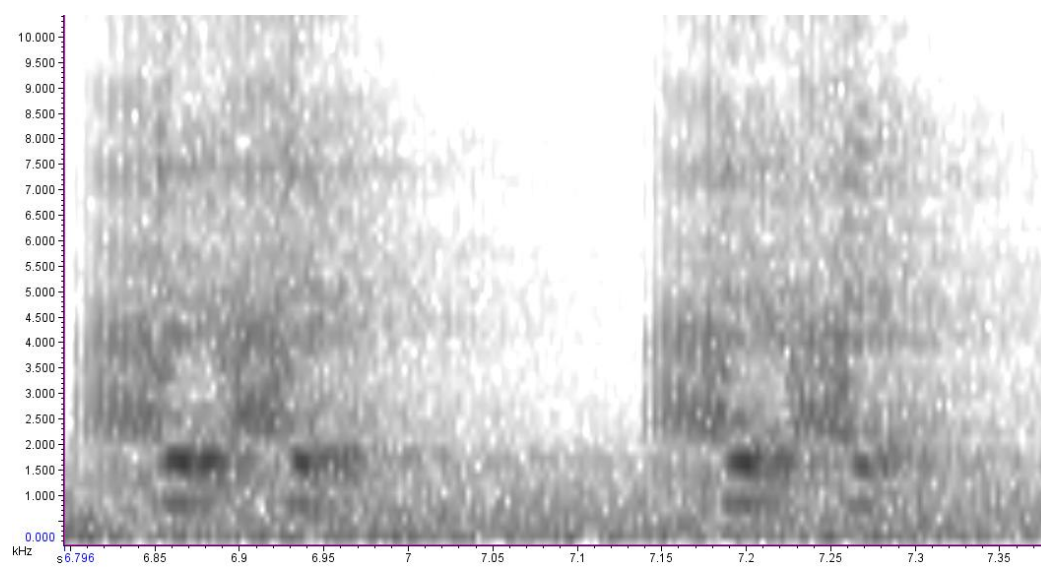
Repeated



Syllable 91.

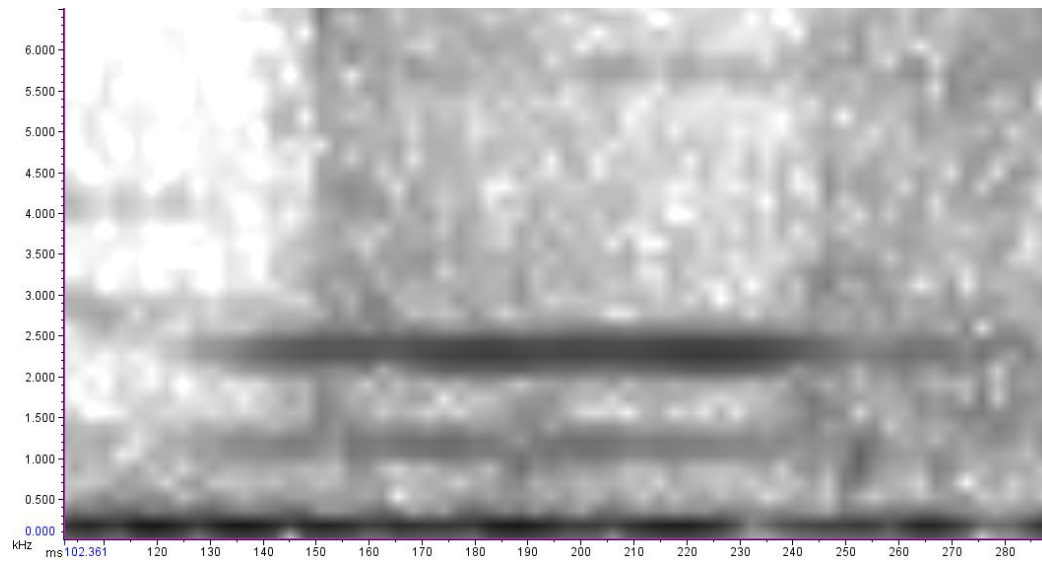


Repeated

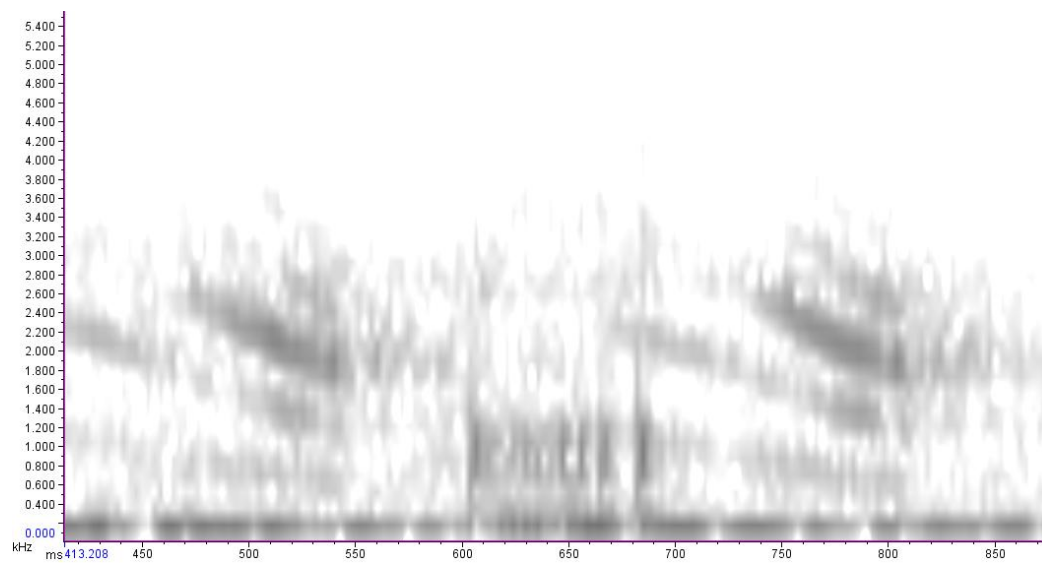


Song 13 - 002-2010-11-22 06_55_03. Thinornis Bay, Rangatira.

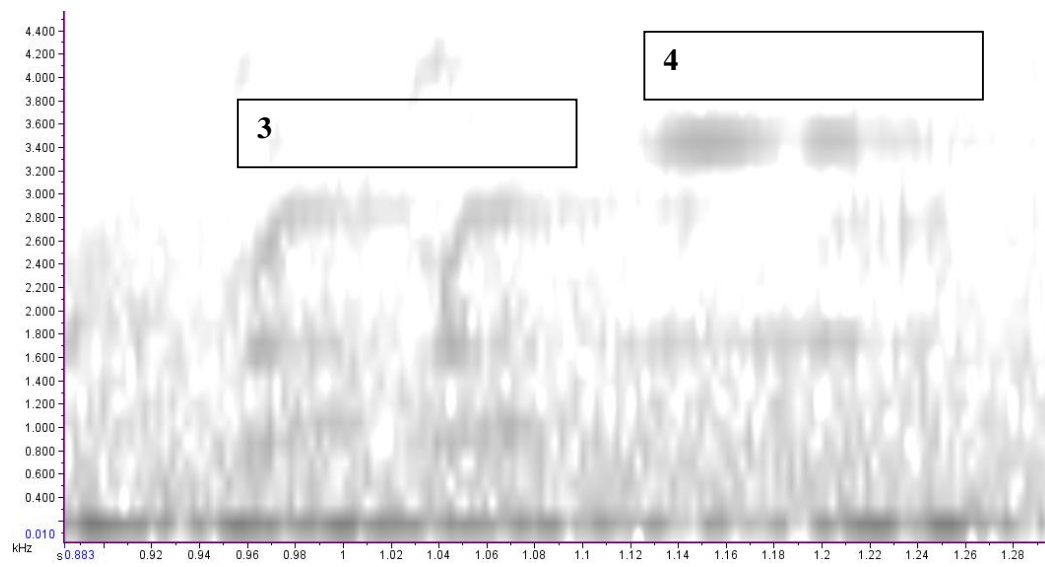
Syllable 92.



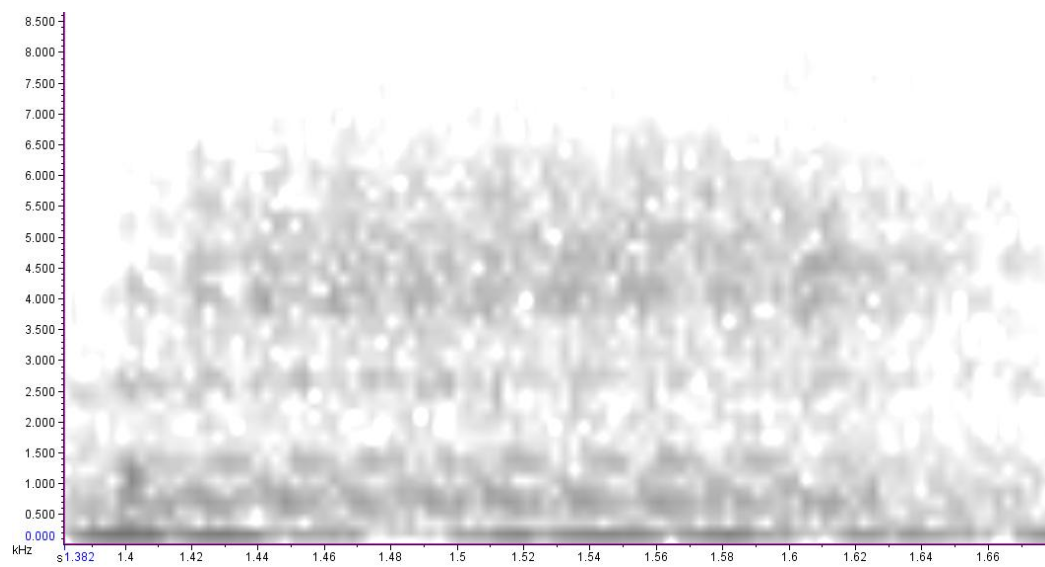
Syllable 93. Two syllables together.



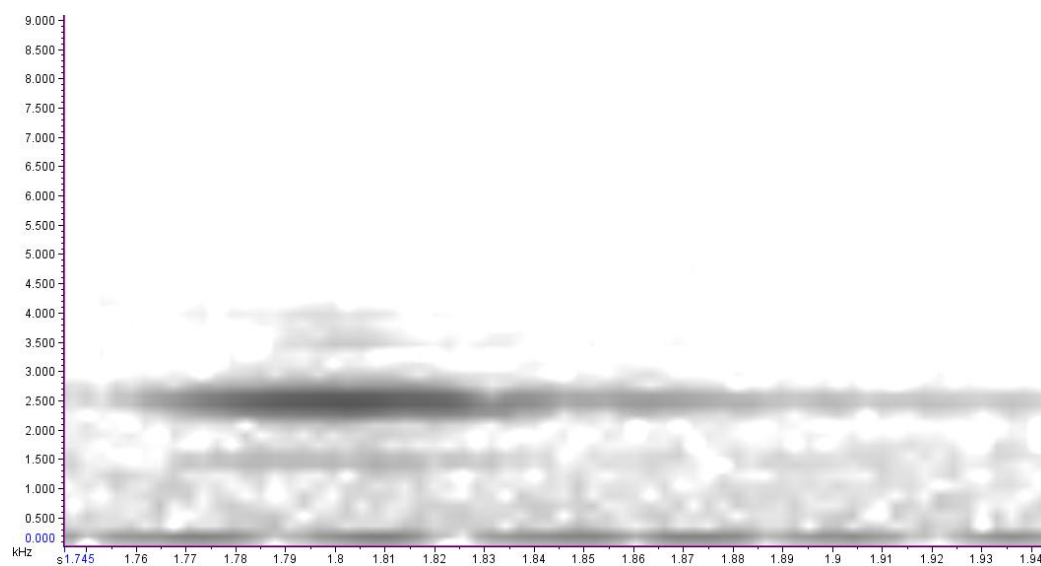
Syllables 94 and 95.



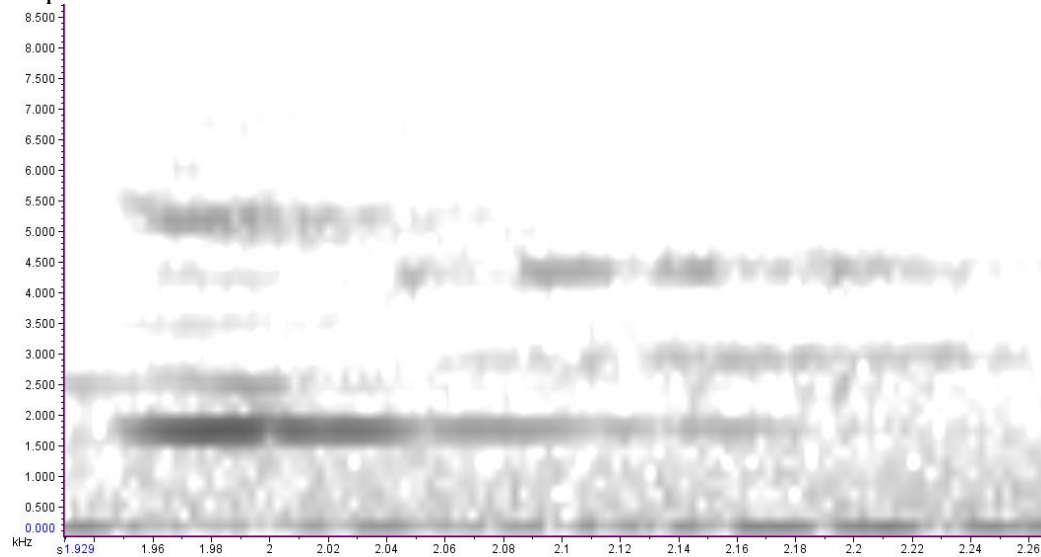
Repeated



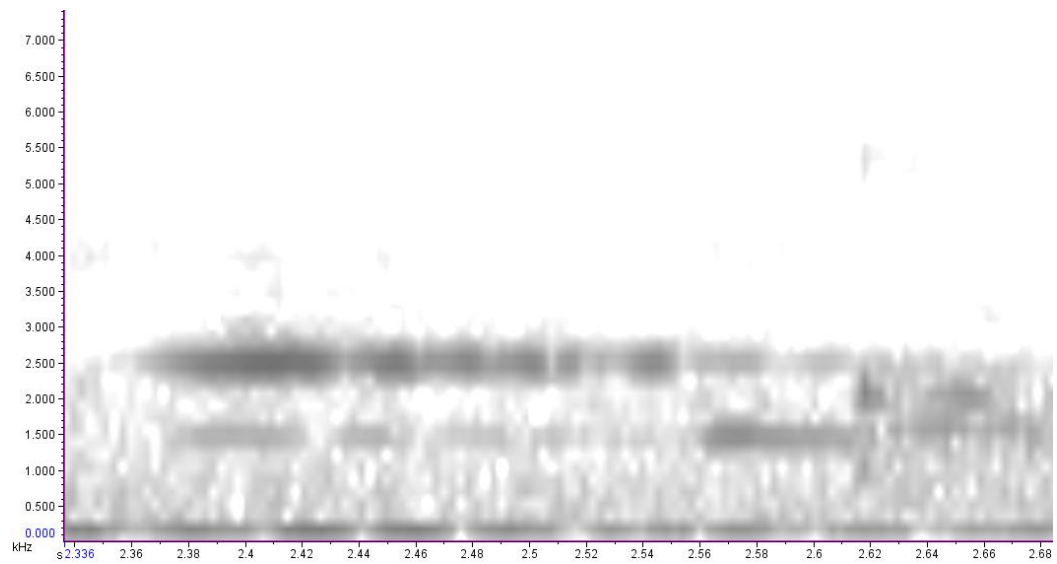
Repeated



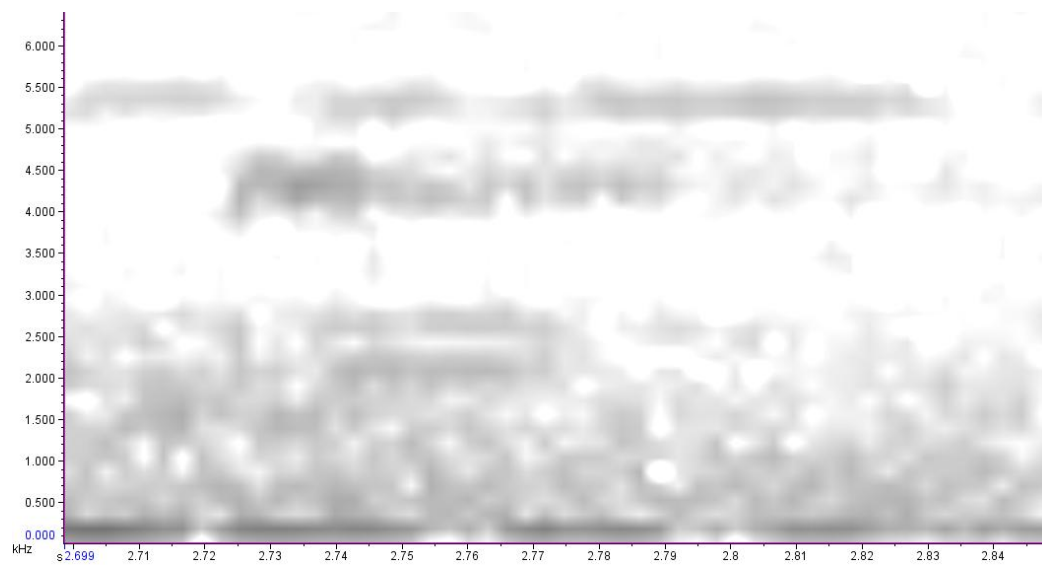
Repeated



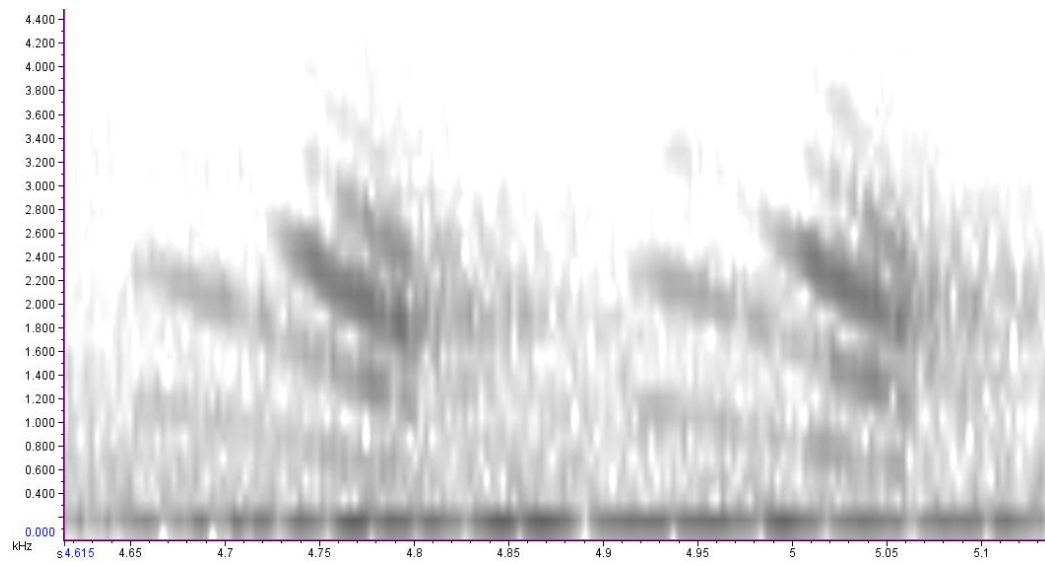
Repeated



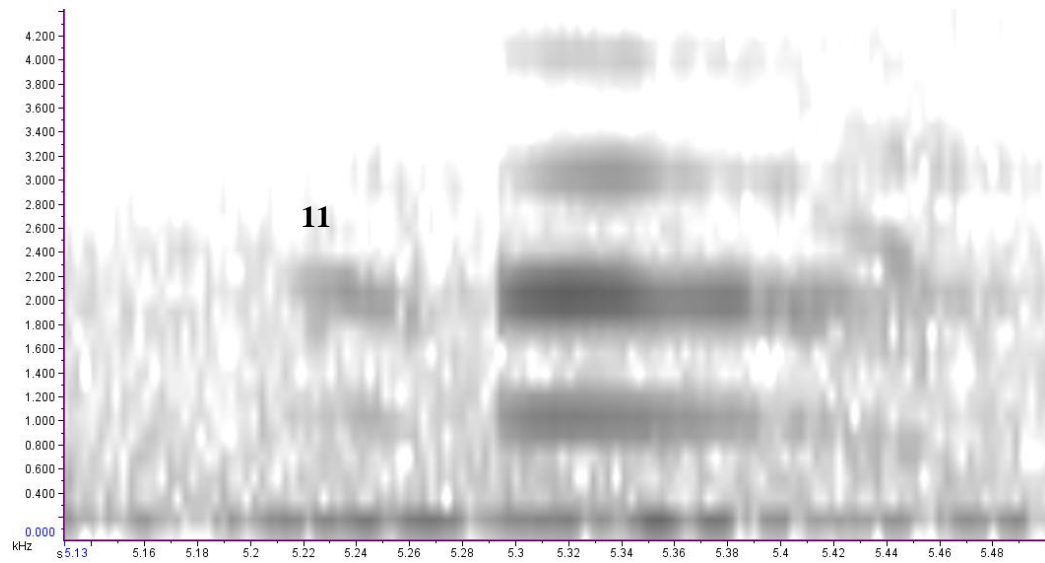
Repeated



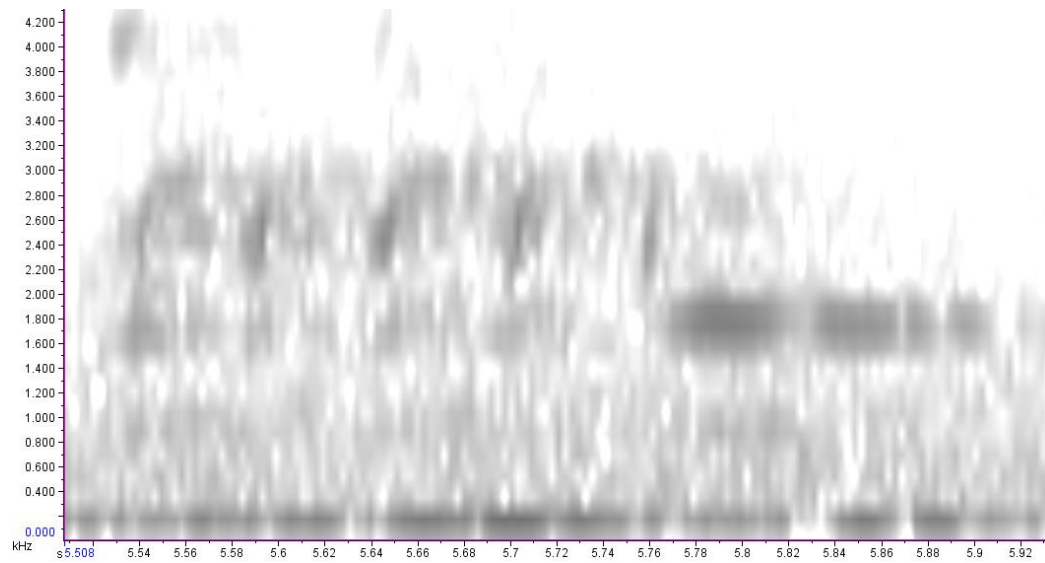
Repeated



Syllables 96 and Repeated. Syllable 96 is a subtle syllable.

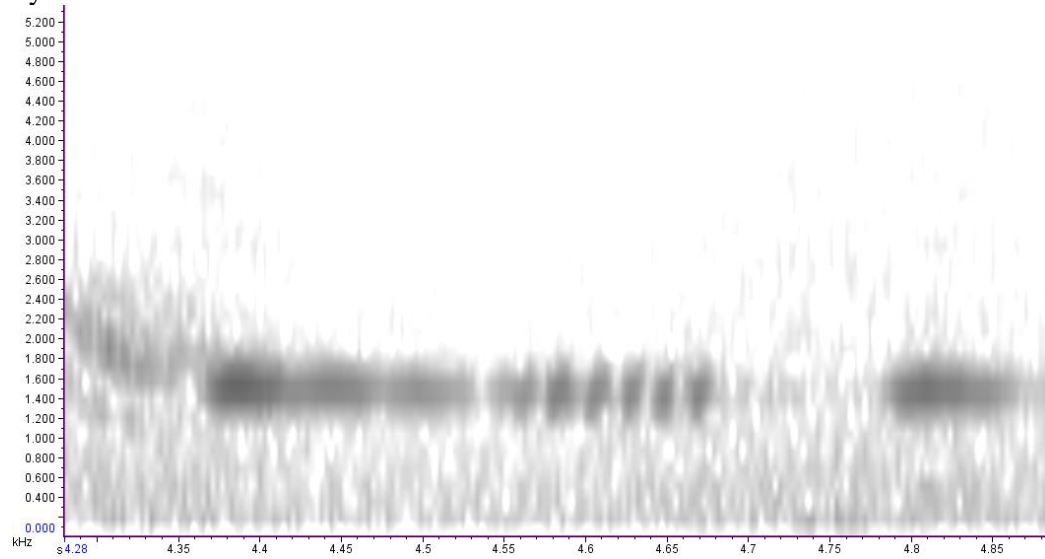


Syllables 97 and 98. Chimy and beautiful.



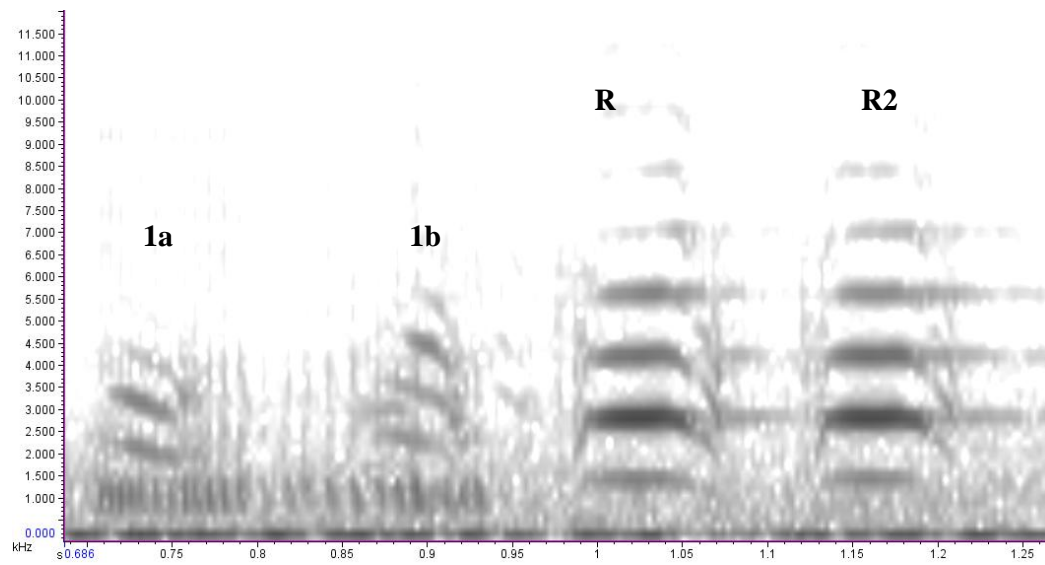
Song 14 - 008-2010-11-22 07_42_56. Highly territorial song at West Woolshed, Rangatira. Identical to song 6. Will only include syllables in this song that are not in song 6.

Syllable 97

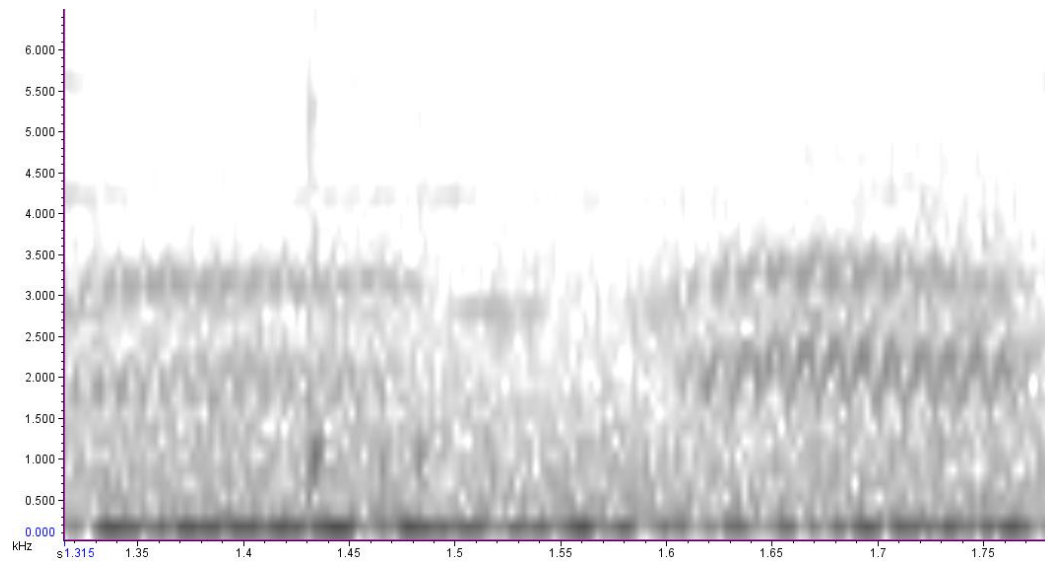


Song 15 – 010-2010-11-22 07_00_44. Thinornis Bay, Rangatira.

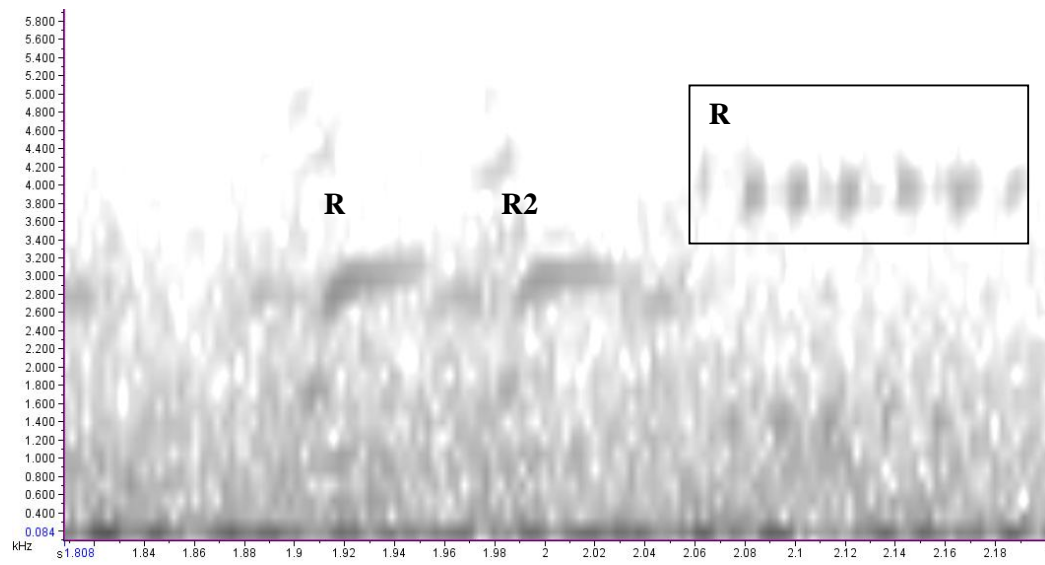
Syllables 98 and 99.



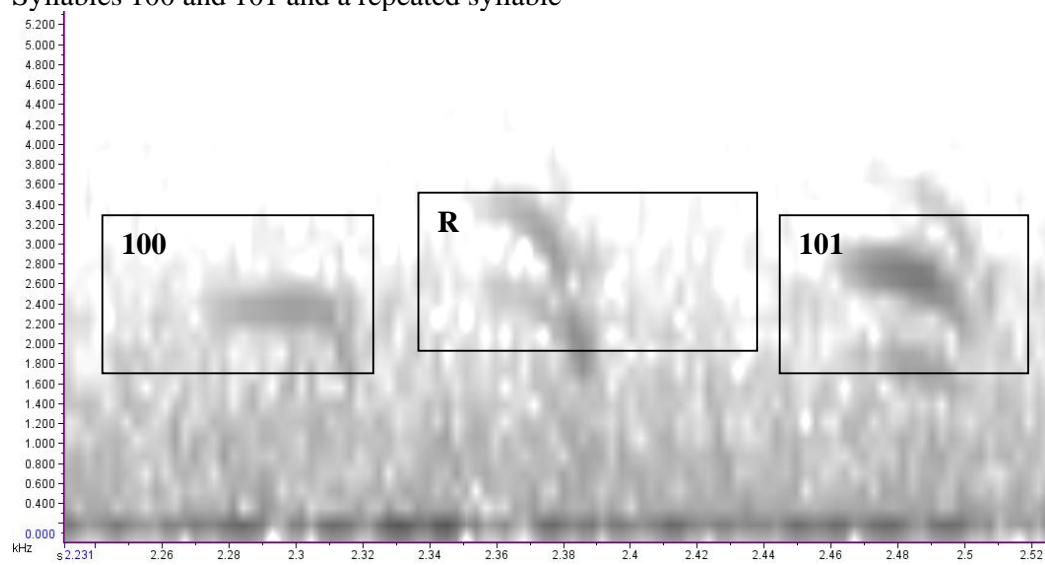
Repeated



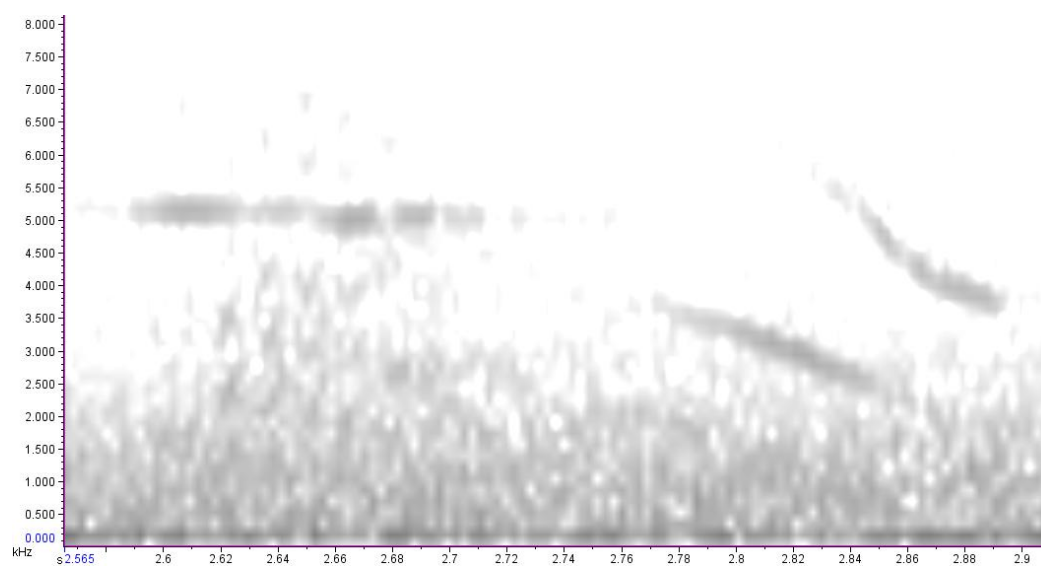
Repeated x2



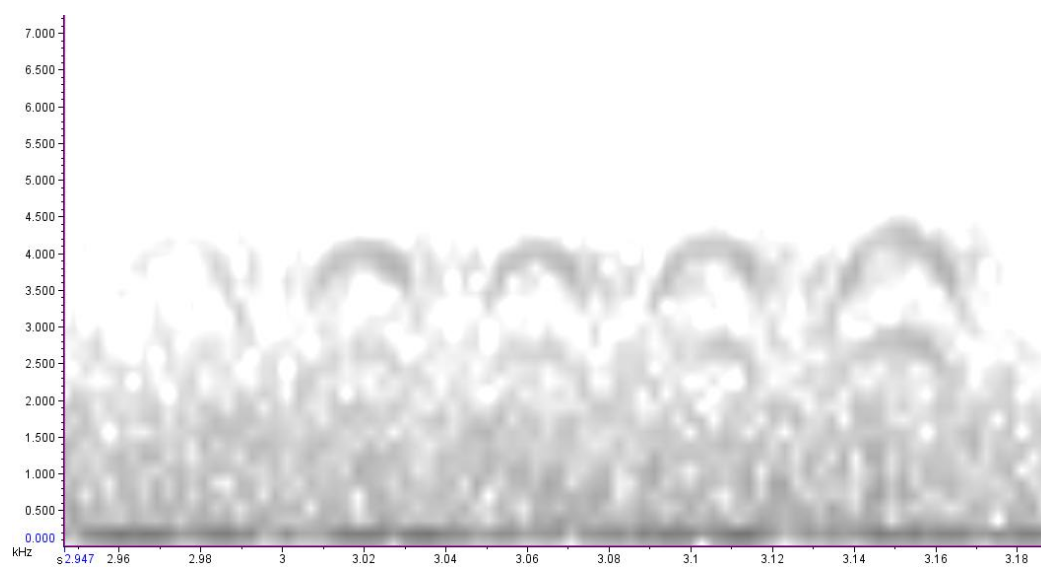
Syllables 100 and 101 and a repeated syllable



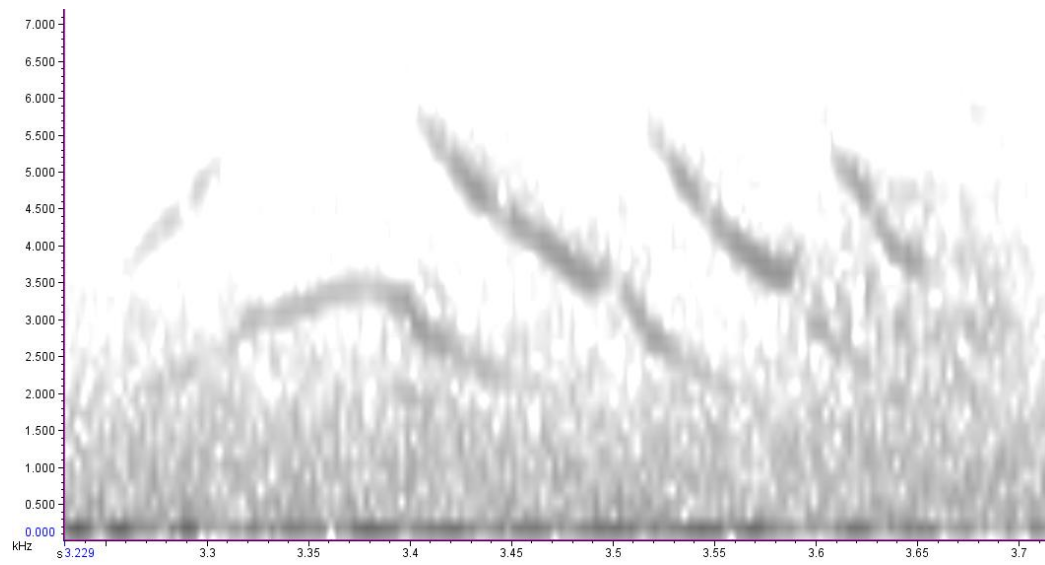
Repeated x2



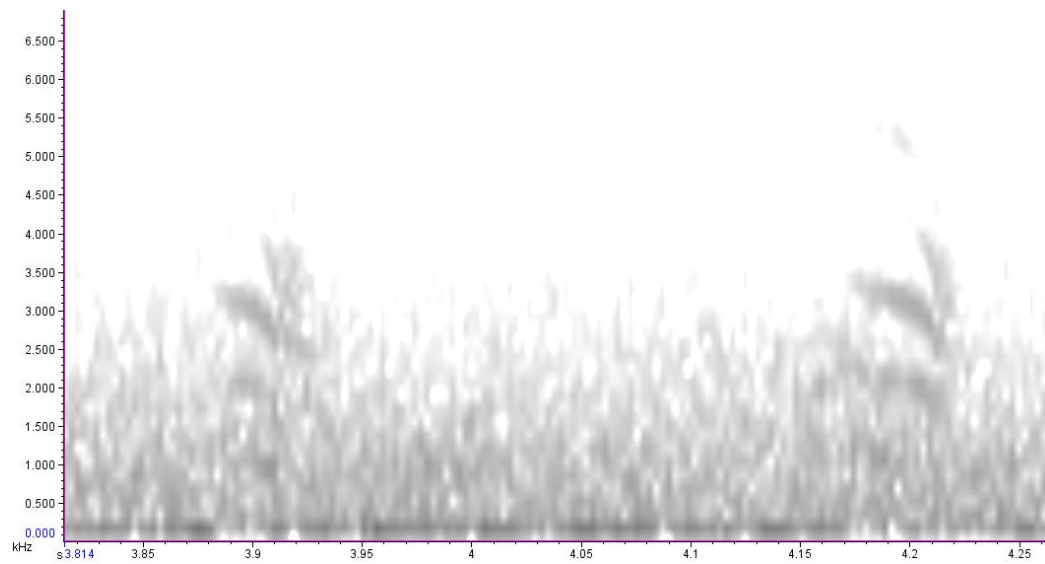
Repeated



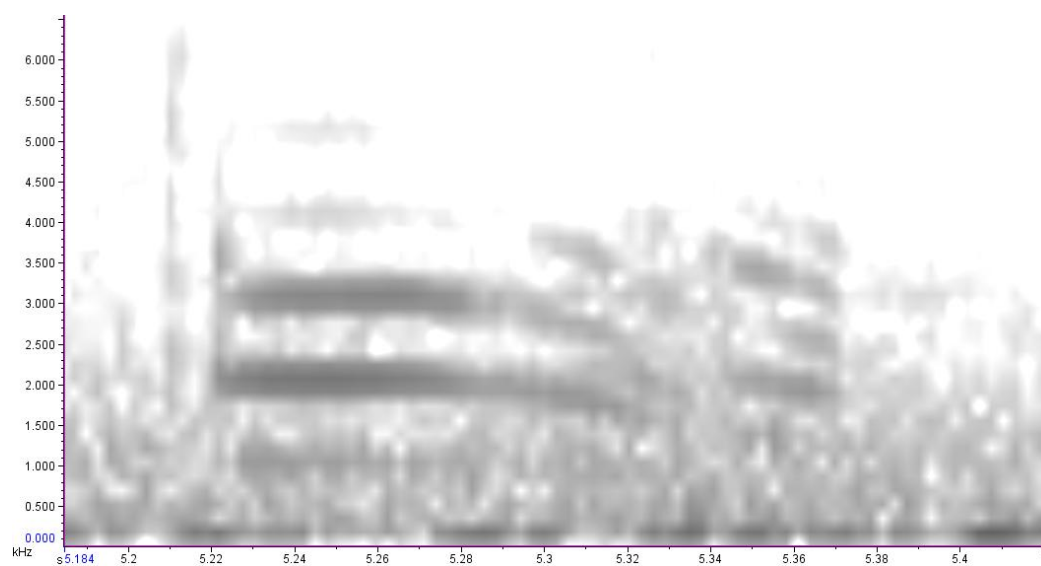
Repeated. Considered one syllable due to the overlapping nature of this syllable.



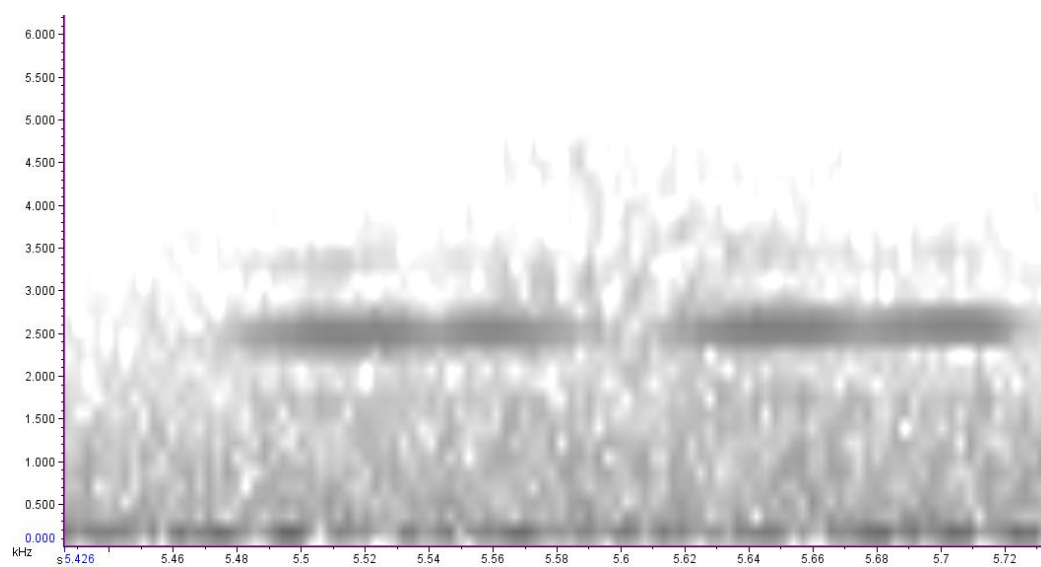
Repeated. 2 of these repeated.



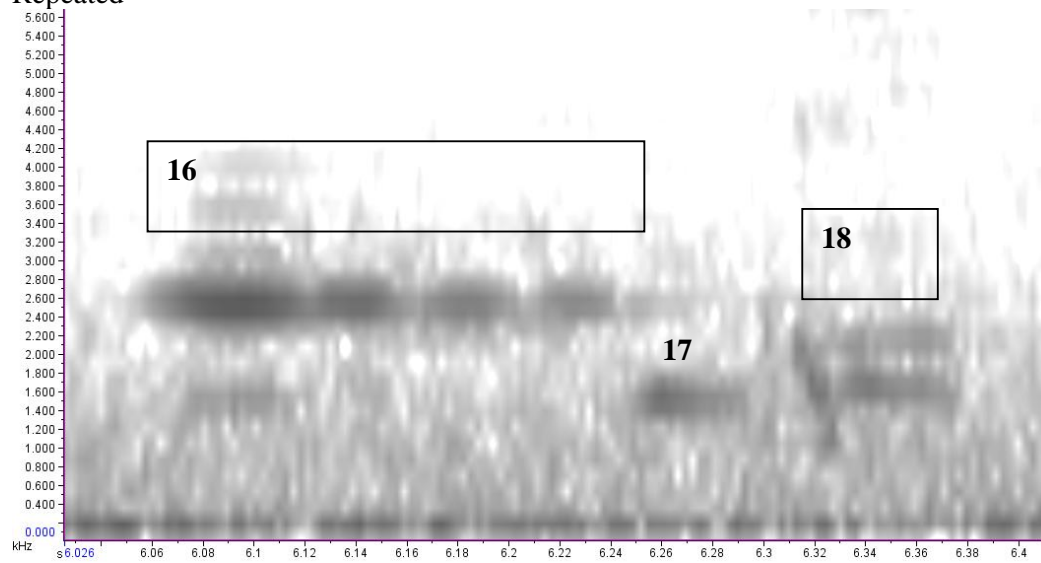
Syllable 1402.



Syllable 103.

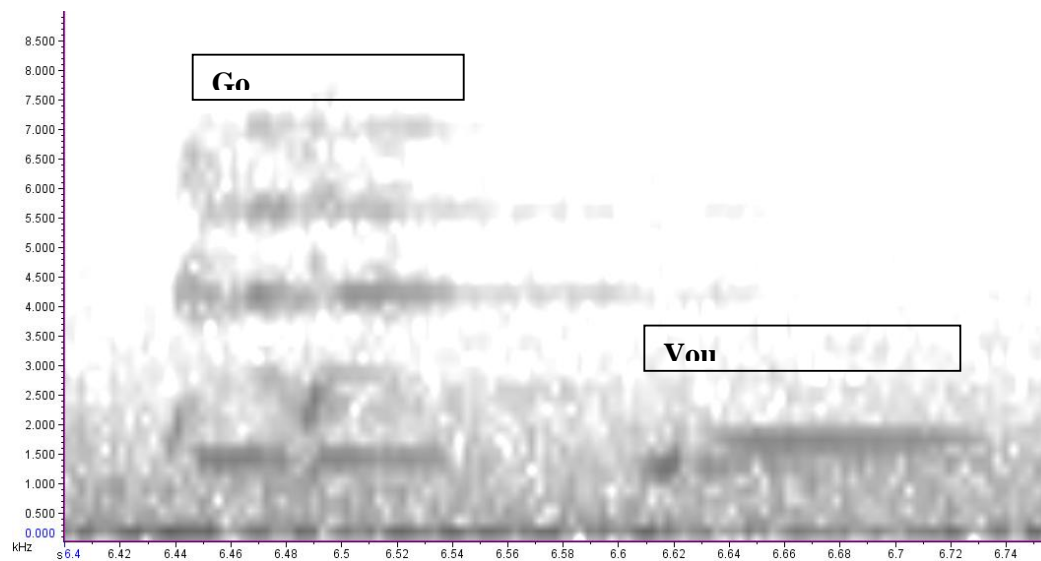


Repeated

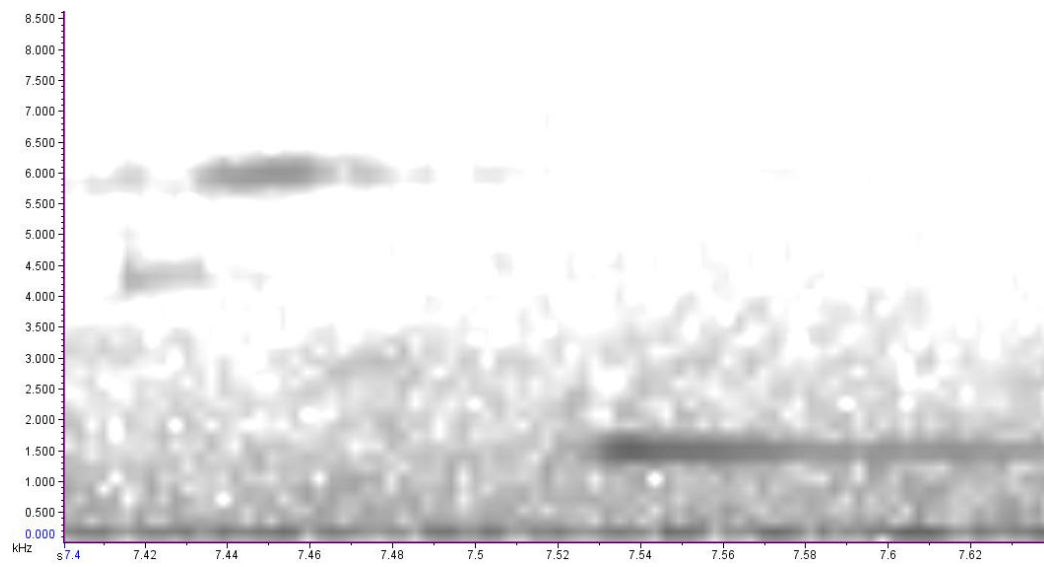


Syllable 201 (Cumulative)

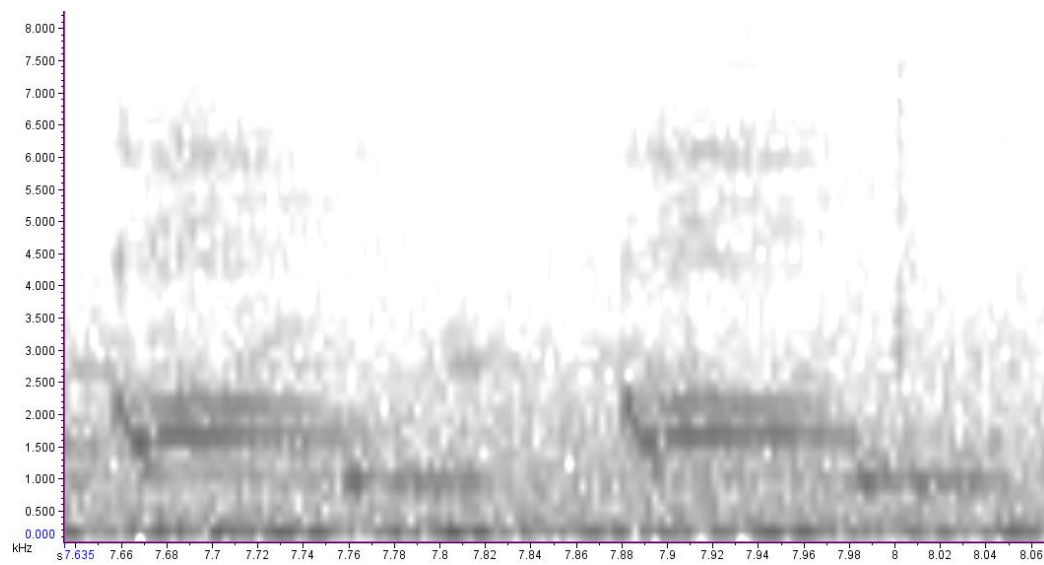
Syllables 104 and 105. Sounds like 'Go-Vou'.



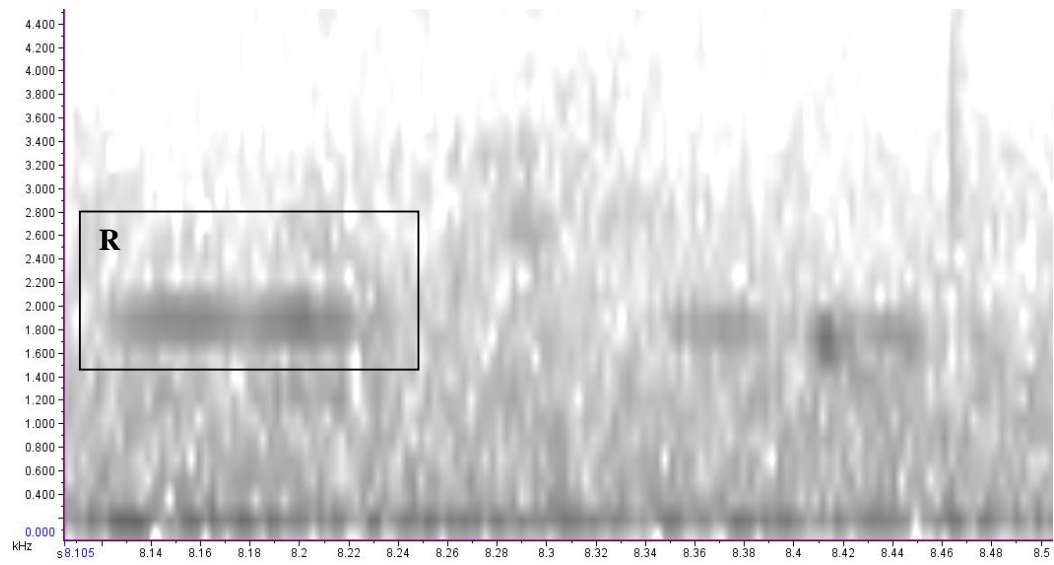
Syllables 106 and 107.



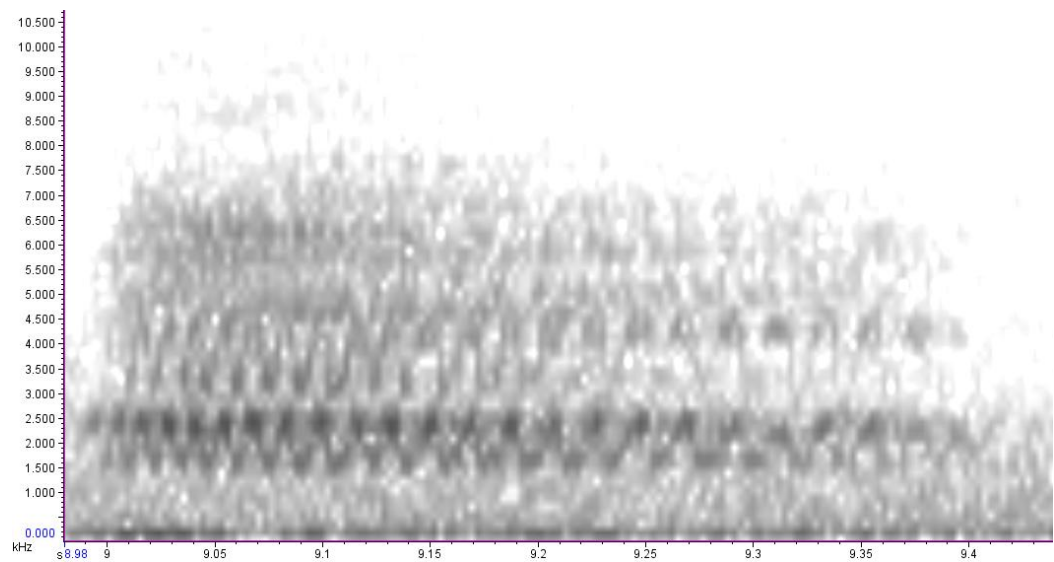
Syllable 108. 2 syllable 23s repeated.



Syllables Repeated and 109.

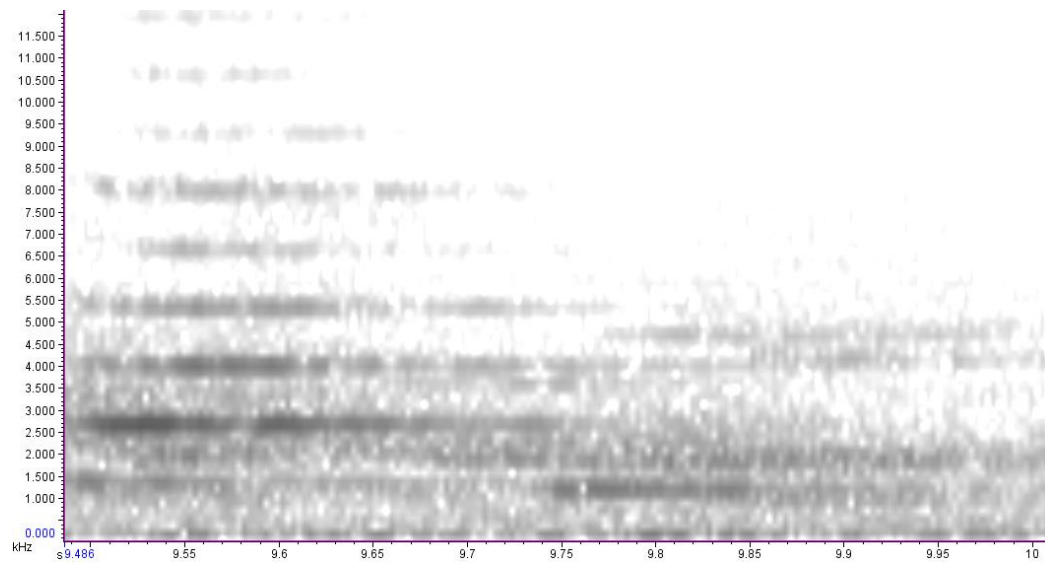


Syllable 110. Bat/cat/crow sounding syllable. Perfect terminal syllable!

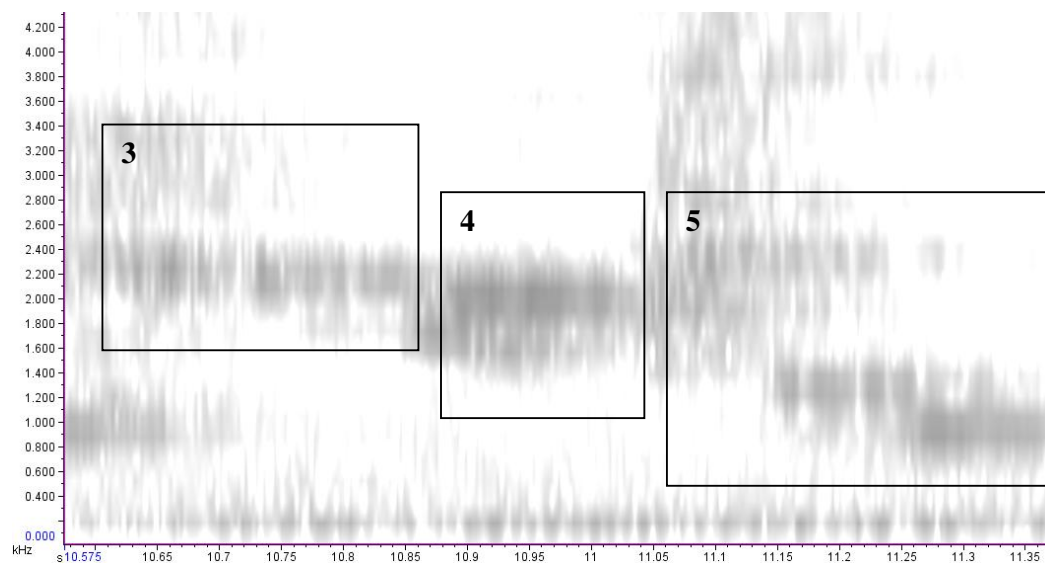


Song 16 - 008-2010-11-22 04_02_18. Upper Summit Track, Rangatira.

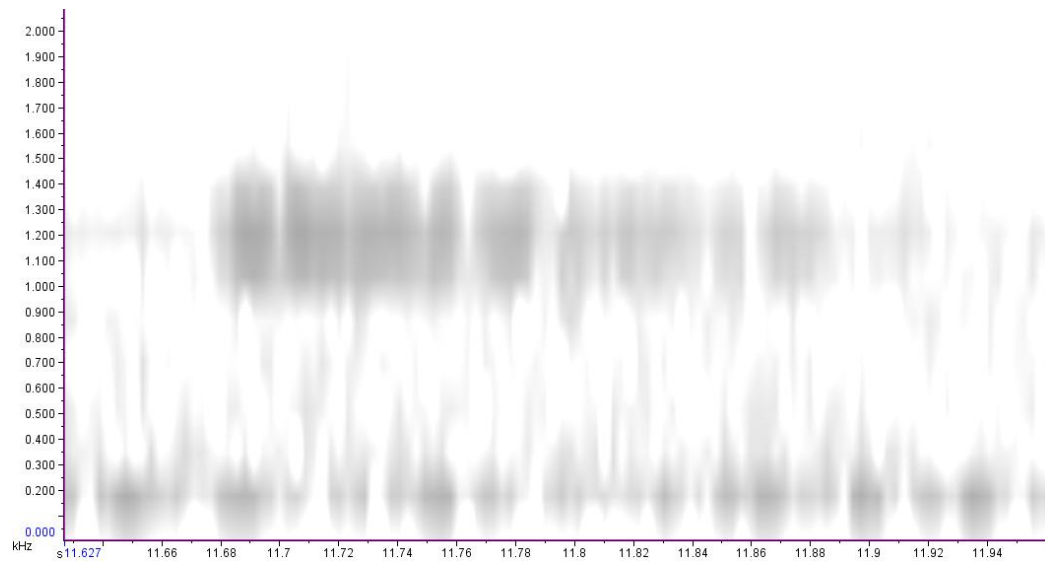
Syllables 111 and 112.



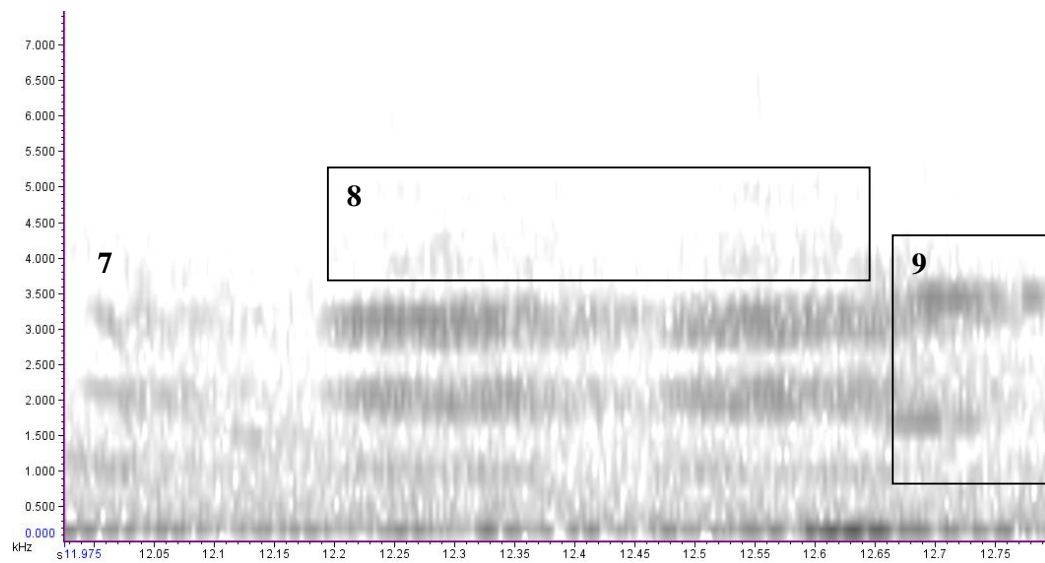
Syllable 113, 114 and 115. The 'ABBA'-like sound. Another tui in the background. Syllable 115 includes 3 rapidly descending steps, but is one syllable due to the overlapping nature of the syllable.



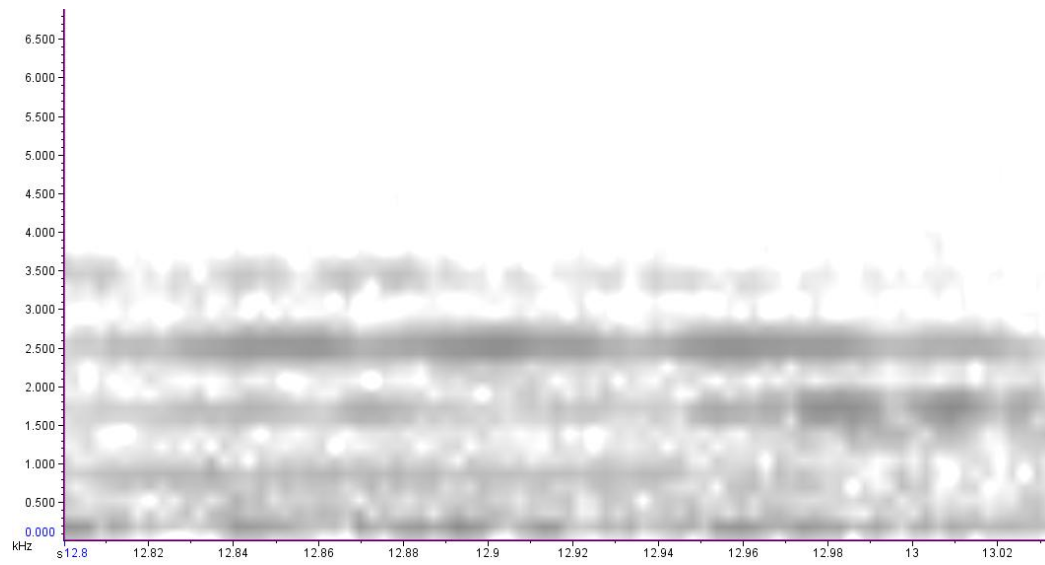
Syllable 116.



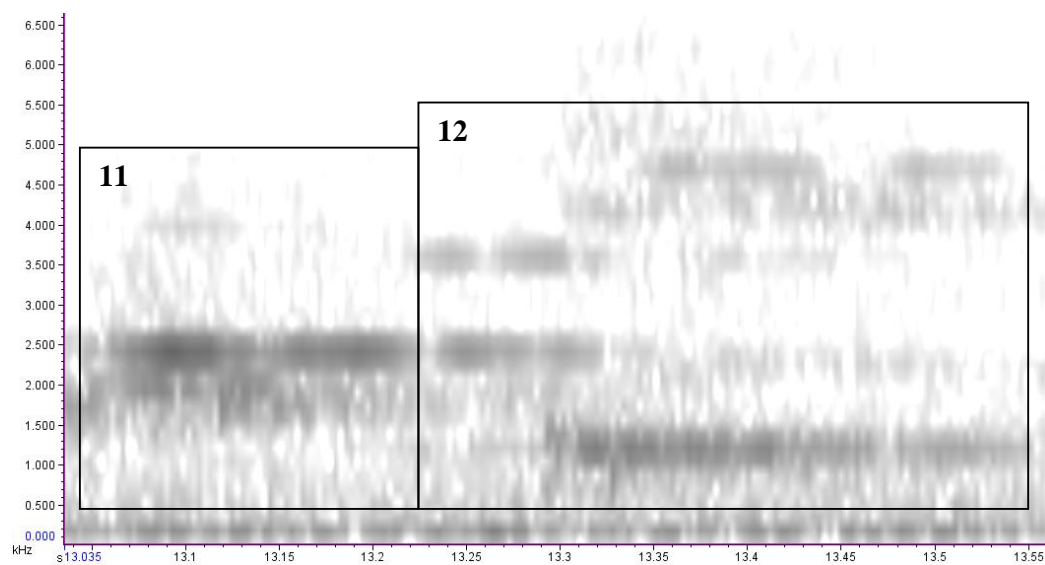
Syllables 117 to 119. Syllable 9 considered different syllable due to the change/difference in sound and frequency and lack of any overlapping components.



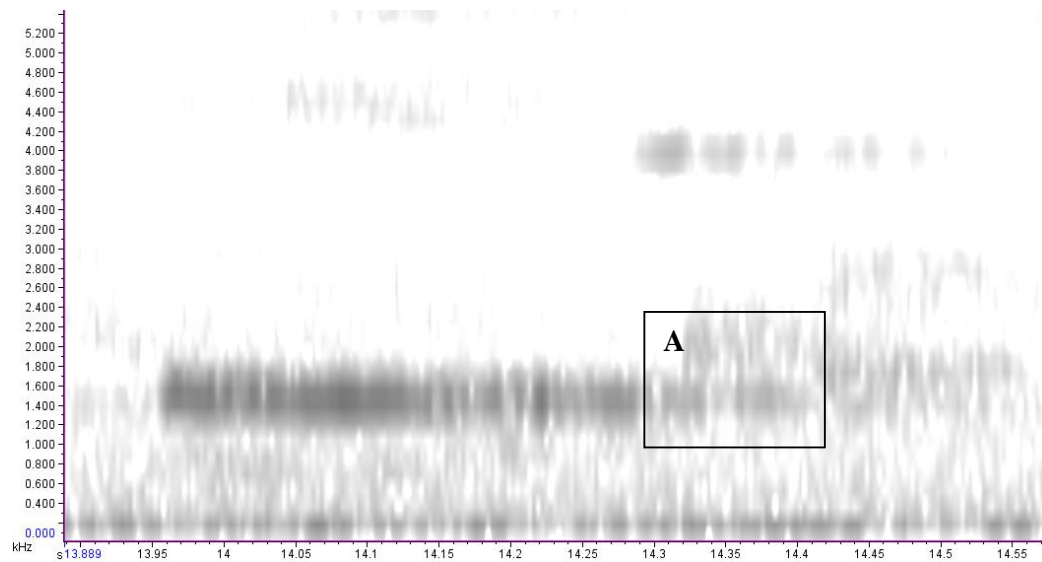
Repeated



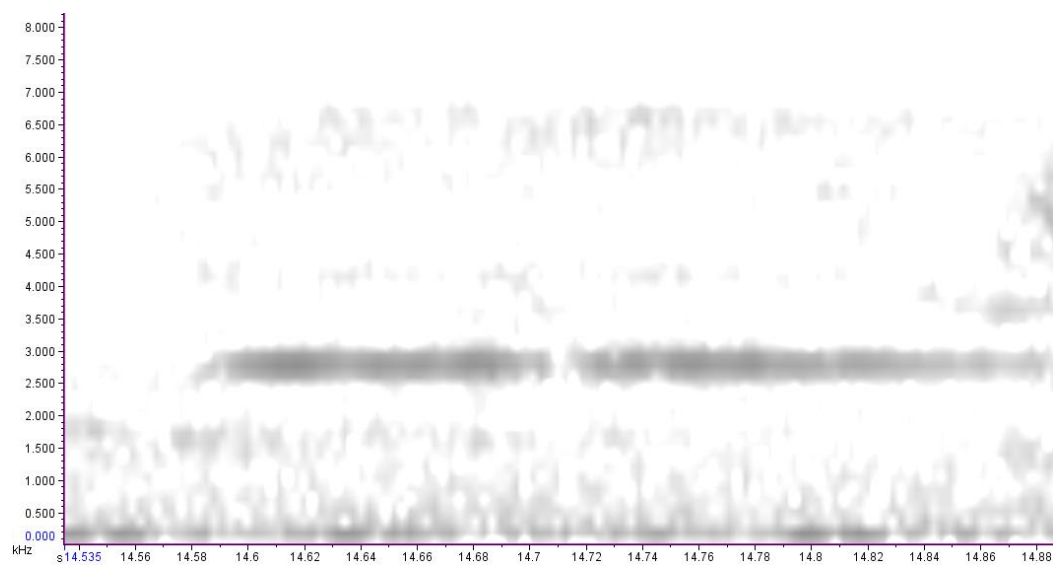
Syllables 120 and 121. Syllable 12 considered just one syllable due to the overlapping nature of the syllable.



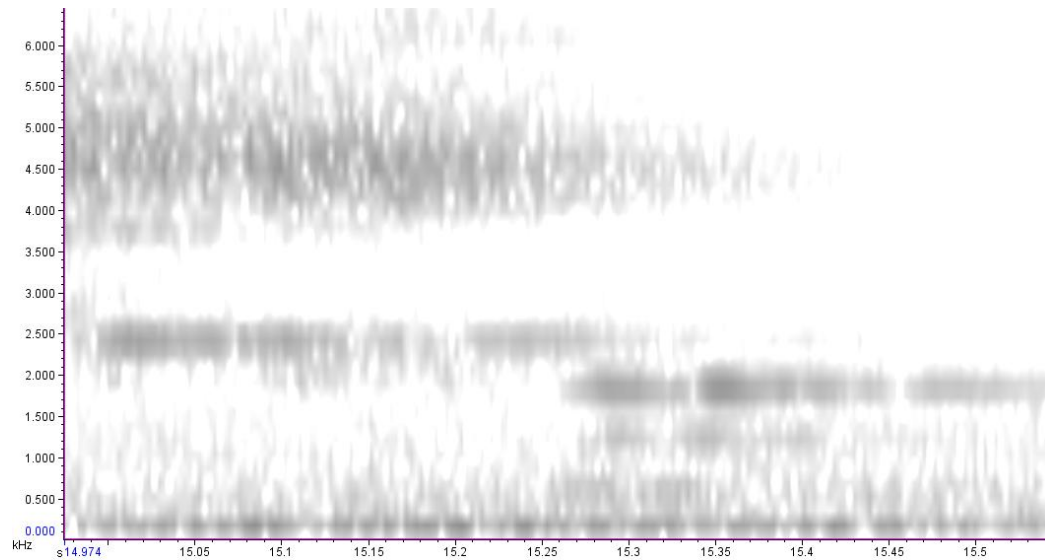
Syllable 122. Considered just one syllable due to overlapping component ('A') and no change of sound.



Syllable 123.

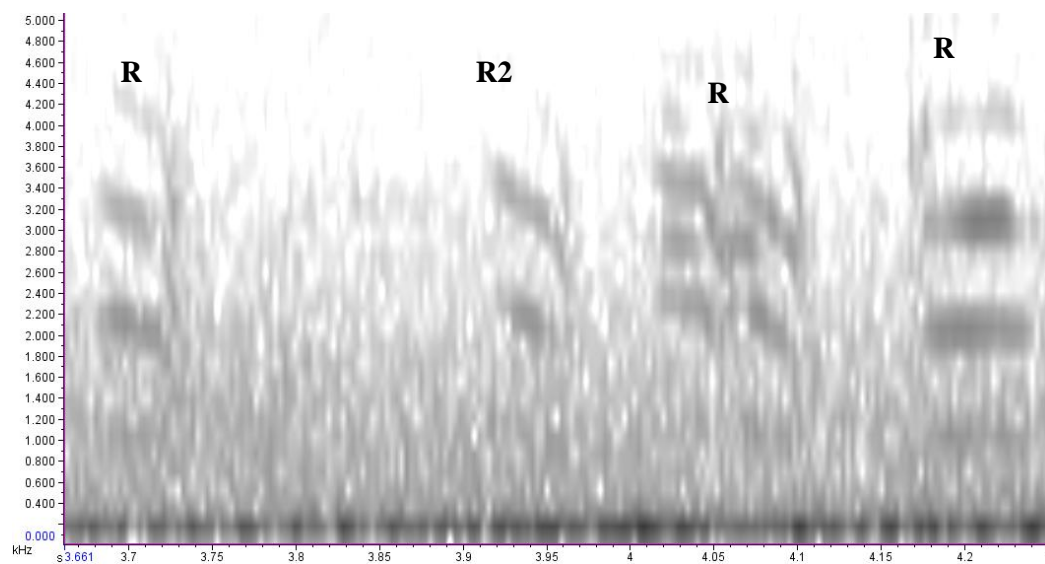


Syllables 124 and 125. Slight overlap but very different sounds, so two different syllables.

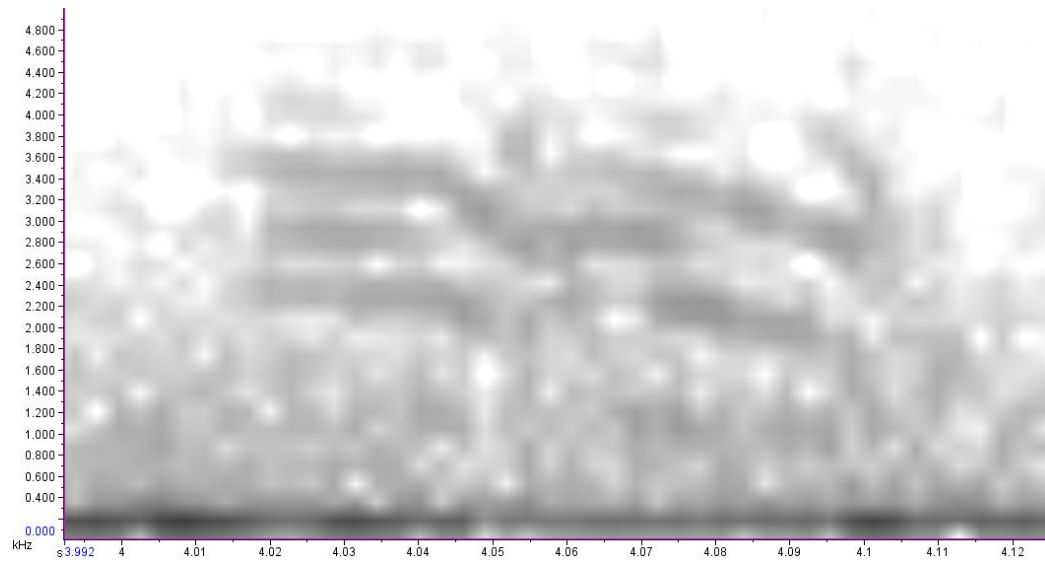


Song 17 - 008-2010-11-22 07_00_44. Thinornis Bay, Rangatira.

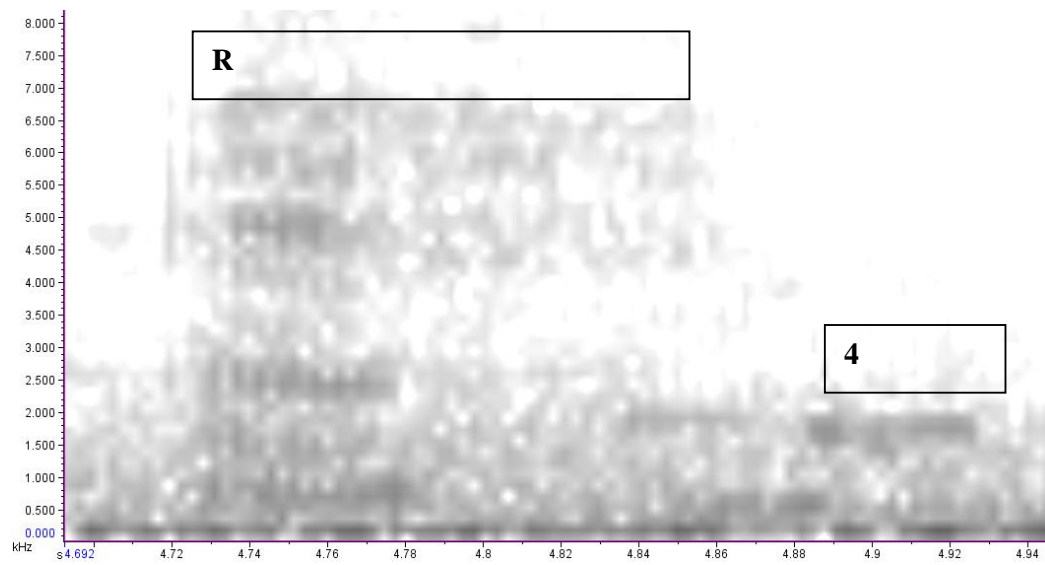
Repeated



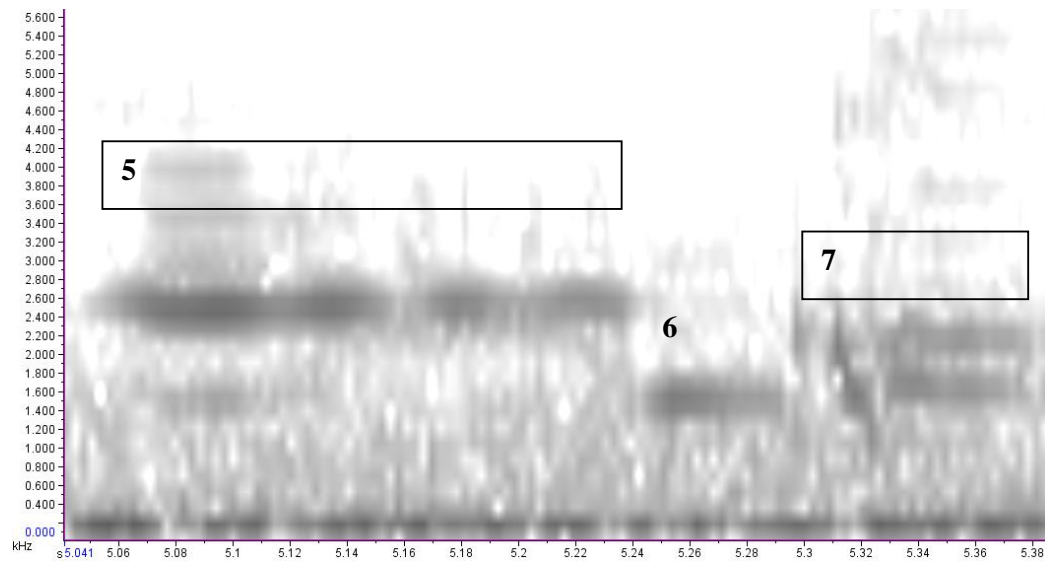
Syllable 2 again, but this time zoomed.



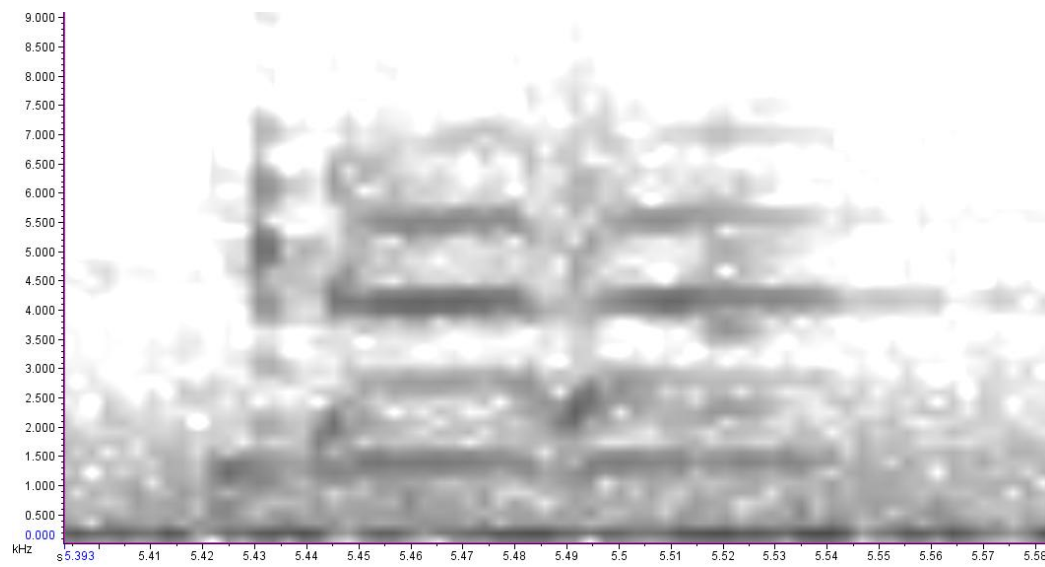
Syllables Repeated and 126.



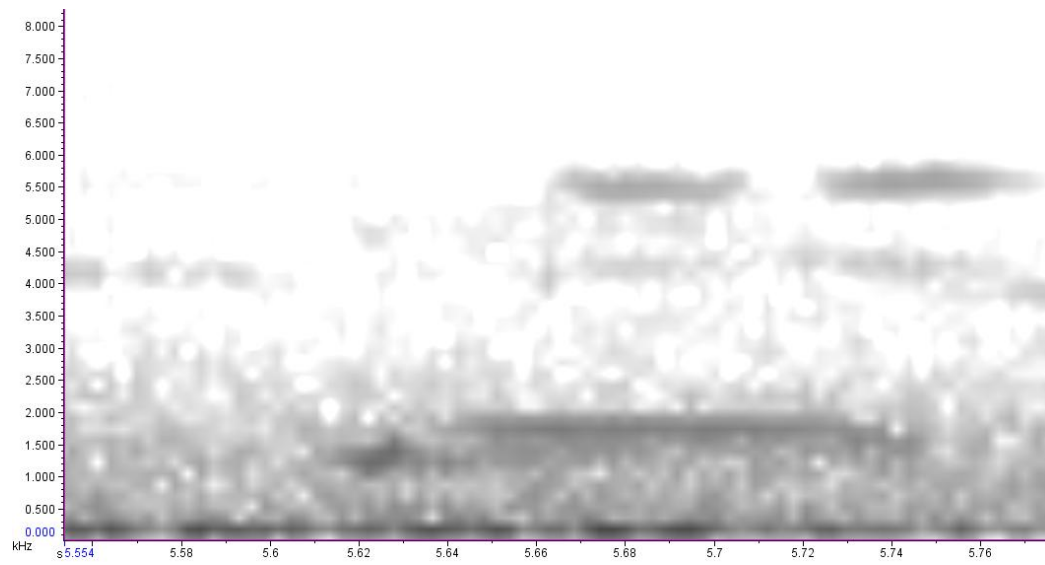
Syllables 127, 128 and 129.



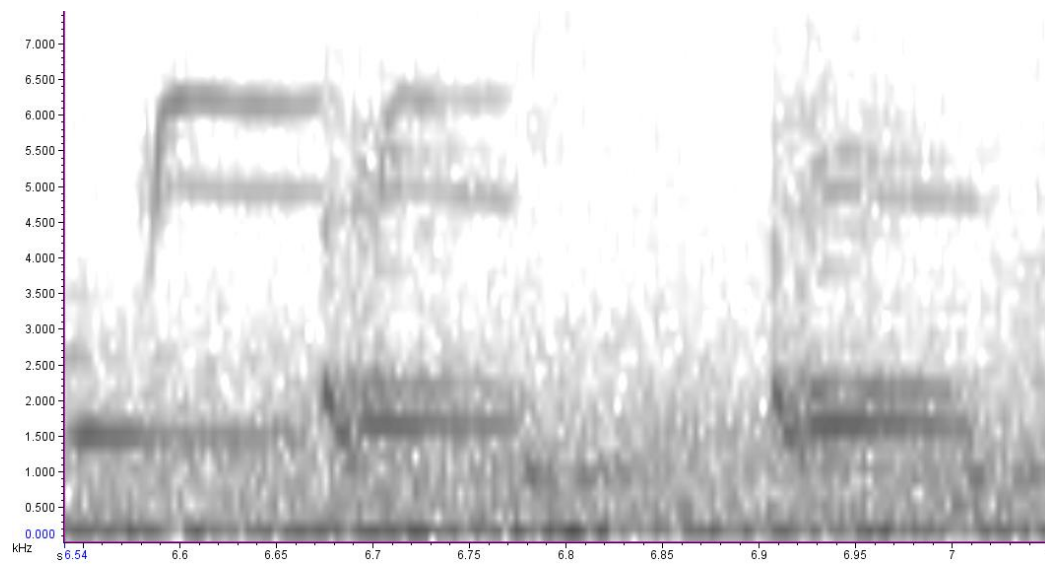
Syllable 130.



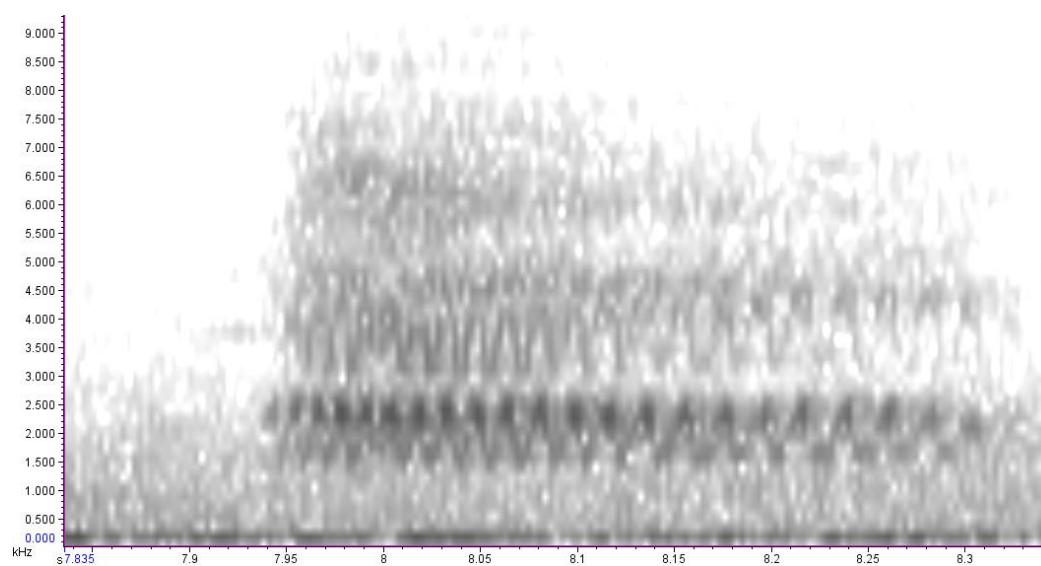
Syllable 131.



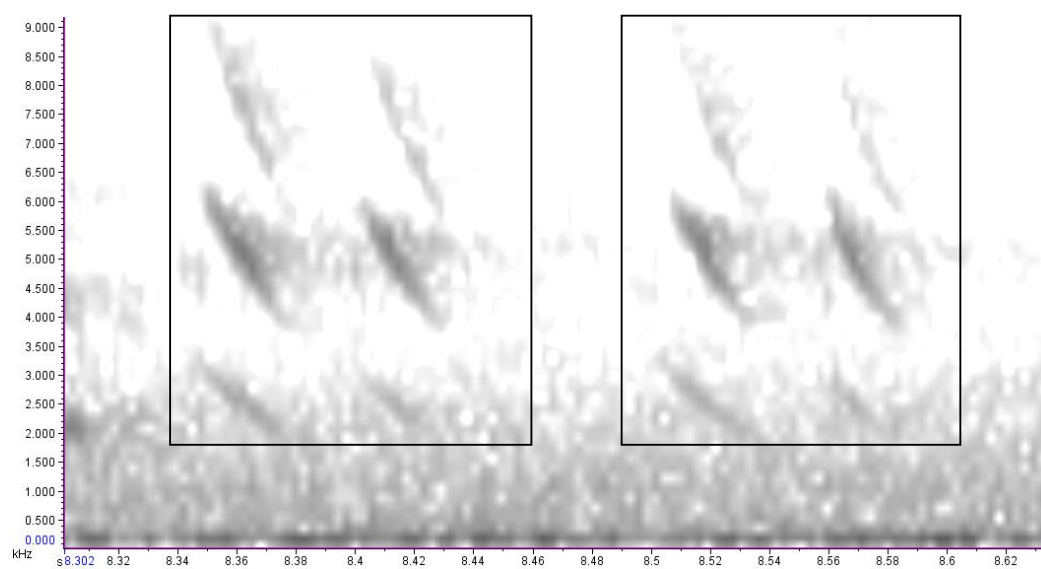
Syllable 132 and 133.



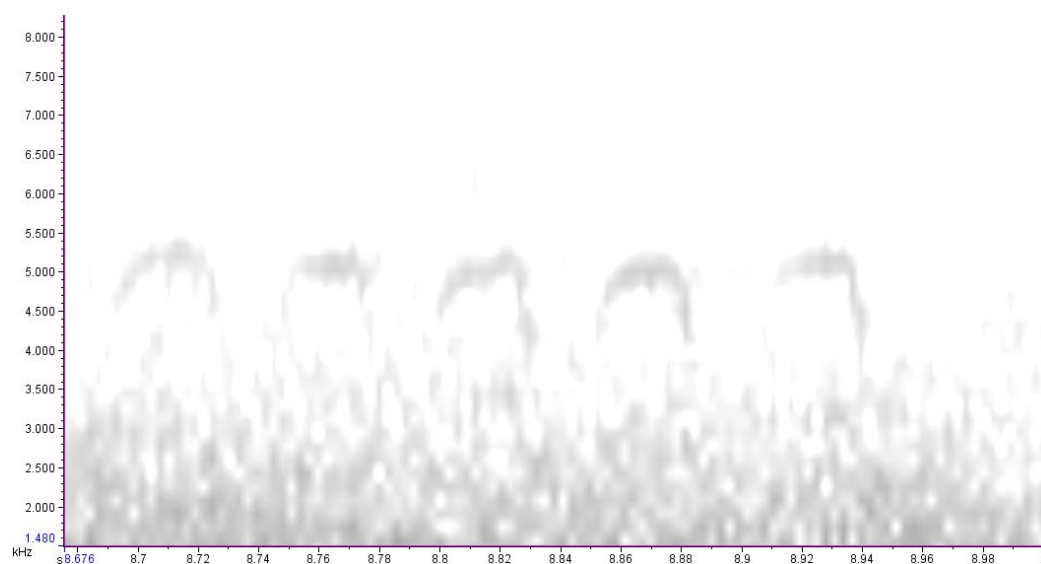
Repeated



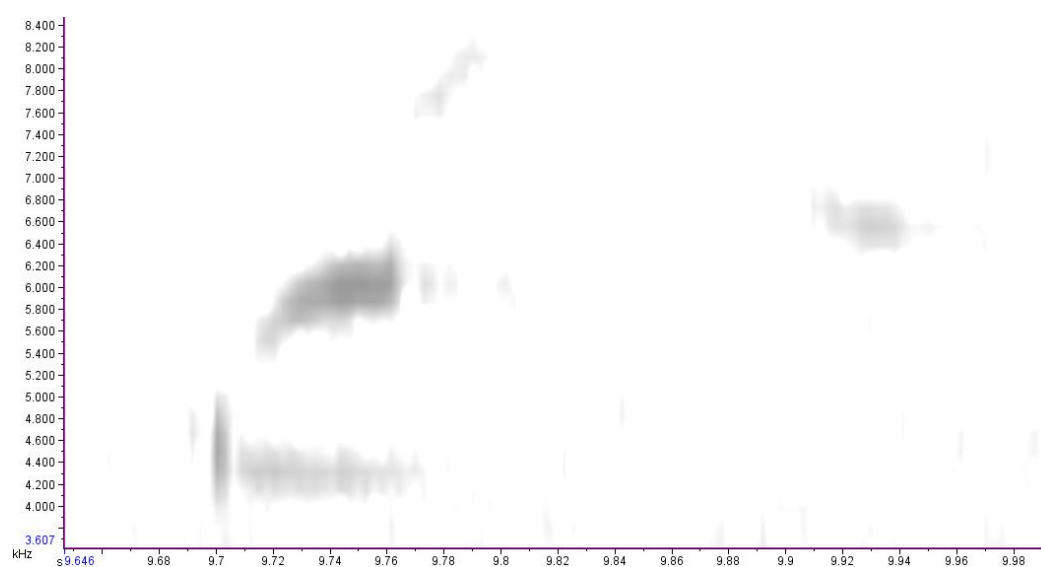
Syllable 134.



Repeated

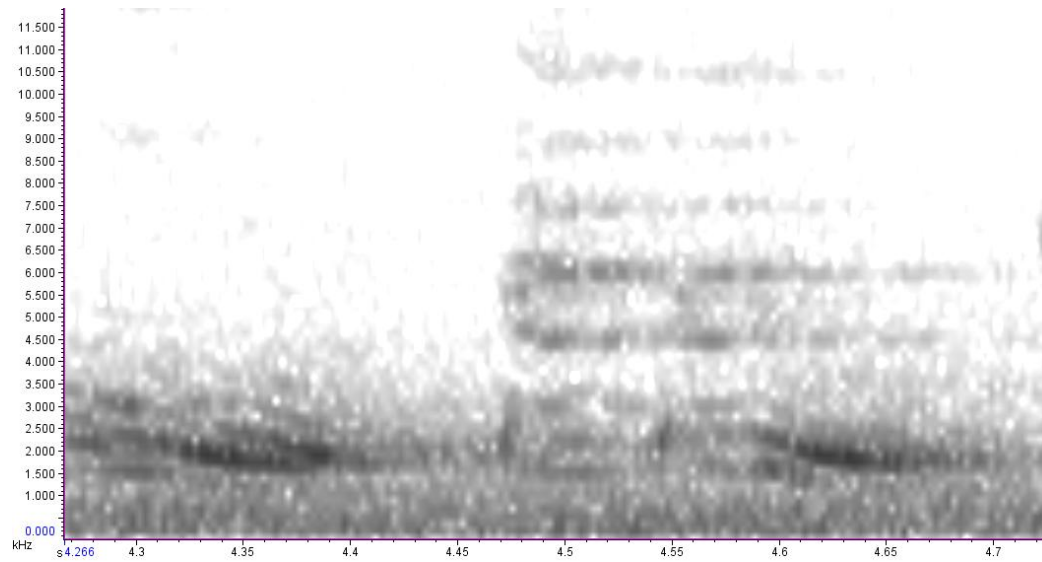


Syllables 135 and Repeated.

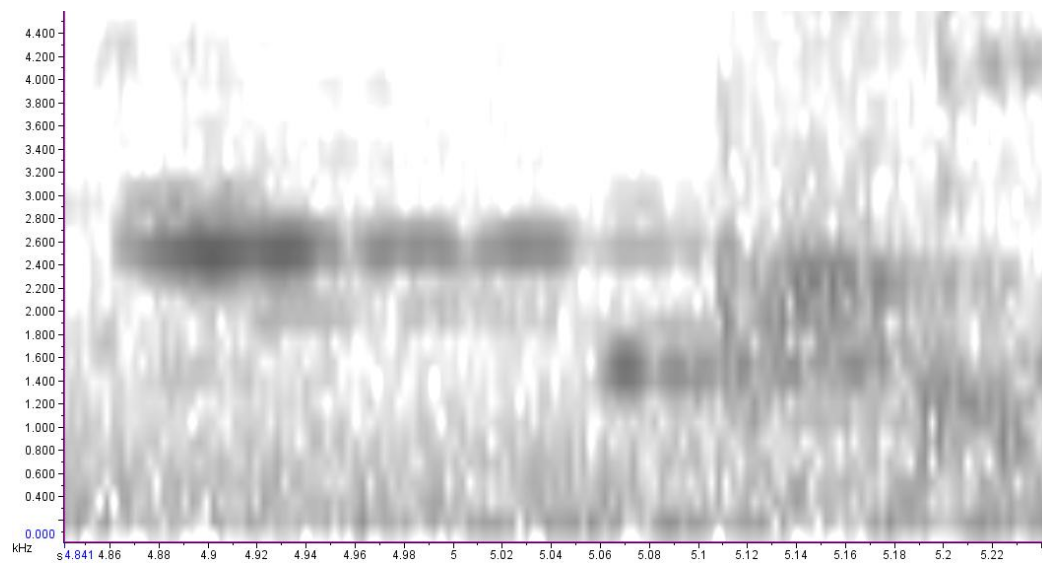


Song 18 - 004-2010-11-22 07_42_56.

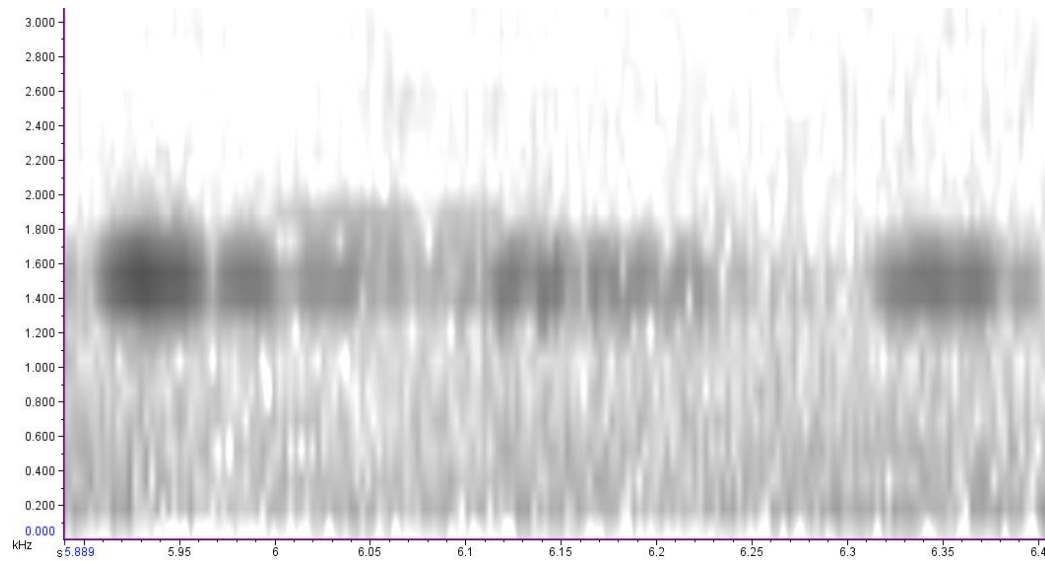
****Syllable 136.** A double cat-like syllable. The syllable in the middle is from a proximal tui.



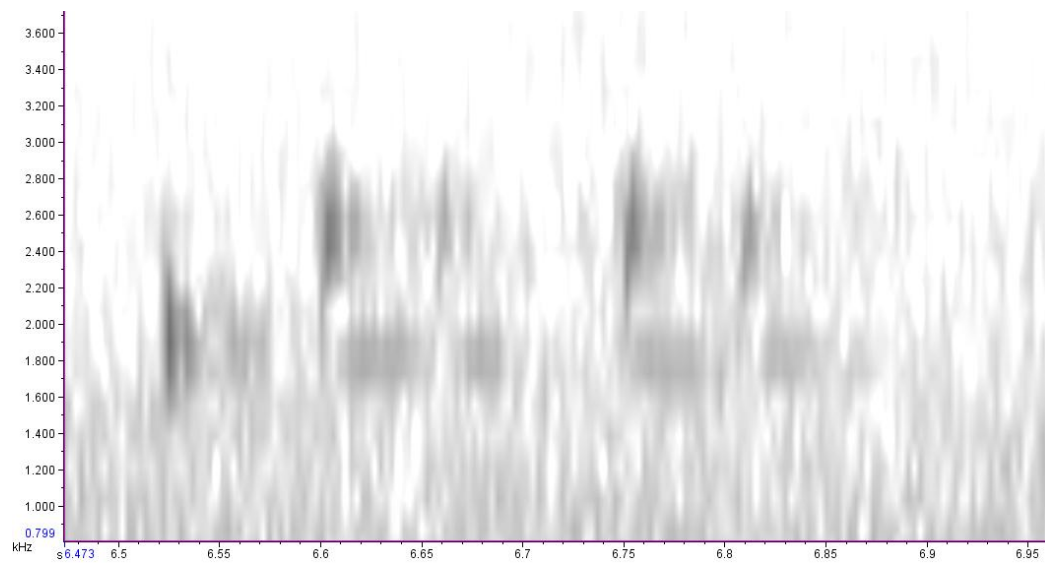
Repeated x3



Syllable 137 and 138. Bell-sound that often follows the above common West Landing song ending.

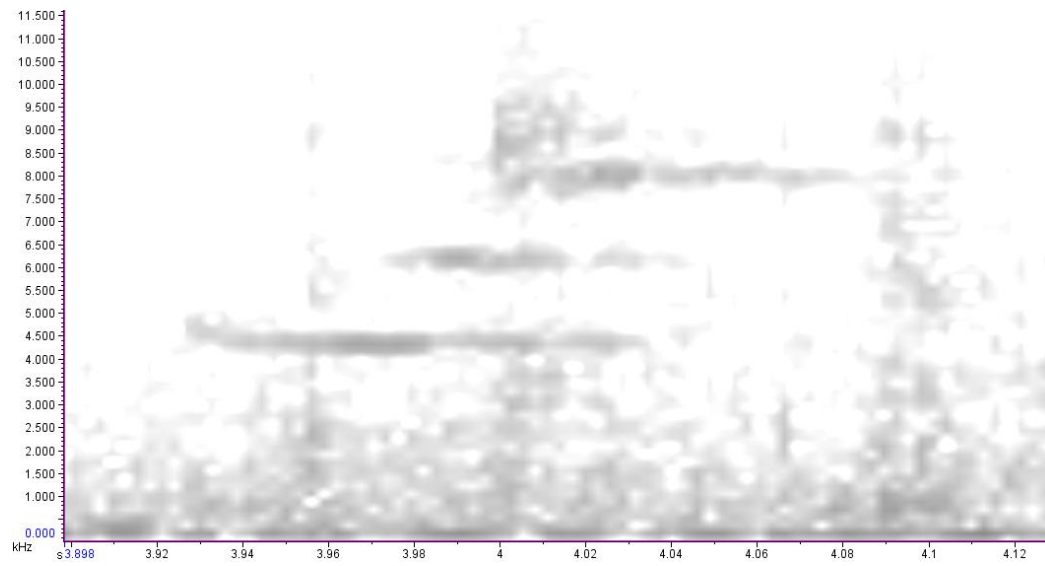


Syllable 139. Bell-like syllable.

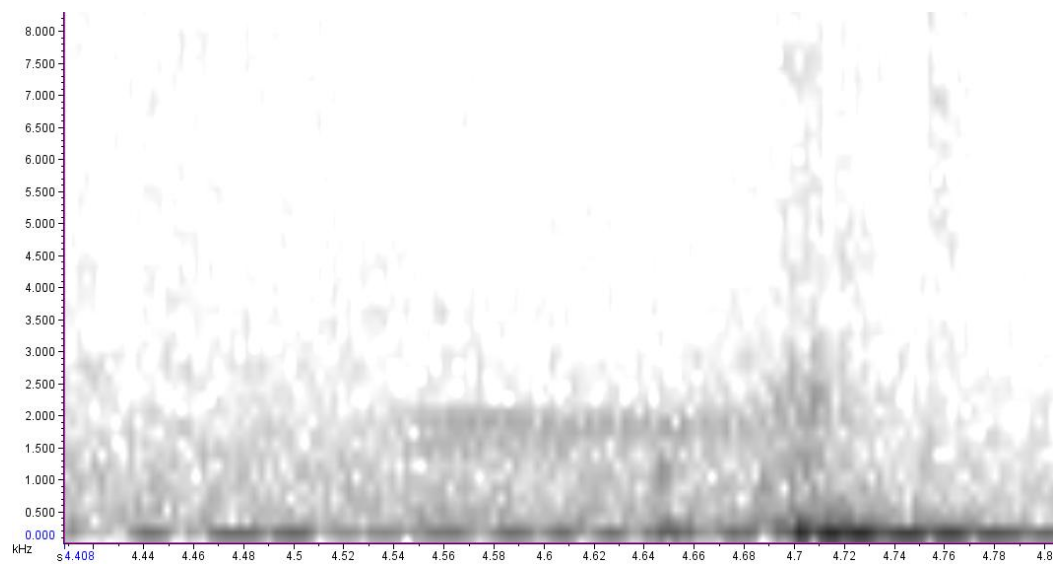


Song 19 - 006-2010-11-22 06_16_50

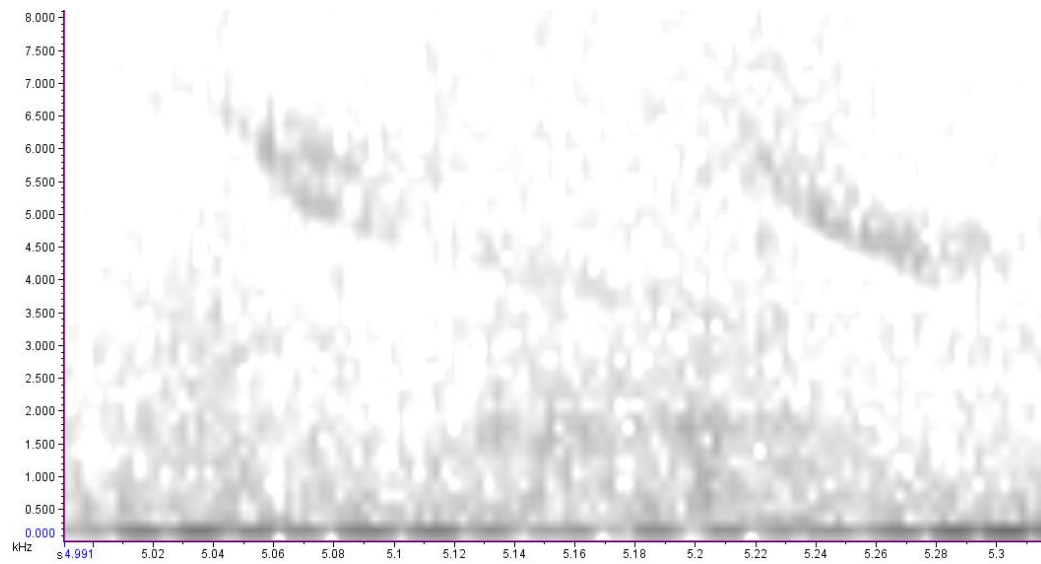
Repeated



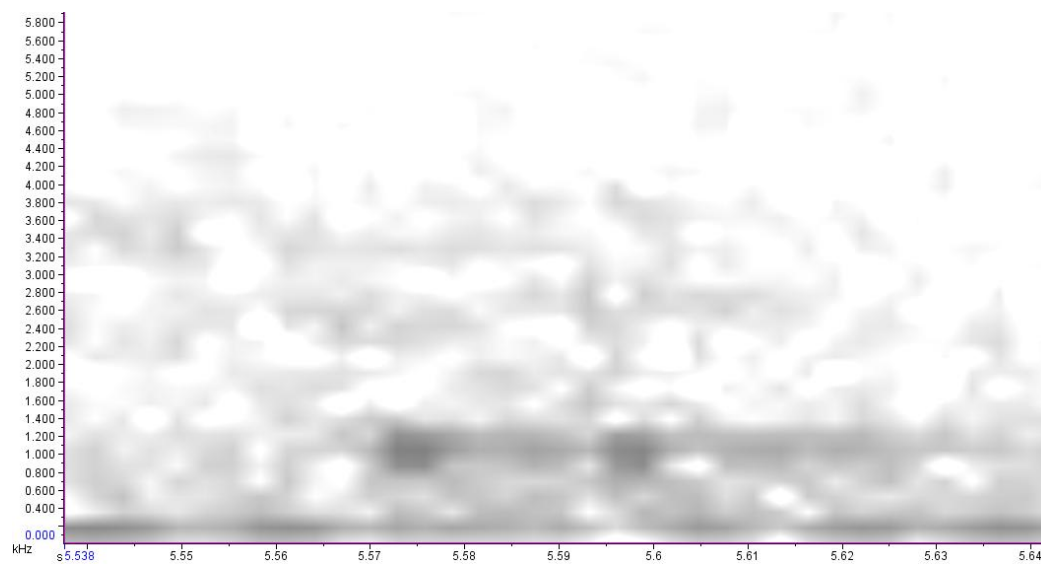
****Syllable 140.**



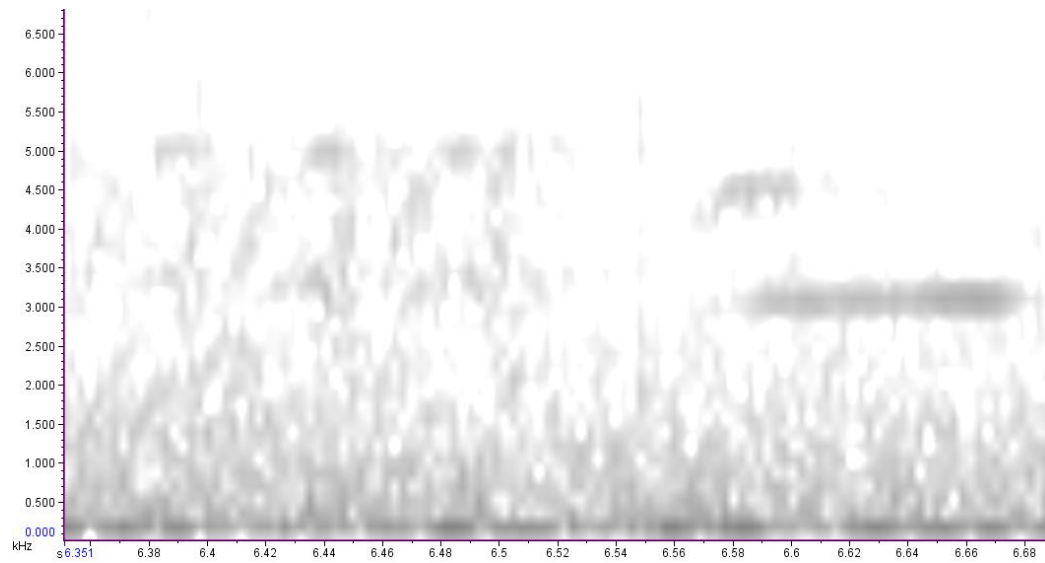
Syllable 141.



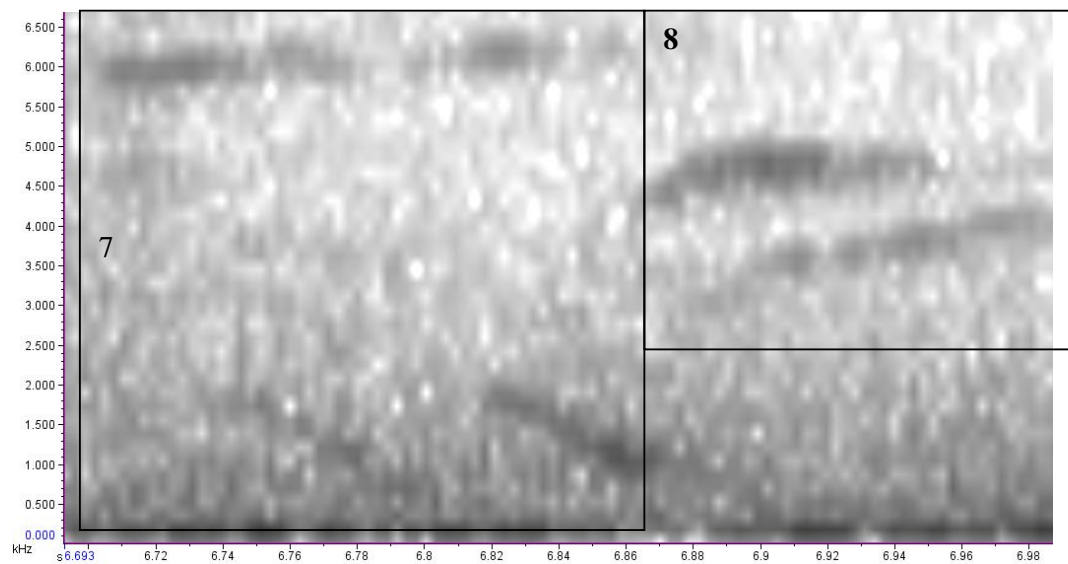
Syllable 142. Very low frequency syllable.



Syllable Repeated and Syllable 143.

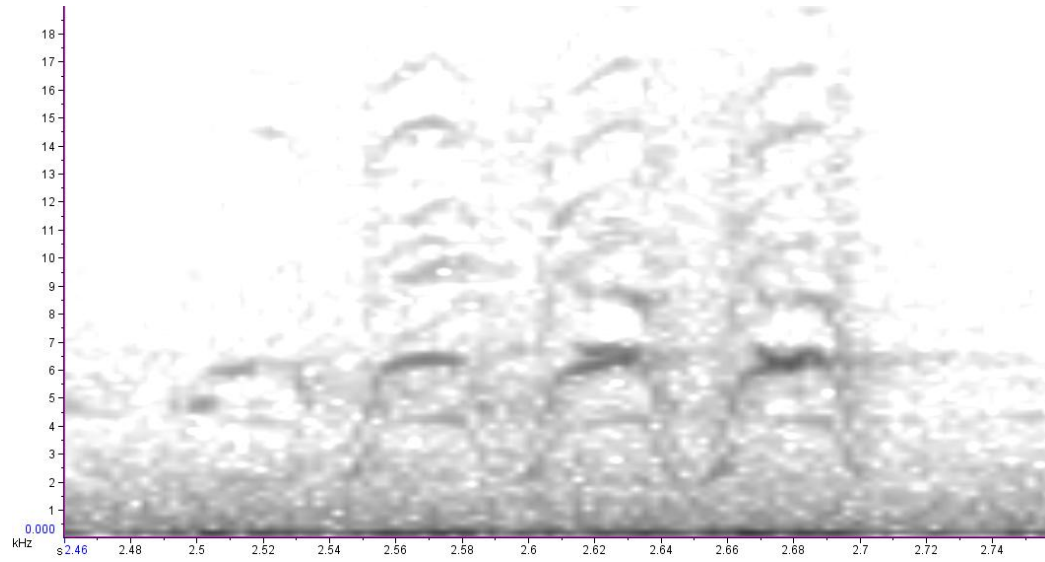


Syllables 144 and 145. Syllable 144 has overlapping components, hence one syllable.

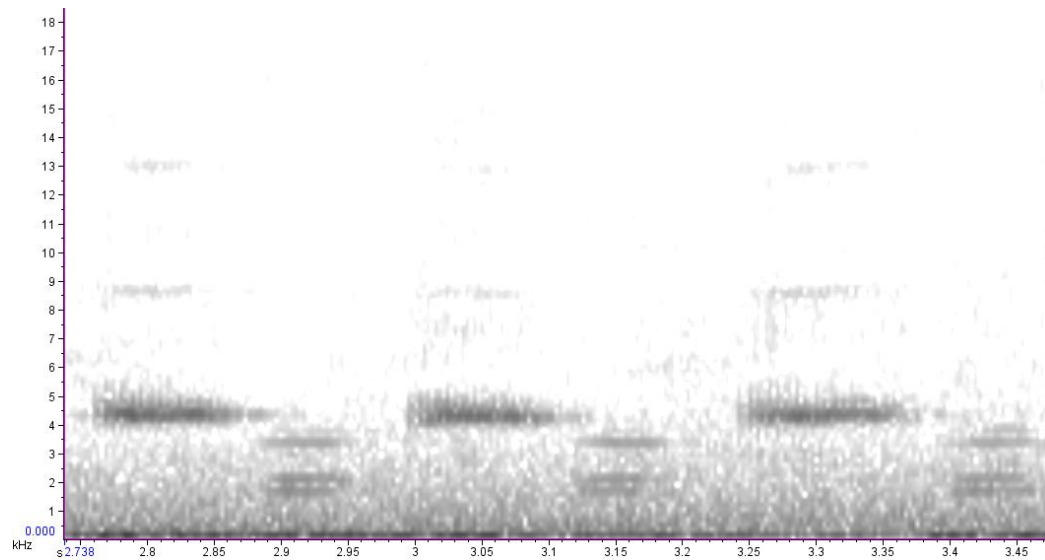


Song 20 - 002-2010-11-22 06_16_50

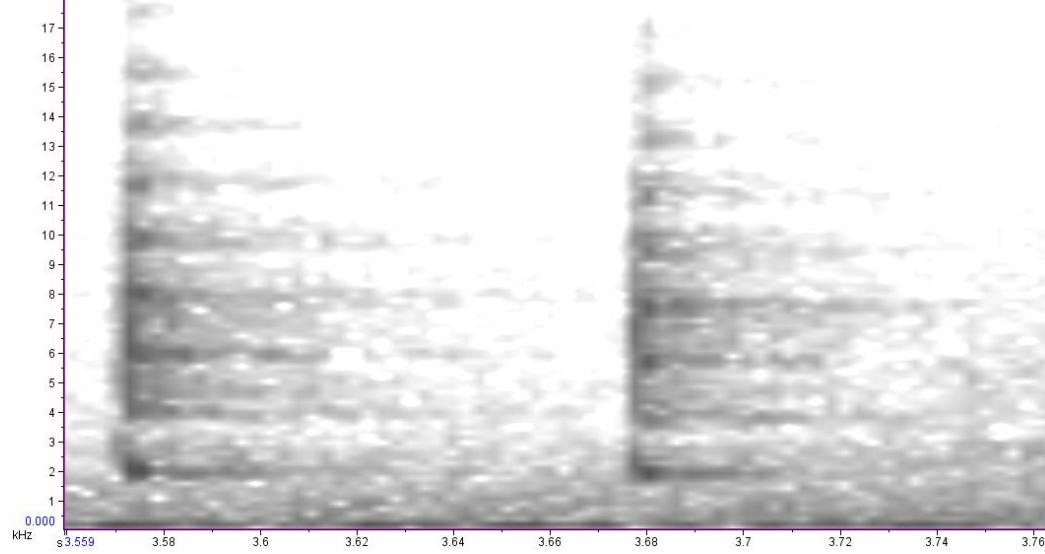
Syllable 146.



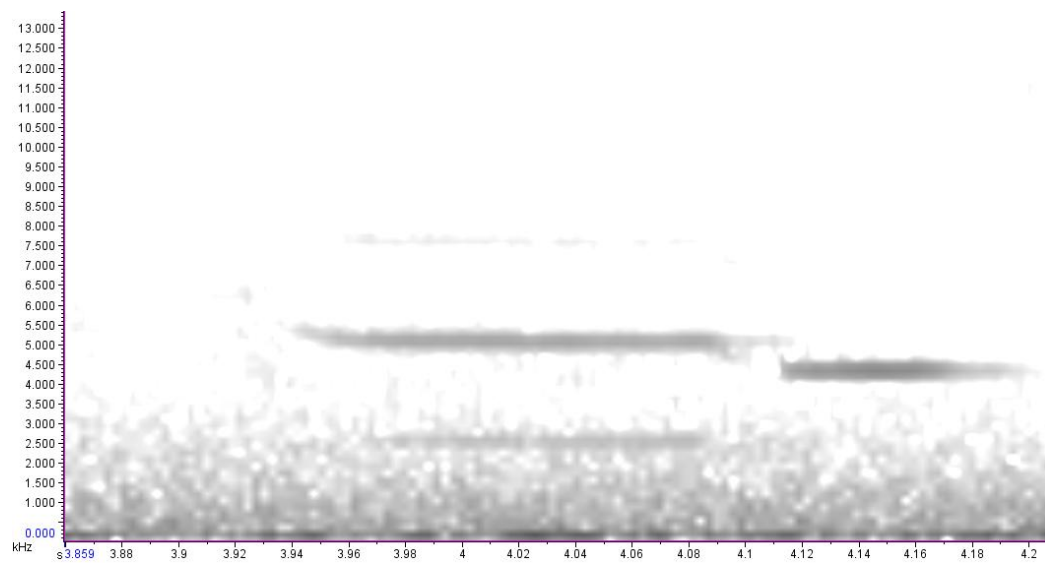
Syllable 147. 3 repeated syllables here. Each syllable consists of 2 parts. The fact that the 2 parts are repeated means that they are part of the same syllable. Besides, the second part of the syllable overlaps slightly with the first part of the syllable.



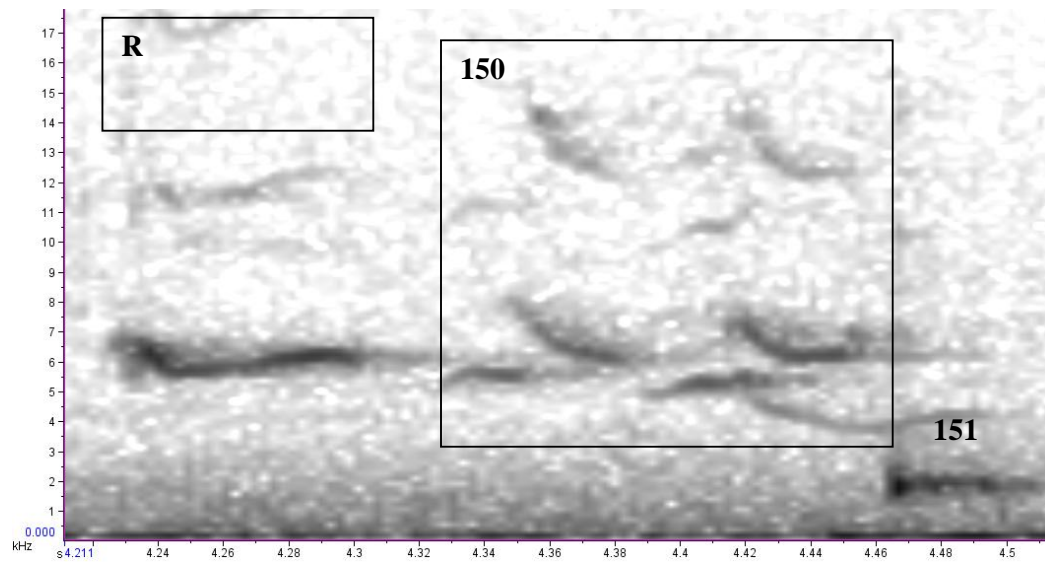
Repeated



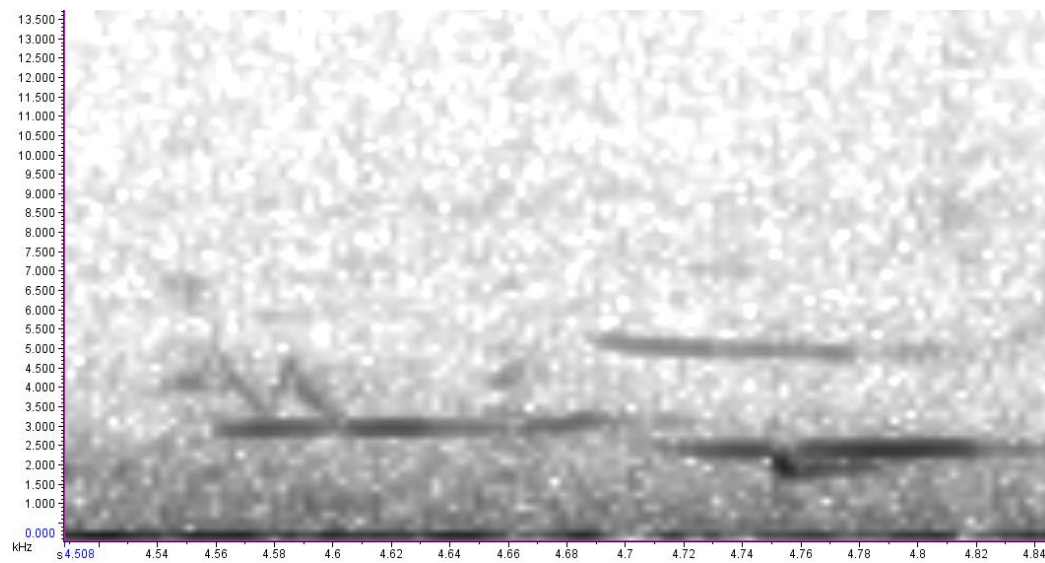
Syllable 148 and 149. Very close together these 2 syllables but there is no overlap, so considered 2 syllables.



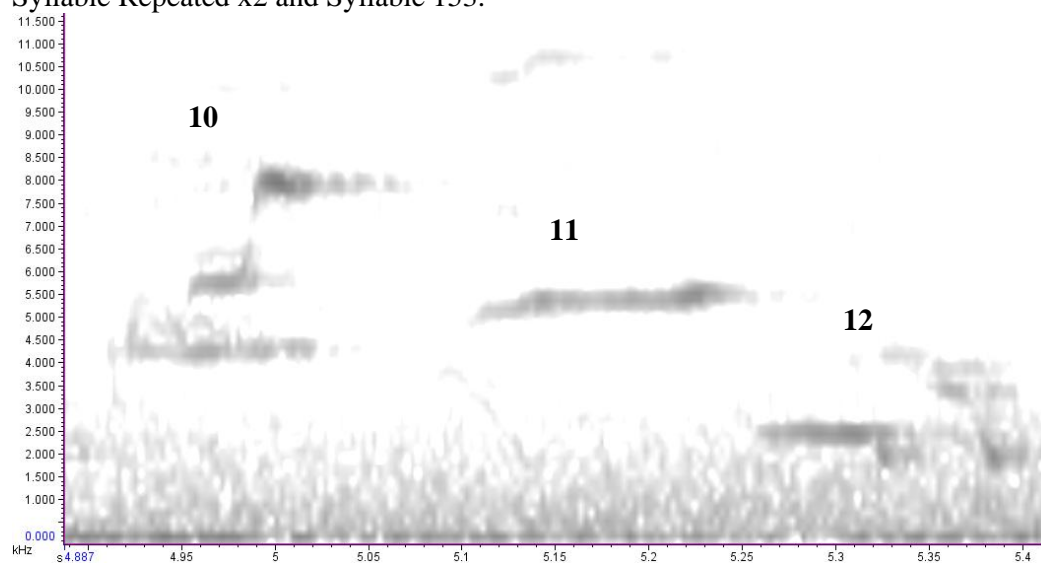
A repeated syllable and syllables 150-151.



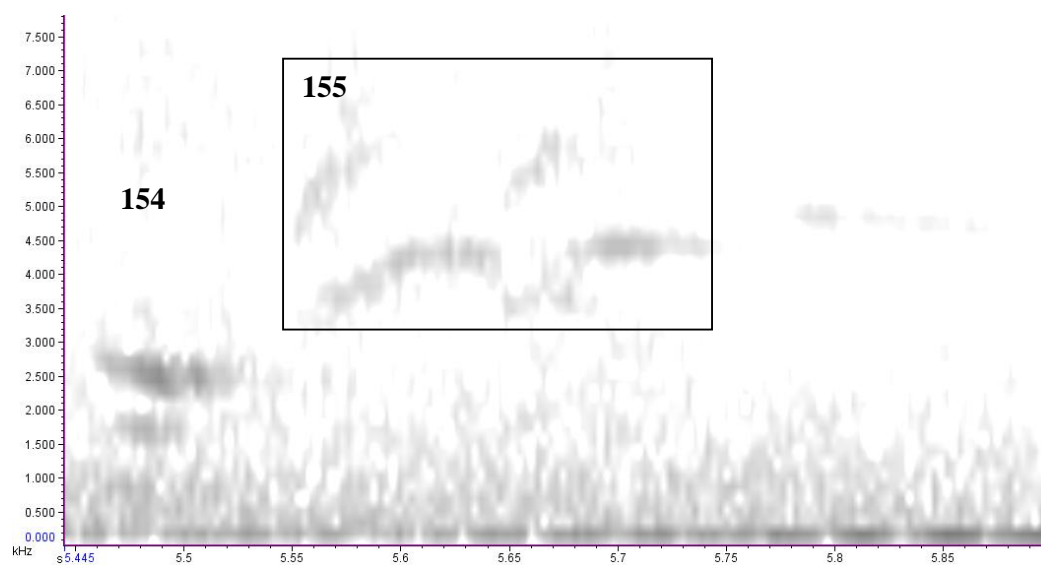
Syllable 152. Considered just one syllable due to the overlapping components.



Syllable Repeated x2 and Syllable 153.

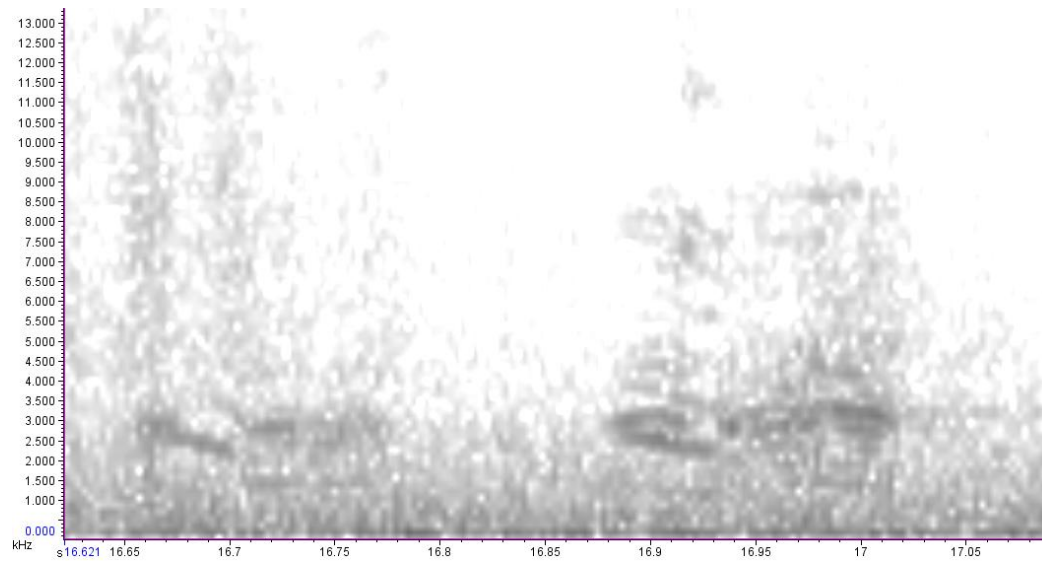


Syllable 154 and 155.

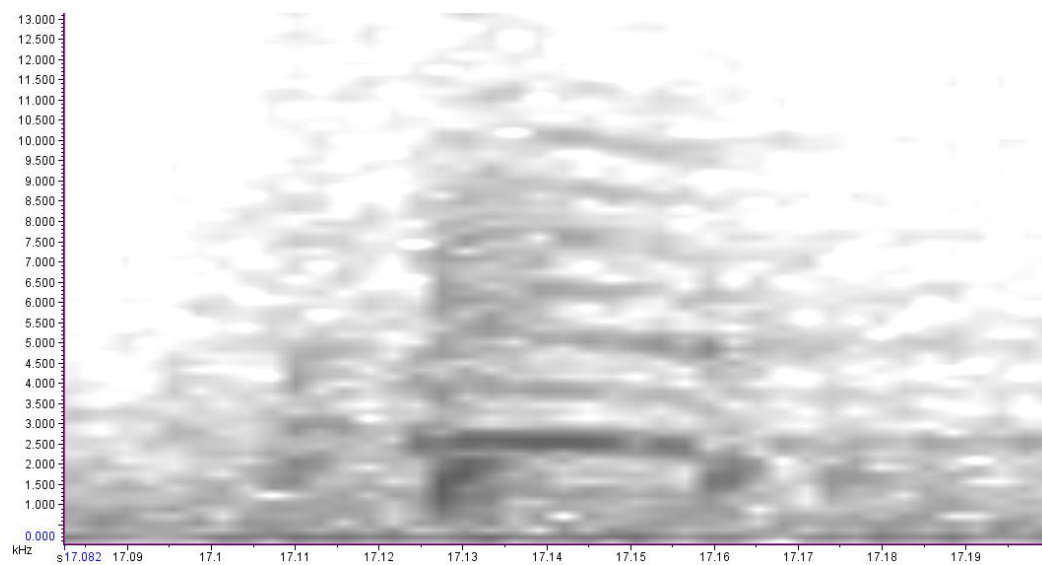


Song 21 - 005-2010-11-22 04_54_01. Common Caravan Bush, Pitt Island song.

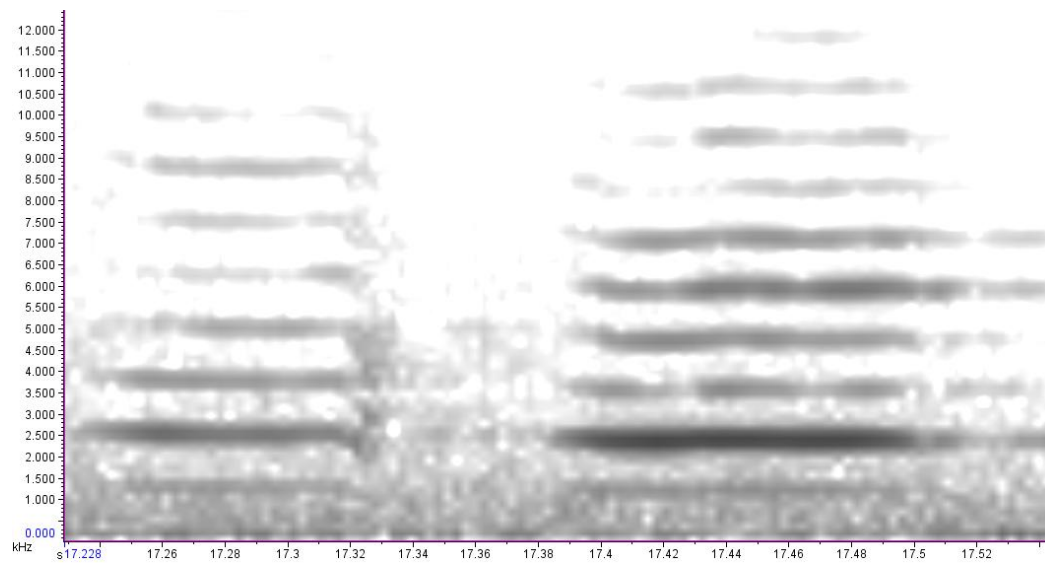
Repeated. Part of the ascending crescendo, but both syllables have different sound and structure, so considered different syllables.



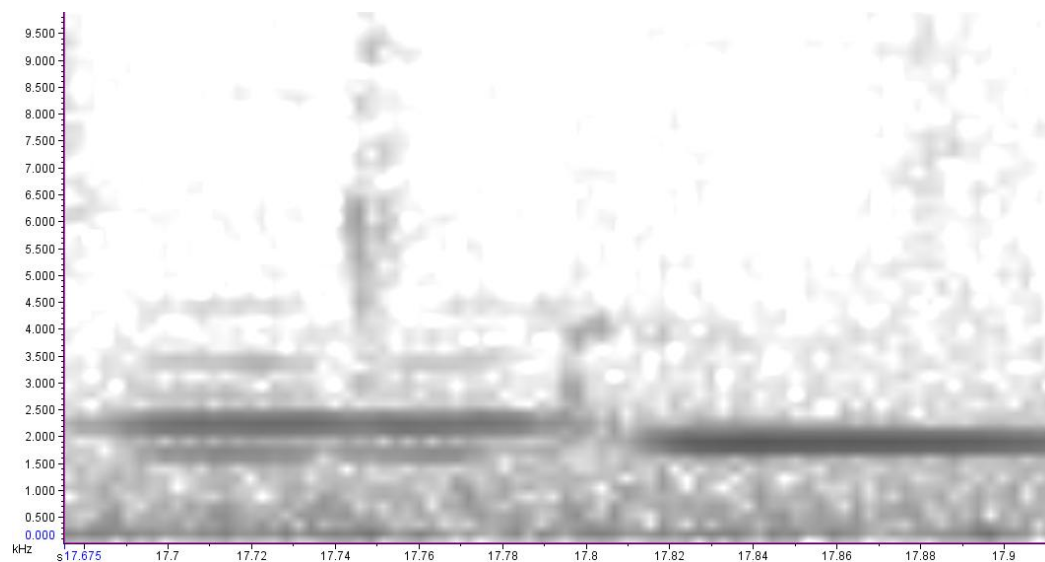
Repeated.



Repeated. Considered same syllable due to the identical nature of structure and sound. The only difference in sound is that the second one is sung at a slightly different frequency and is held slightly longer, than the first syllable 5.

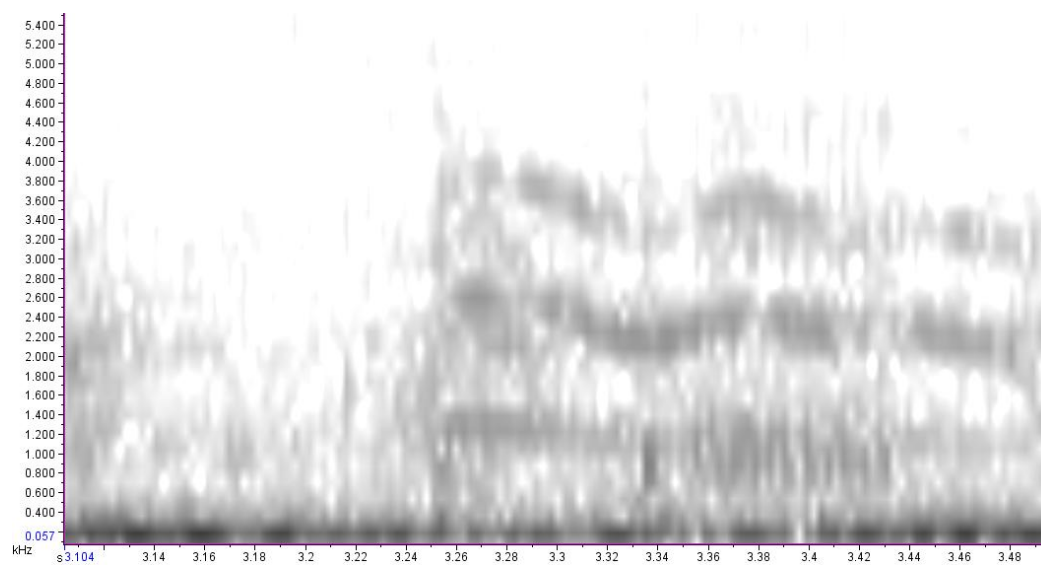


Syllables 156 and 157. Ending to this common Pitt Island song.

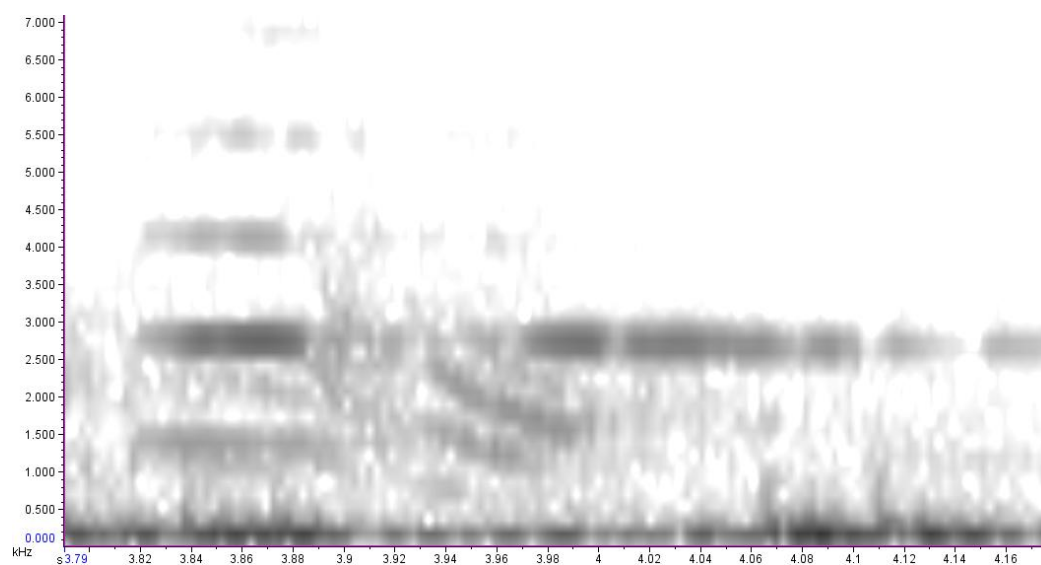


Song 22 - 005-2010-11-22 04_21_57. Flax Bowl, Summit Track, Rangatira.

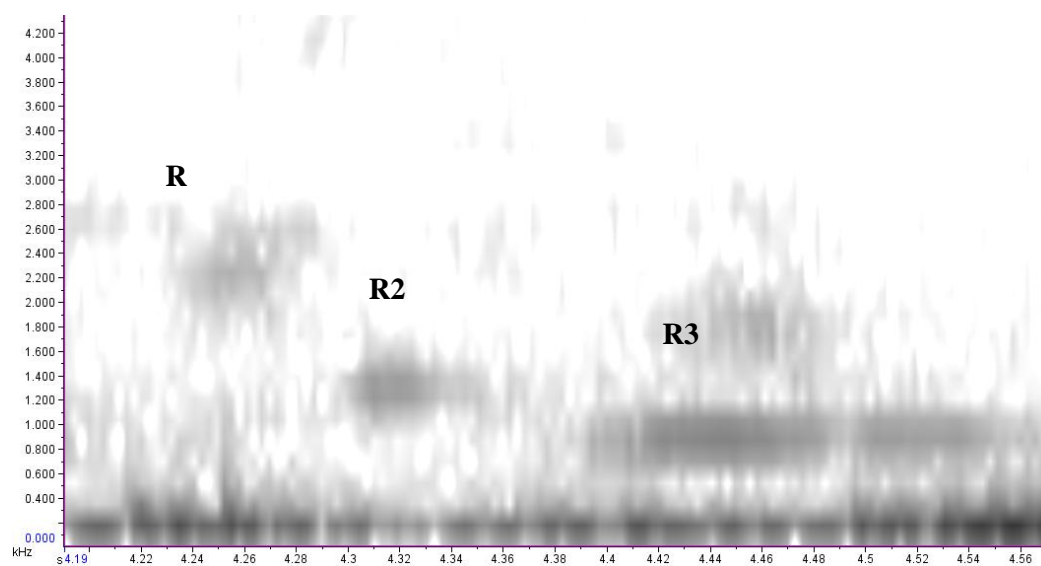
Syllable 158.



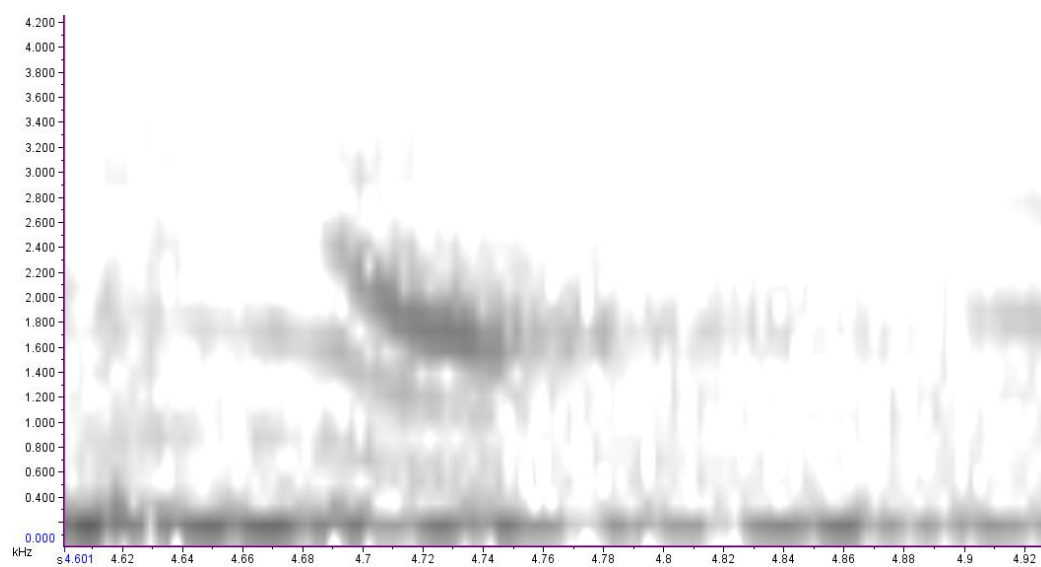
Repeated x2



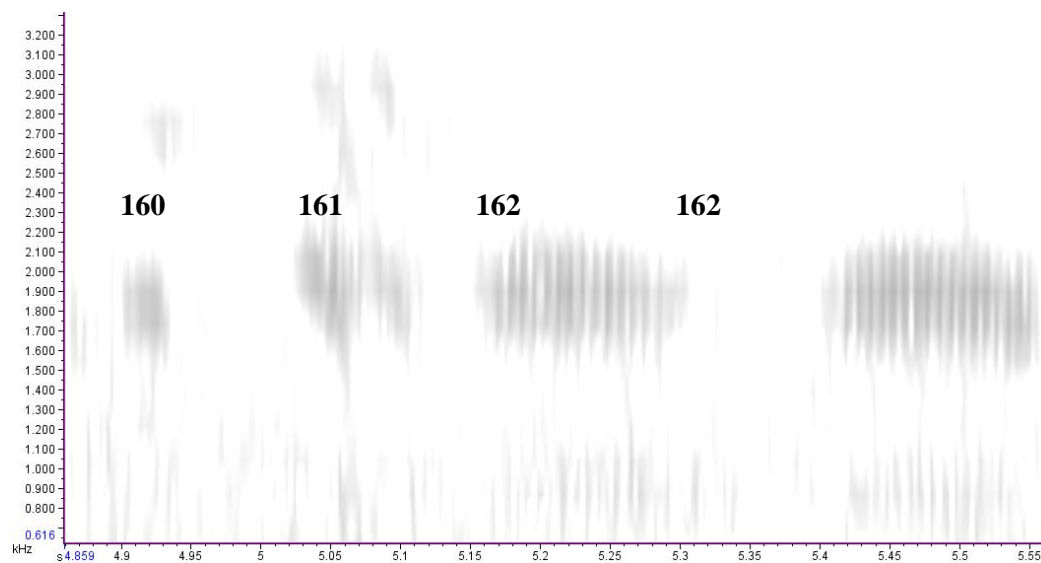
Repeated x3. The 'ABBA' syllables.



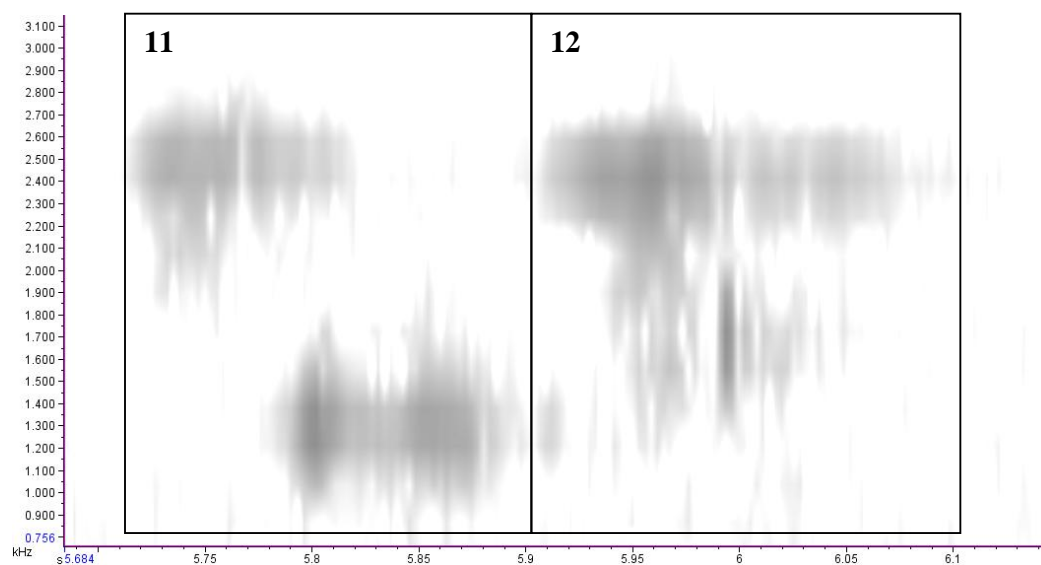
Syllable 159.



Syllables 160-162.

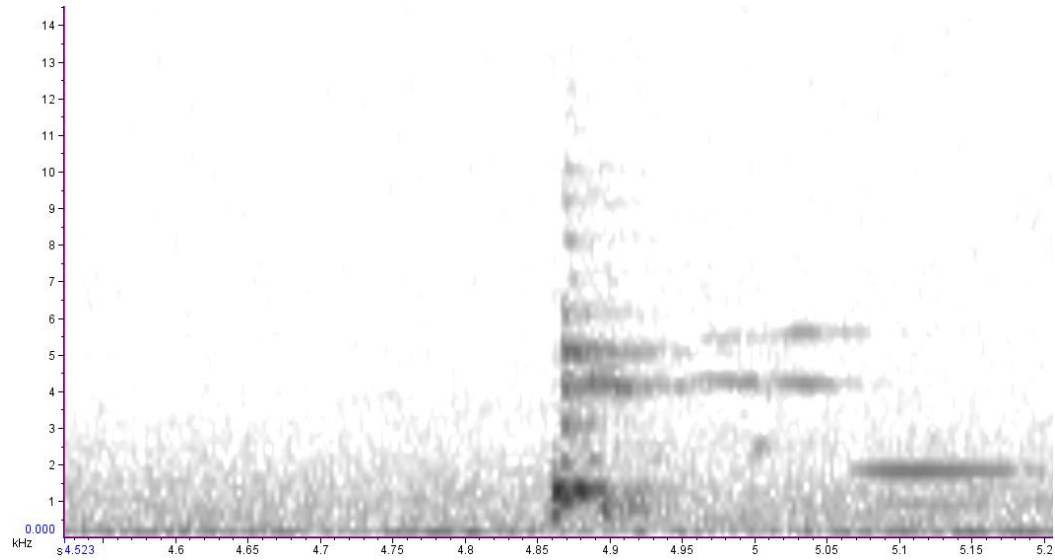


Syllable 163 and 164.

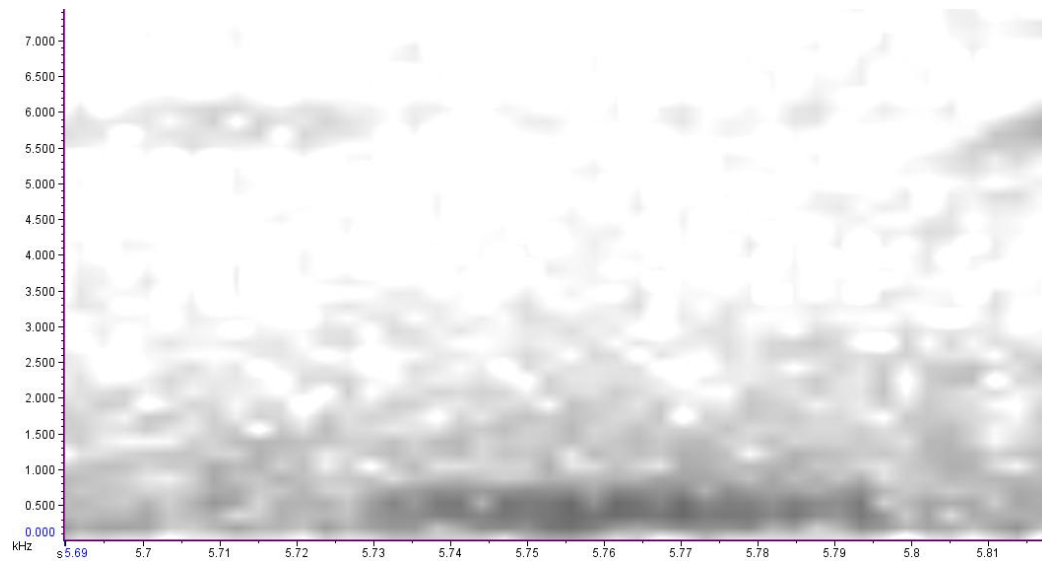


Song 23 - 002-2010-11-22 03_34_35. West Landing, Rangatira. Territorial.

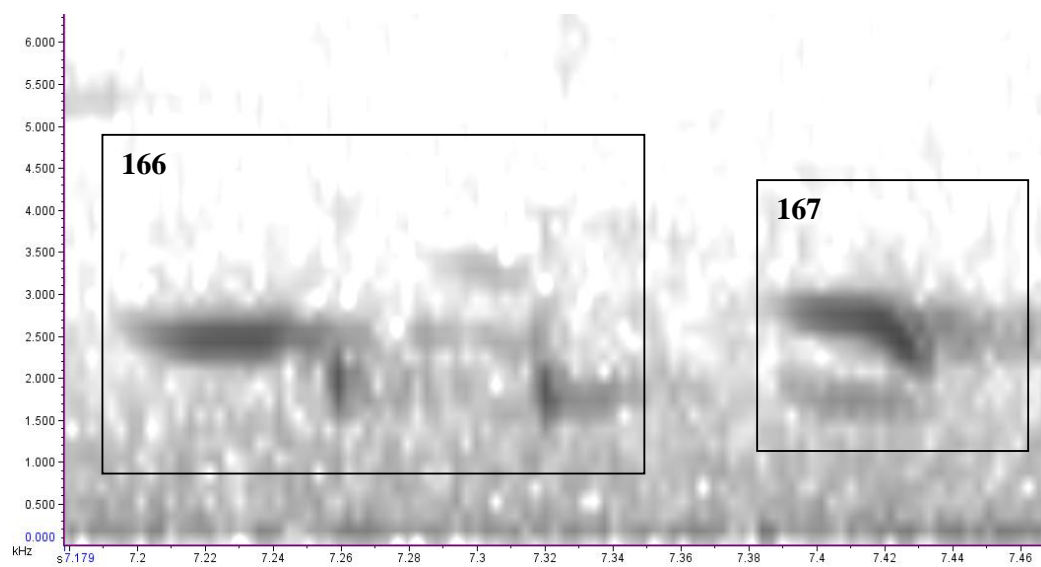
Repeated x2



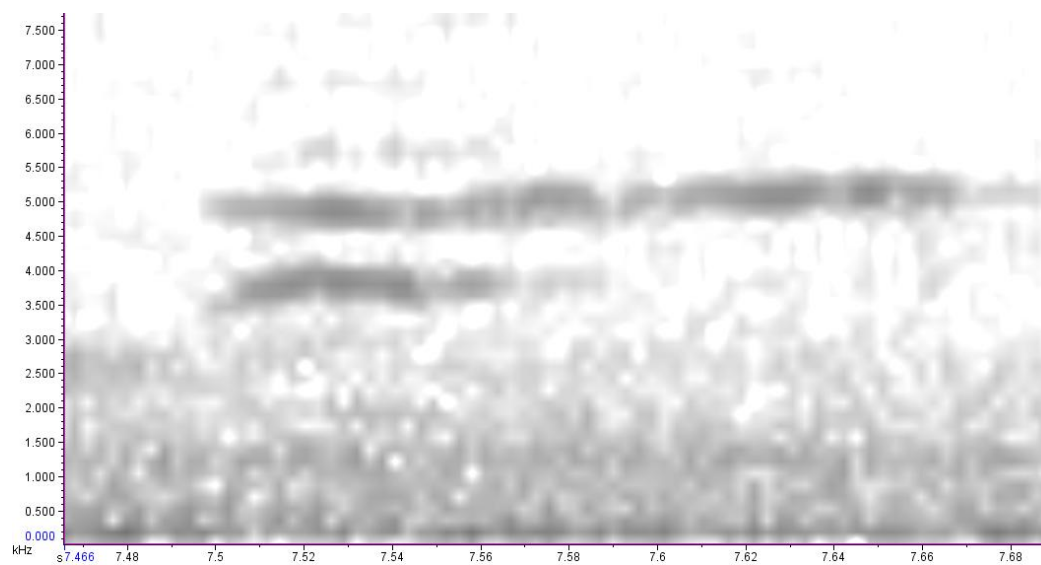
Syllable 165. Very low frequency sound unit.



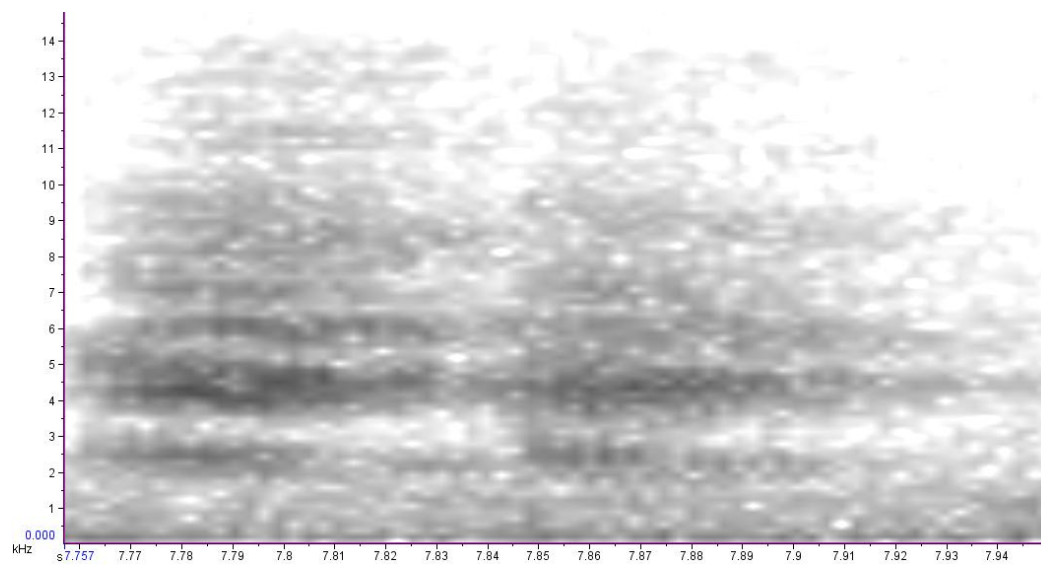
Syllable 166 and 167.



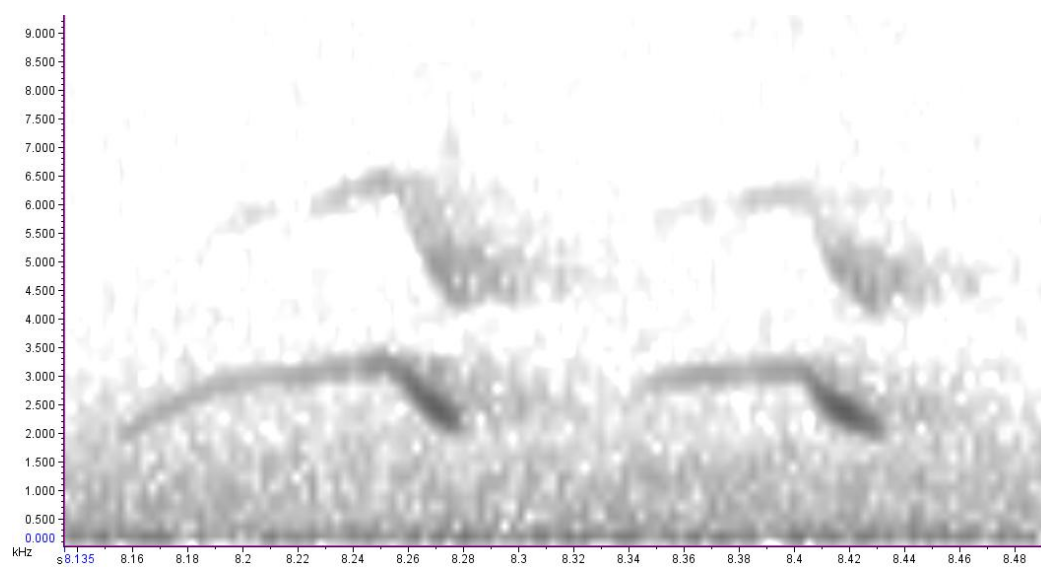
Syllable 168.



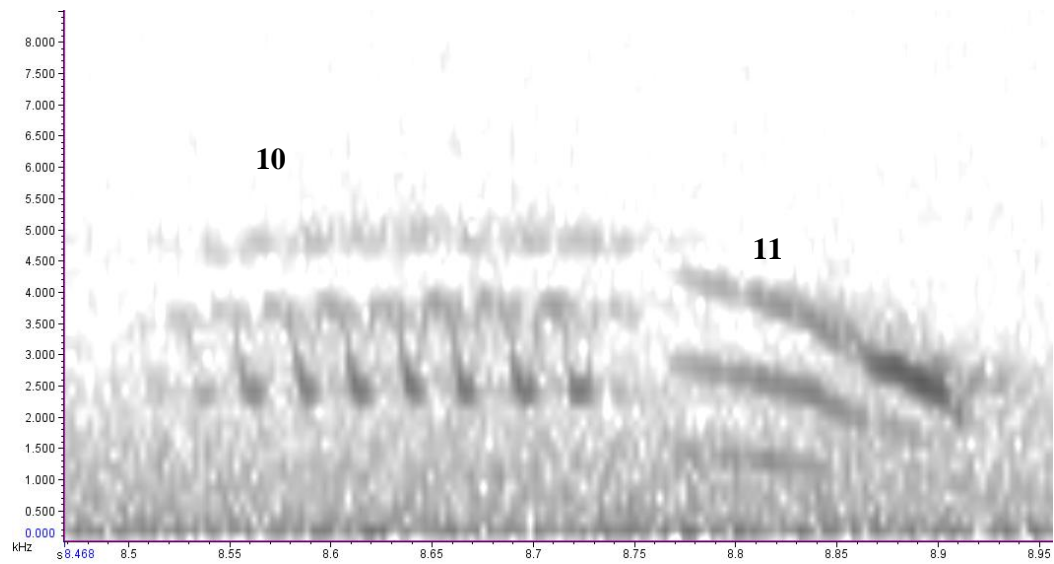
Syllable 169.



Repeated

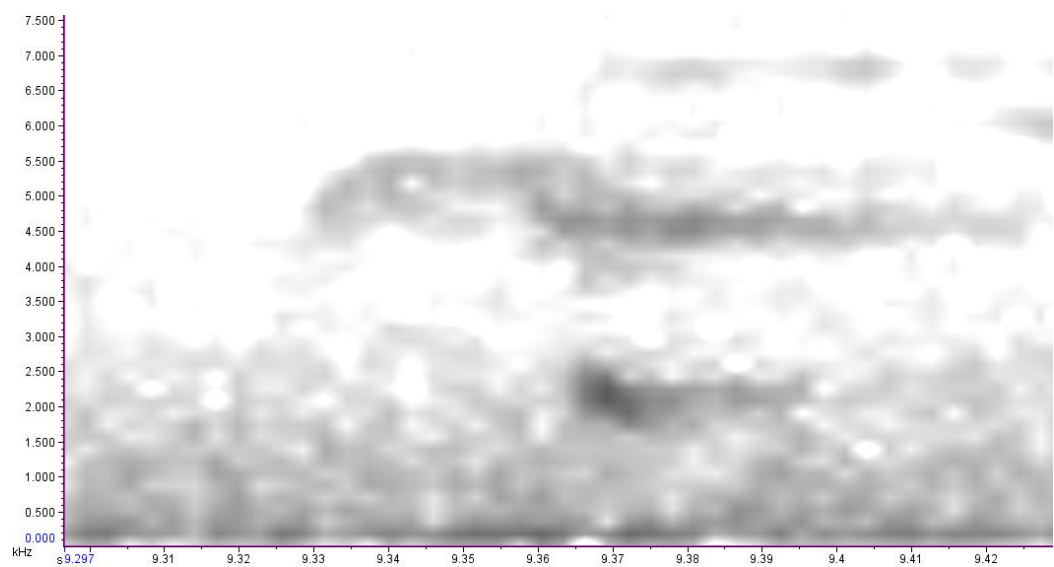


Repeated x2

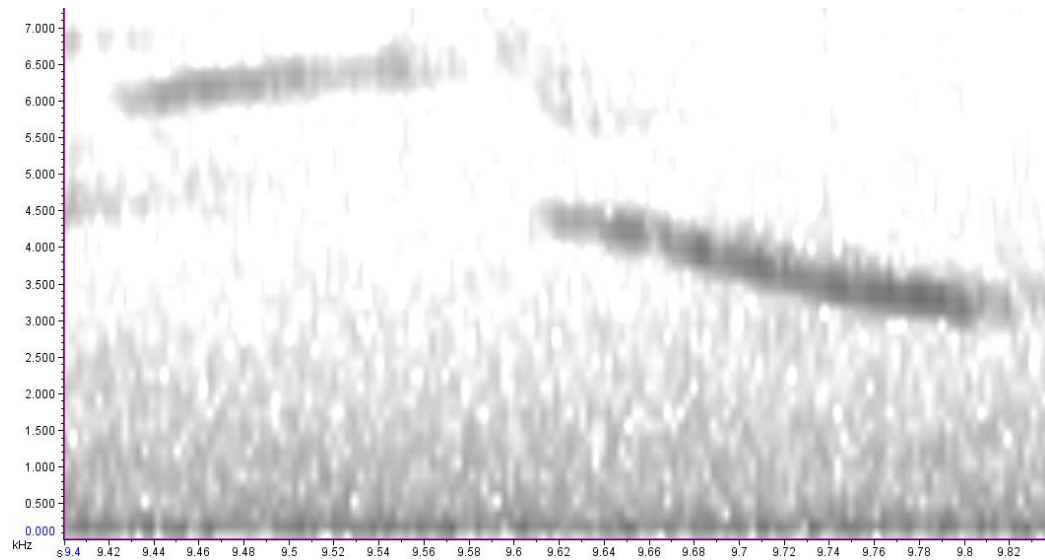


Syllable 300

Syllable 170.

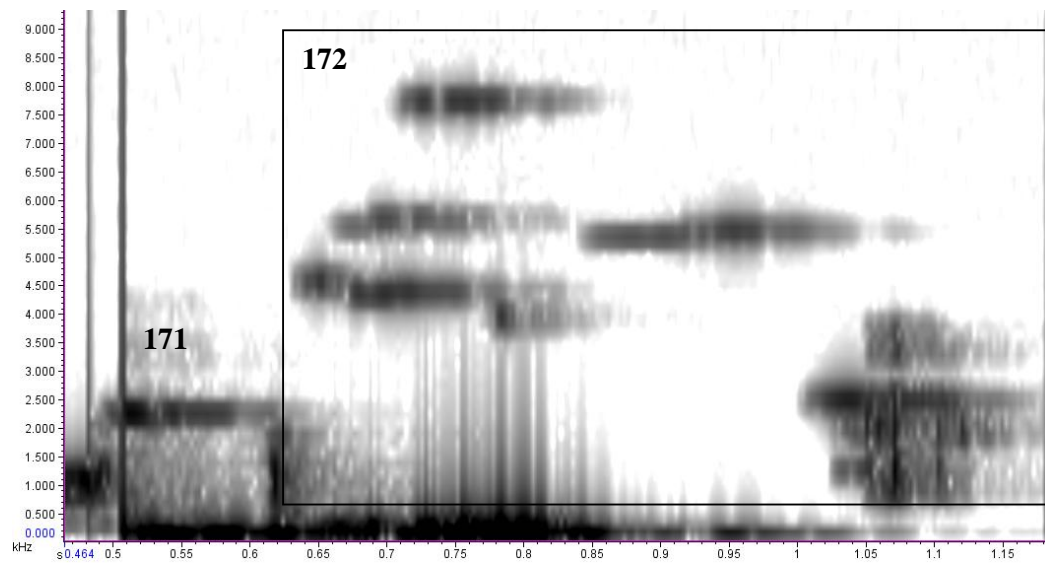


Repeated x2

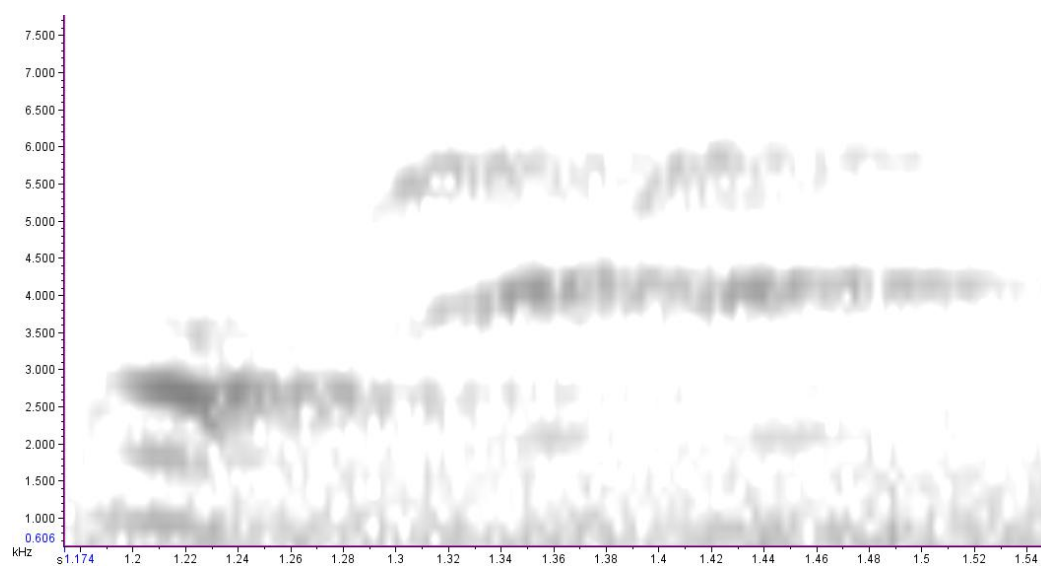


Song 24 - 004-2010-11-22 06_45_40.

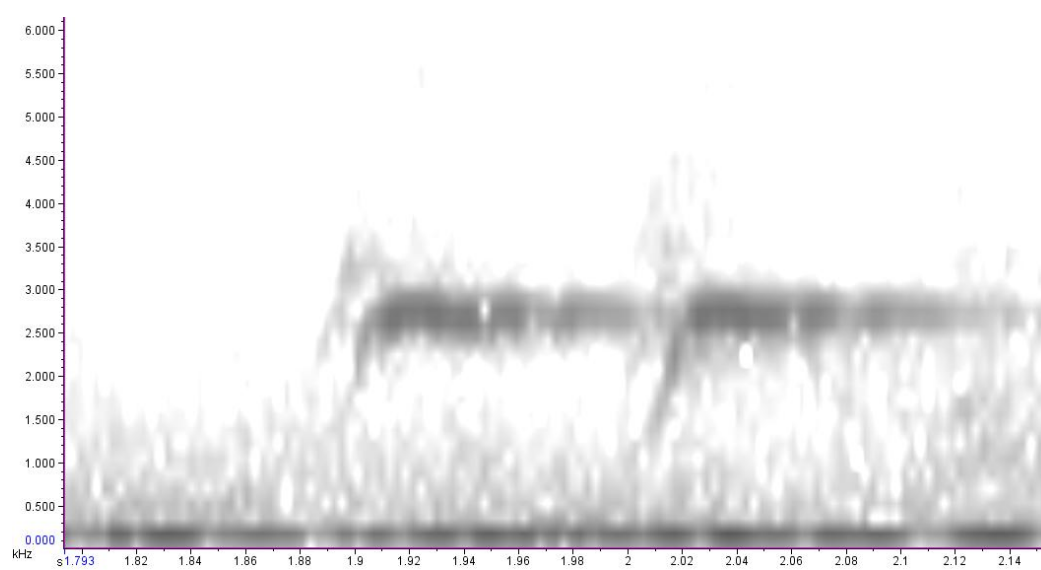
Syllables 171 and 2. Noise reduced using 'Audacity' (version 1.2.6) software. Syllable 2 considered just one syllable due to its overlapping components.



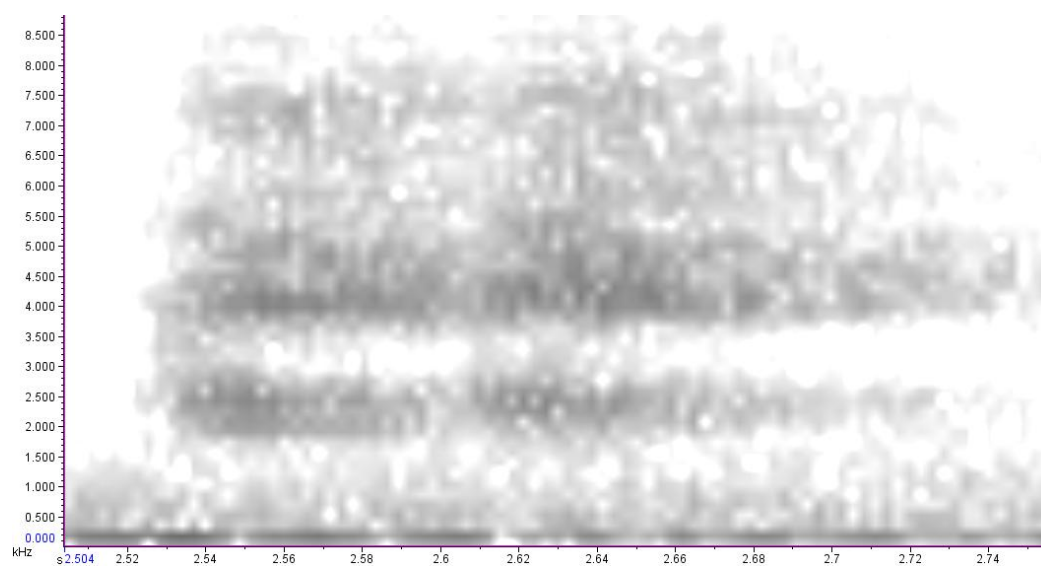
Repeated x2



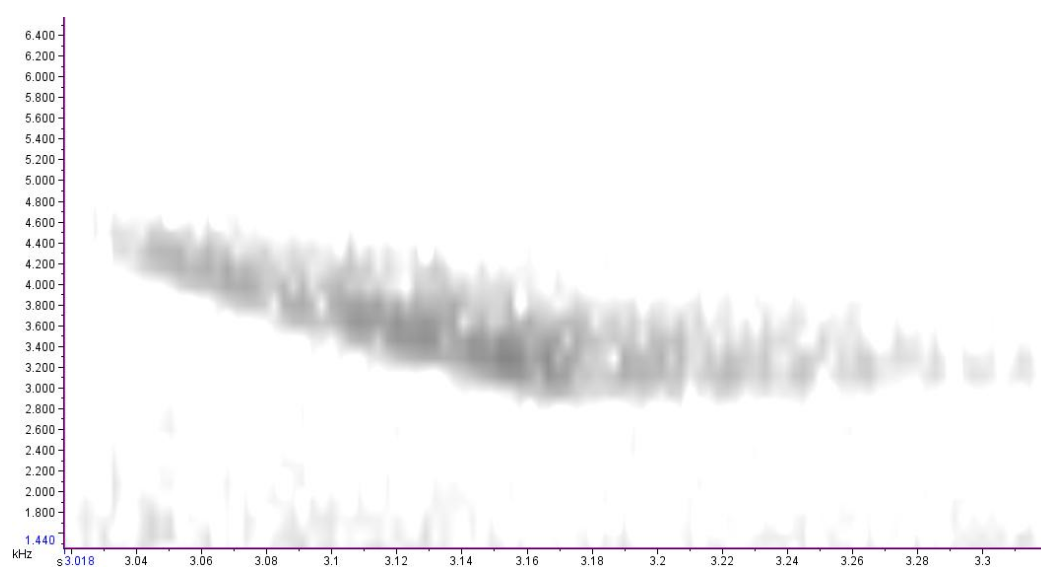
Syllable 173.



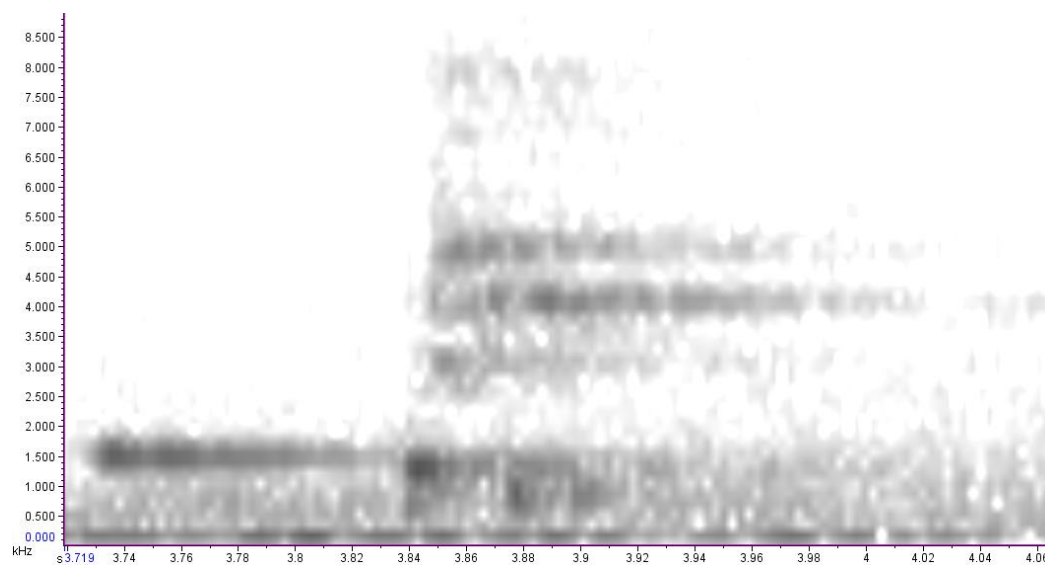
Repeated



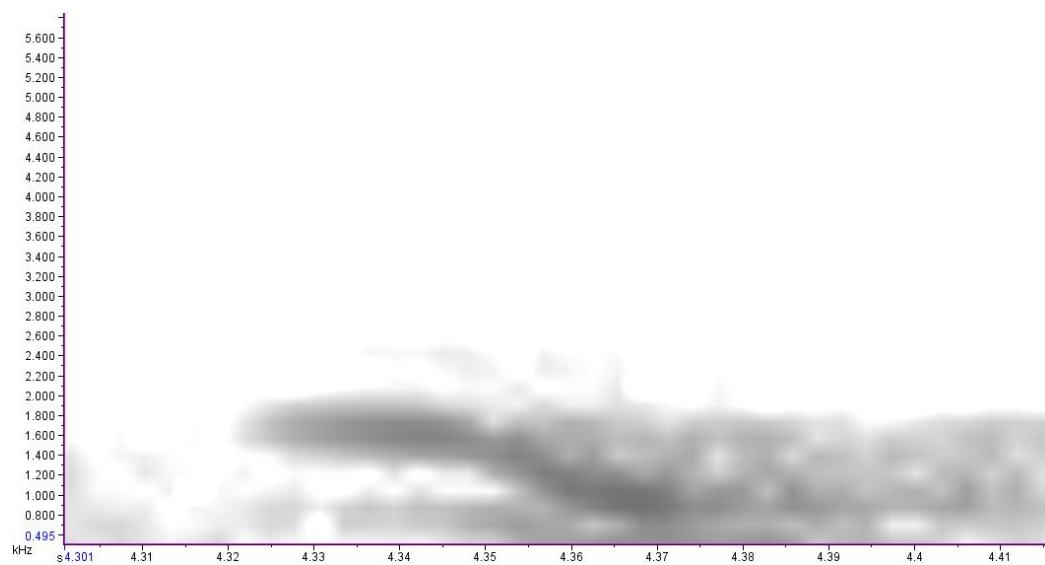
Syllable 174.



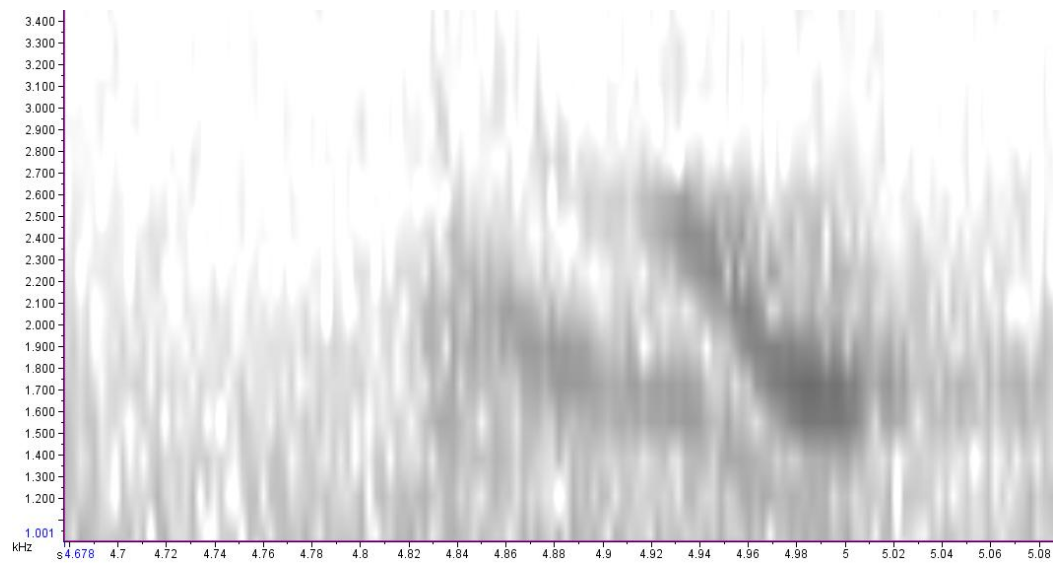
Repeated x2



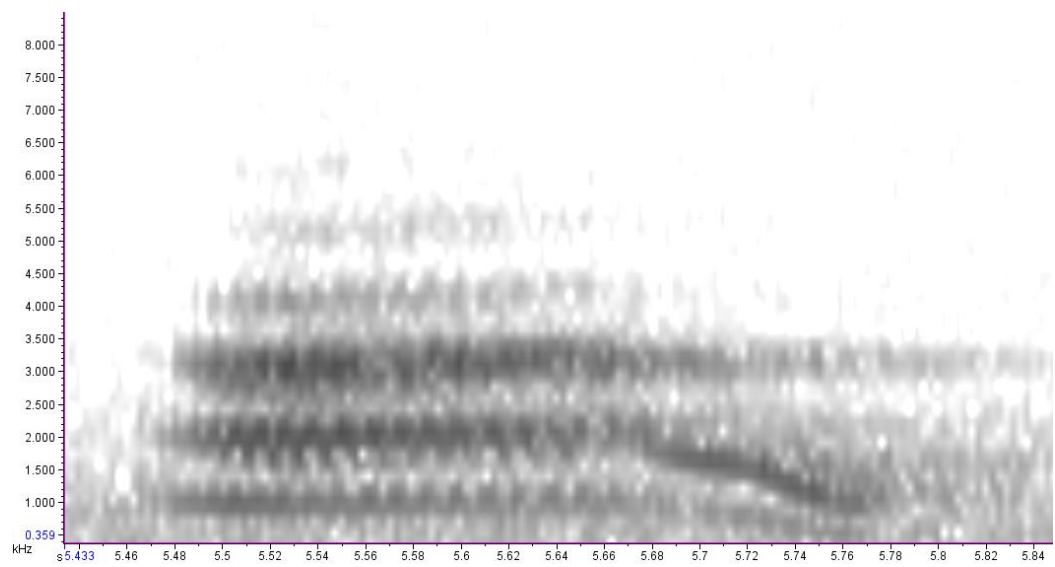
Syllable 175.



Repeated

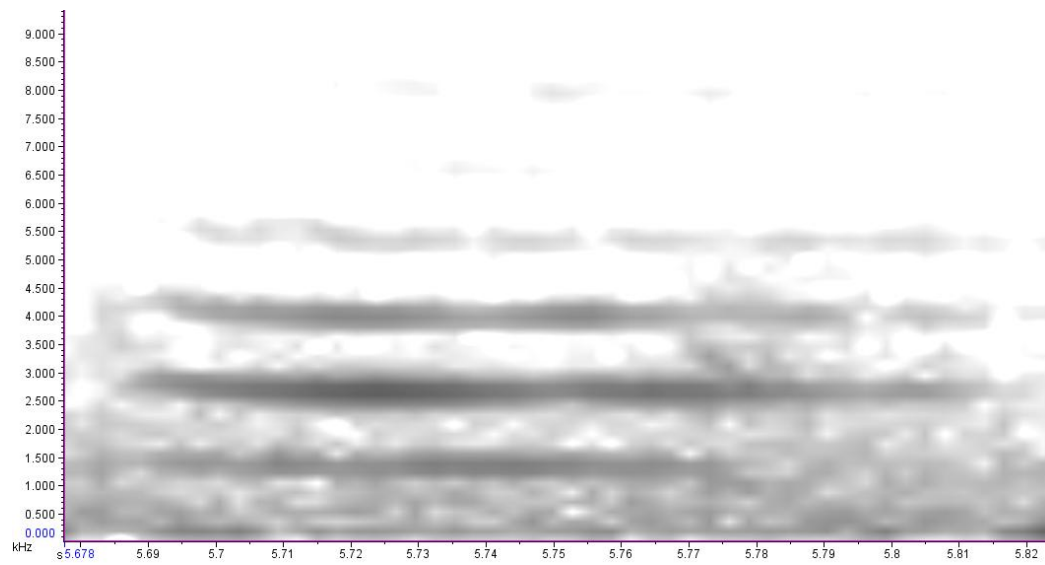


Repeated

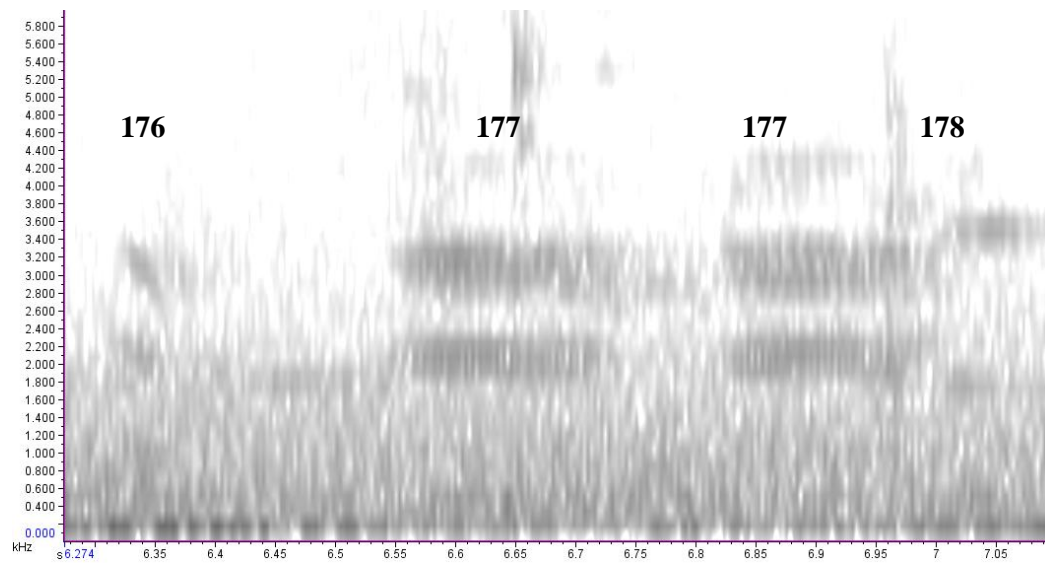


Song 25 - 005-2010-11-22 06_03_12.

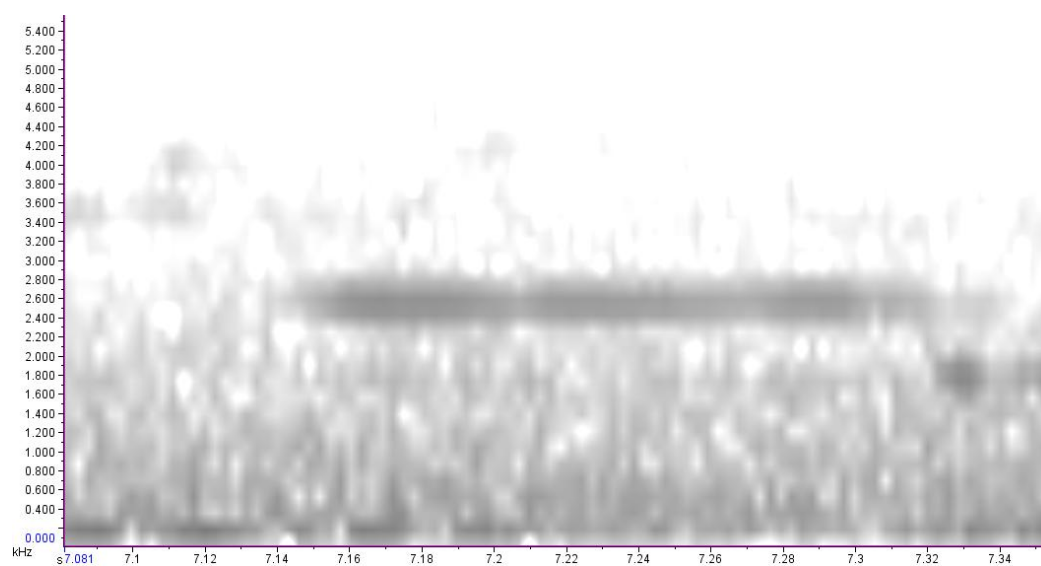
Repeated



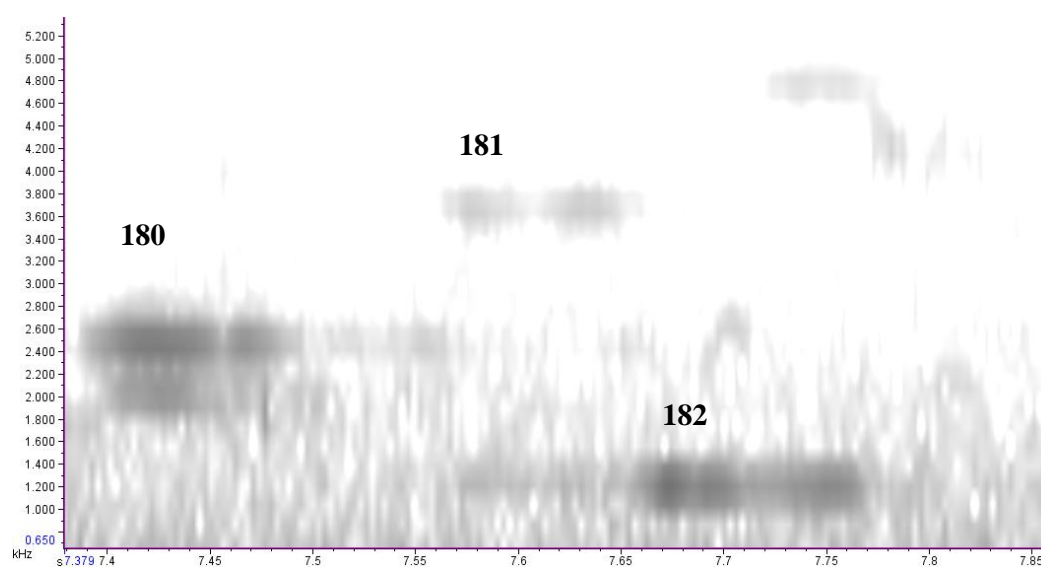
Syllable 176-178.



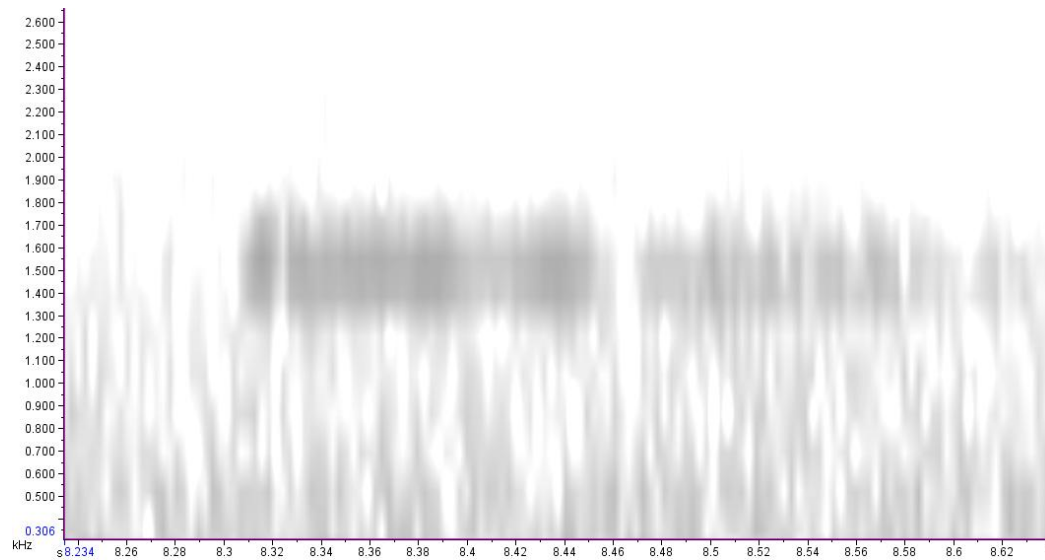
Syllable 179.



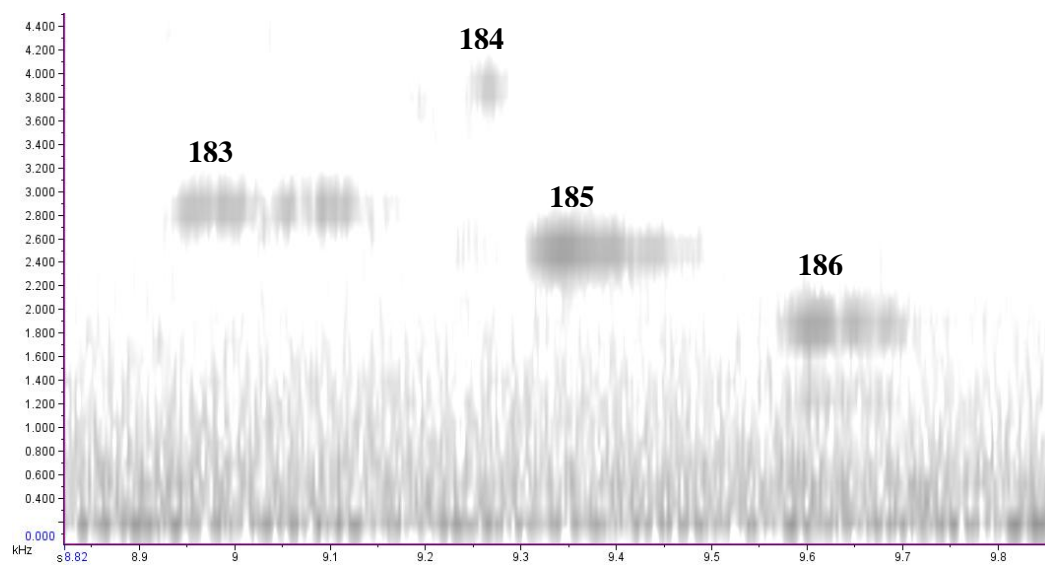
Syllable 180-182.



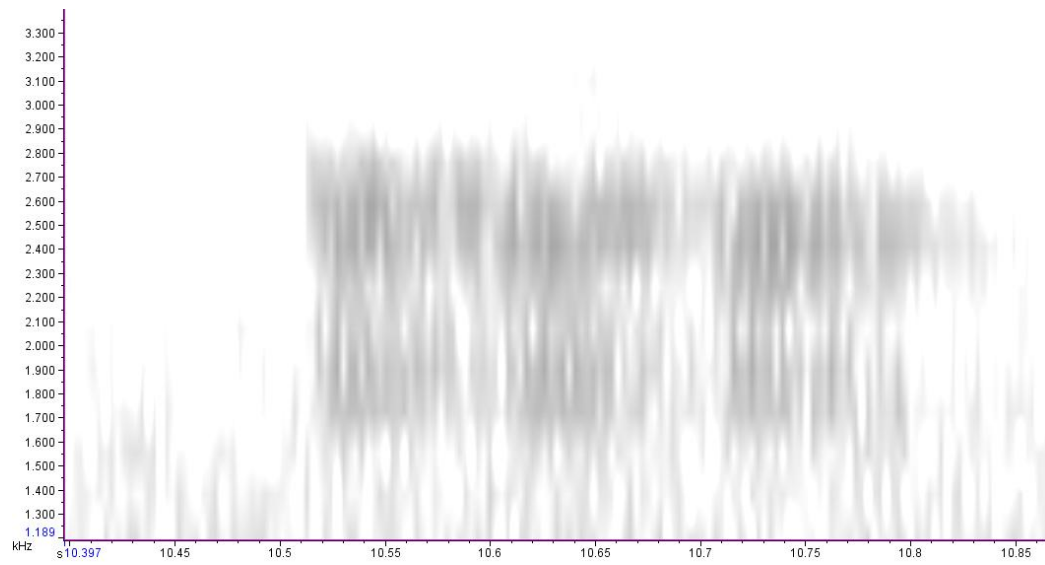
Repeated. Bell-like syllable heard at the end of many versions of the common West Landing song, Rangatira.



Syllables 183-186. These syllables are commonly heard together.

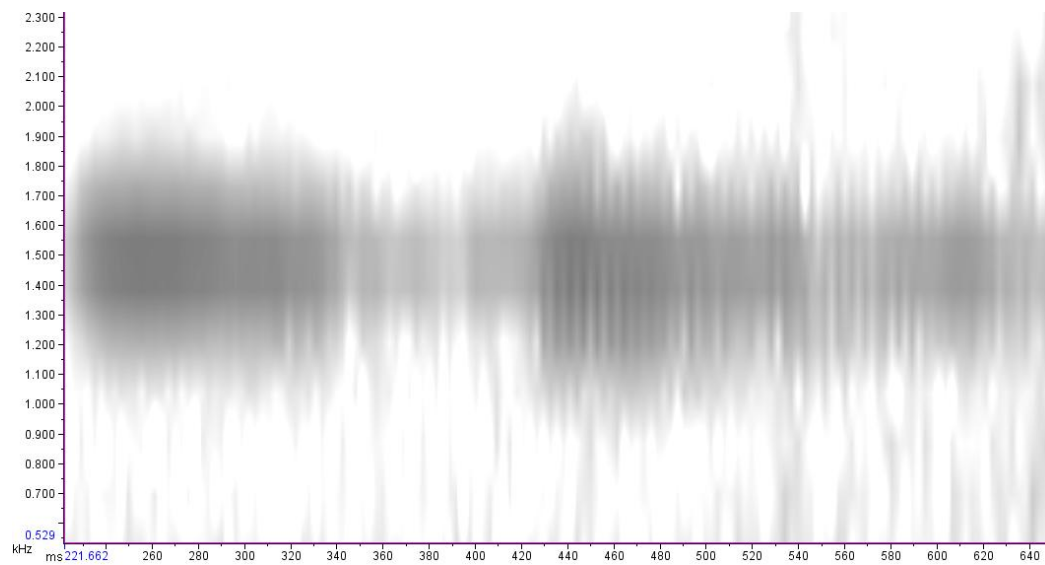


Syllable 187. An electronic triple-note sound unit.

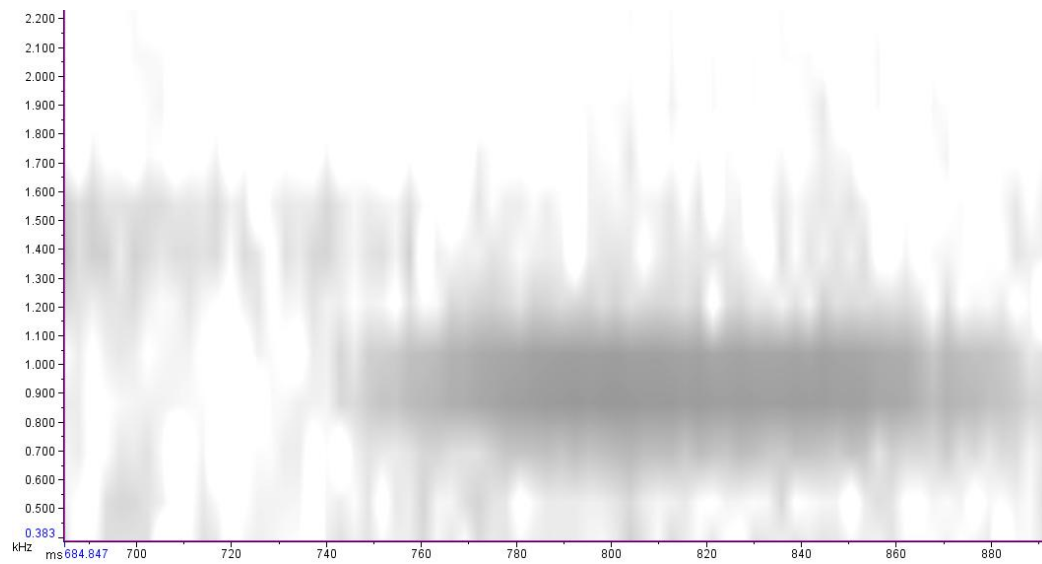


Song 26 - 005-2010-11-22 04_10_26.

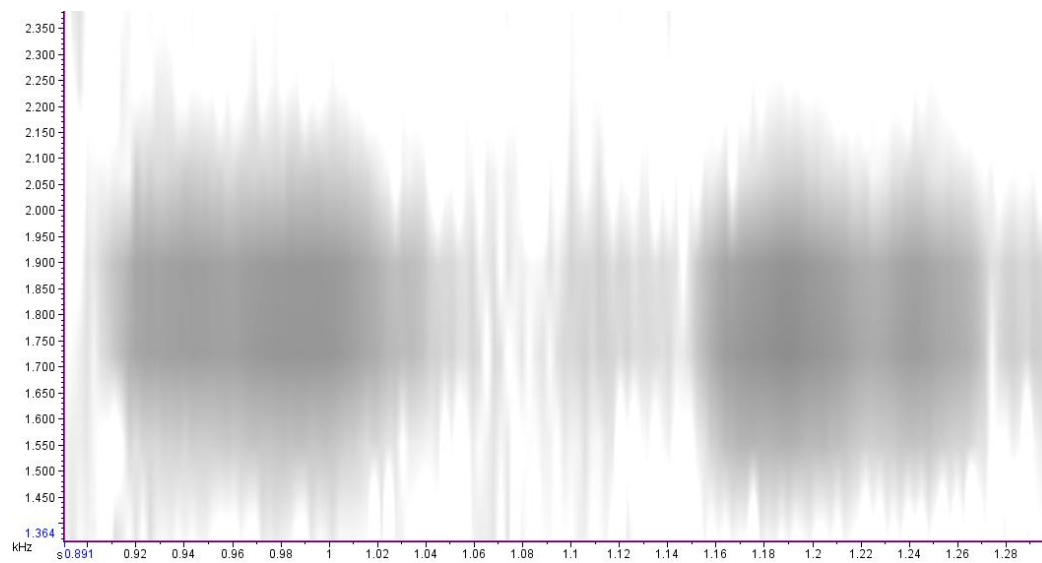
Syllables 188 and 189.



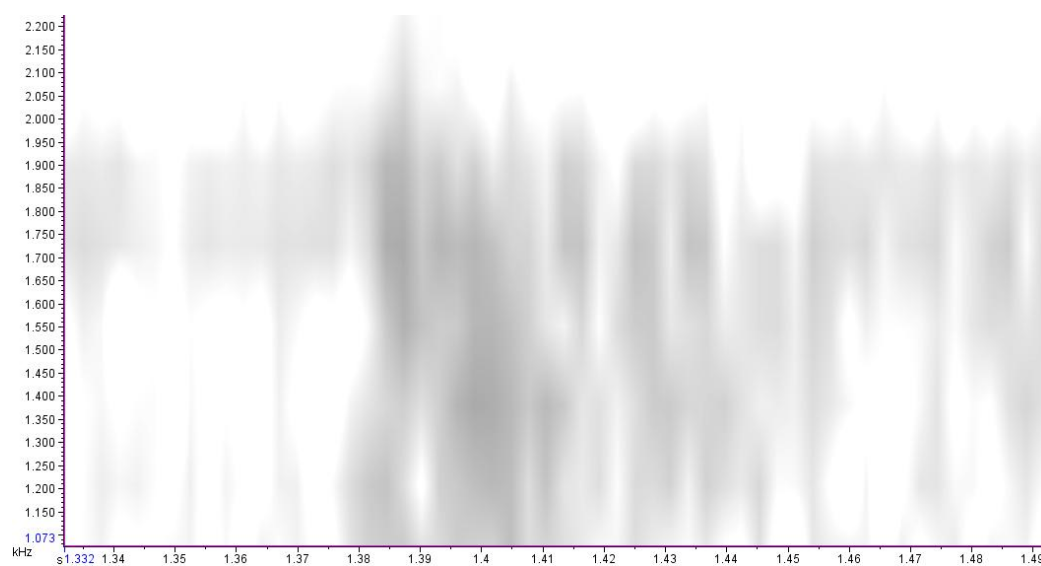
Syllable 190.



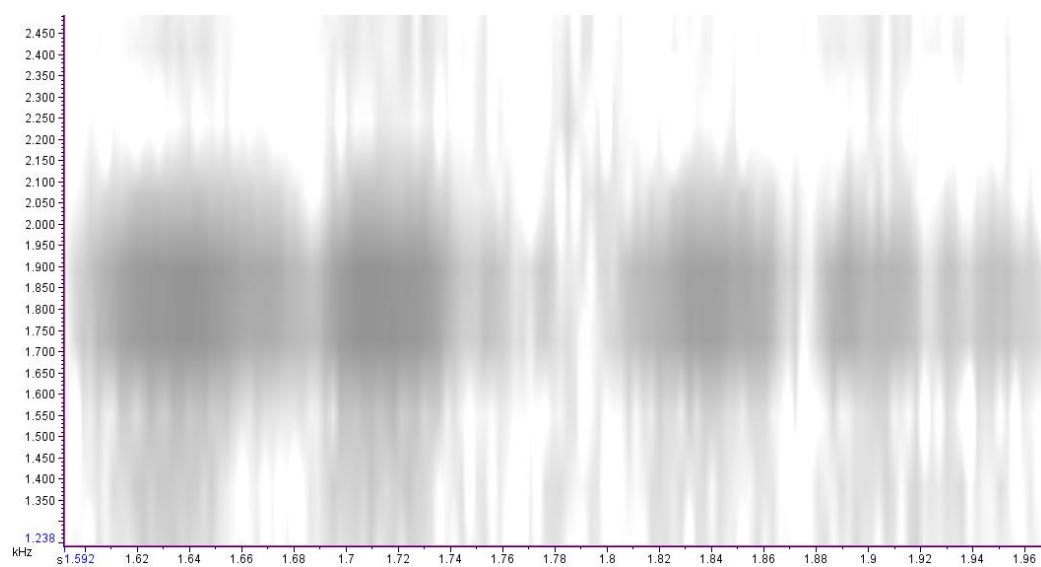
Syllable 191. 2 repeated syllable 4s here.



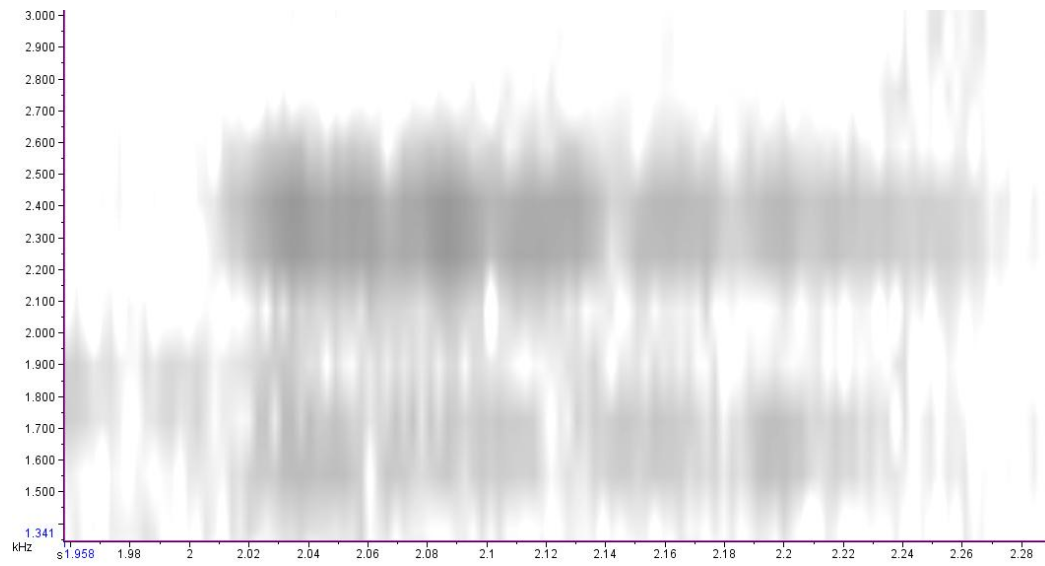
Syllable 192.



Syllable 193. Four repeated units.

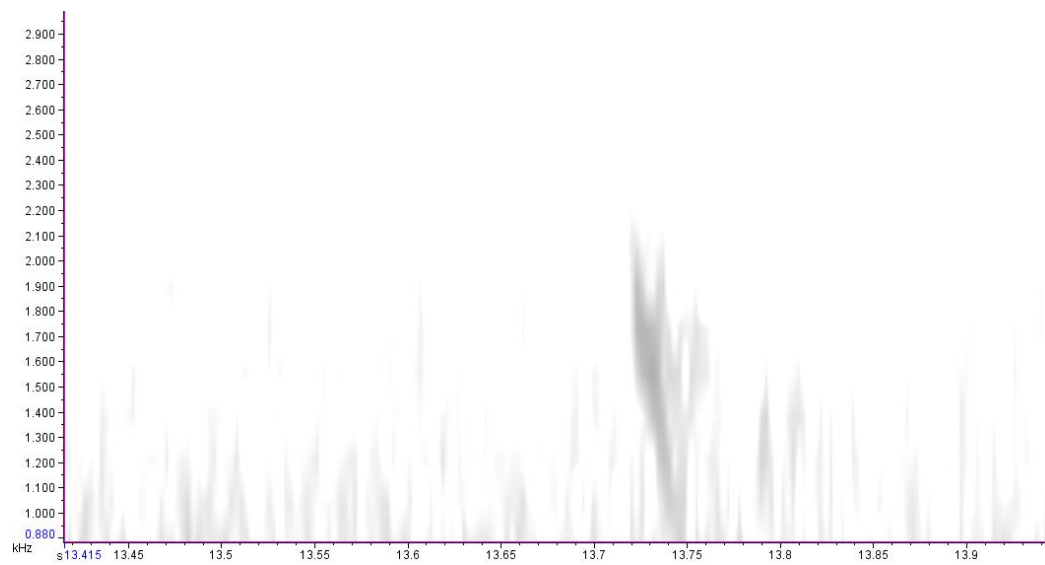


Syllable 194.

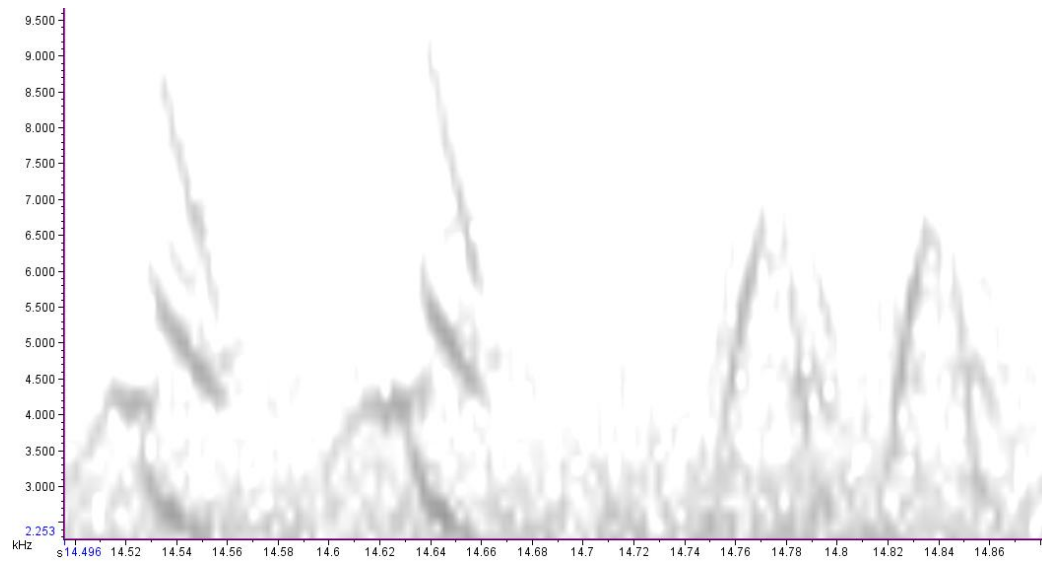


Song 27 - 001-2010-11-19 22_59_07. Female on the flax at Pitt Island.

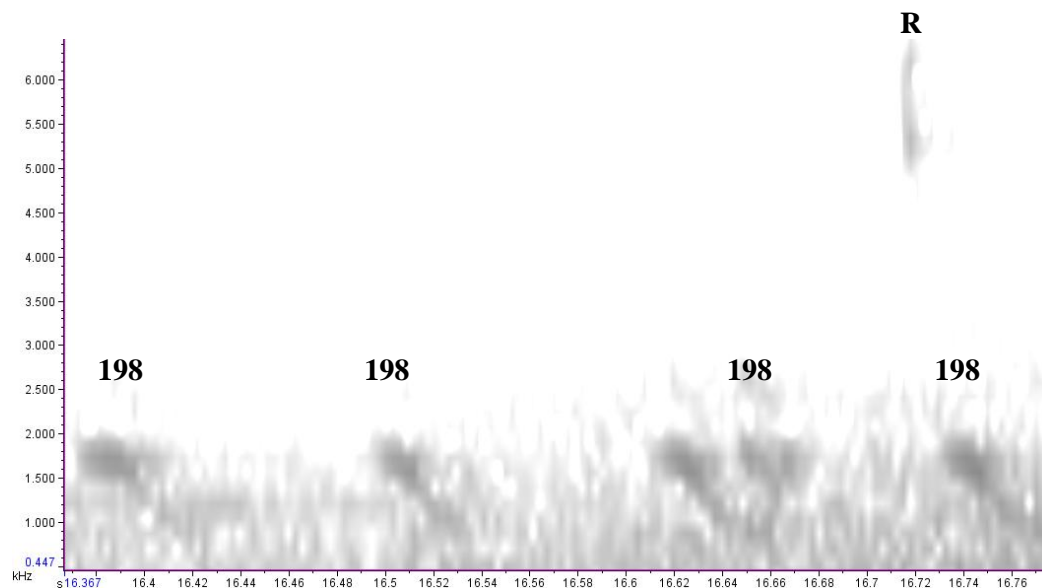
Syllable 195.



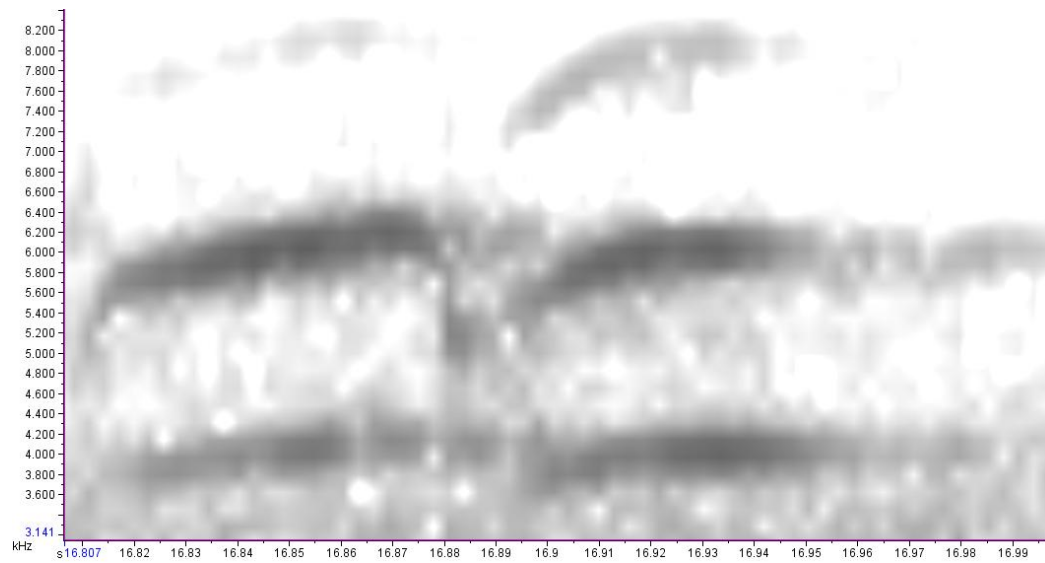
Syllables 196 and 197. 2 notes per syllable (or you could say 1 repeat of each syllable).



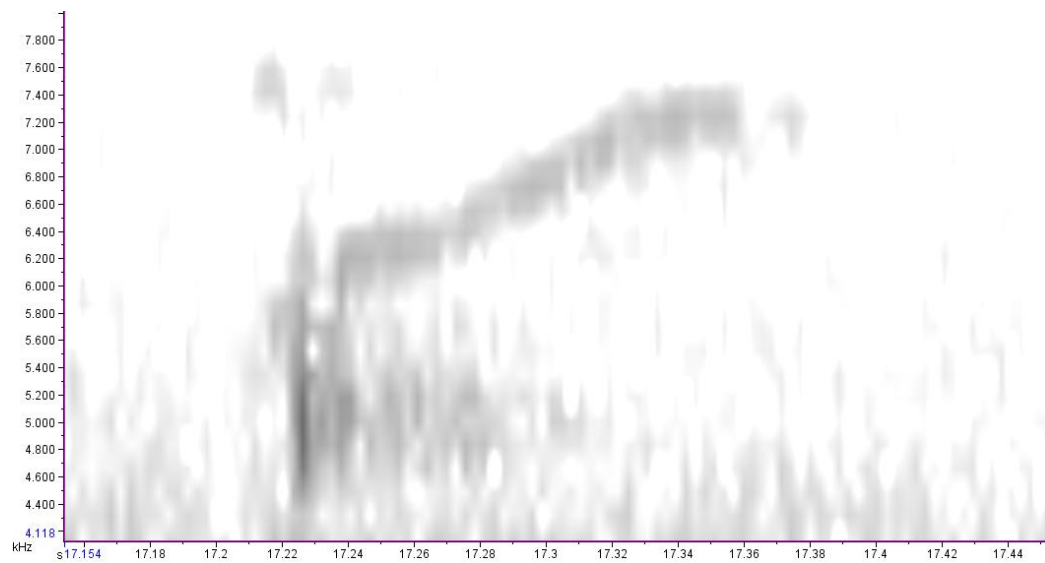
Syllable 198 and a repeated syllable.



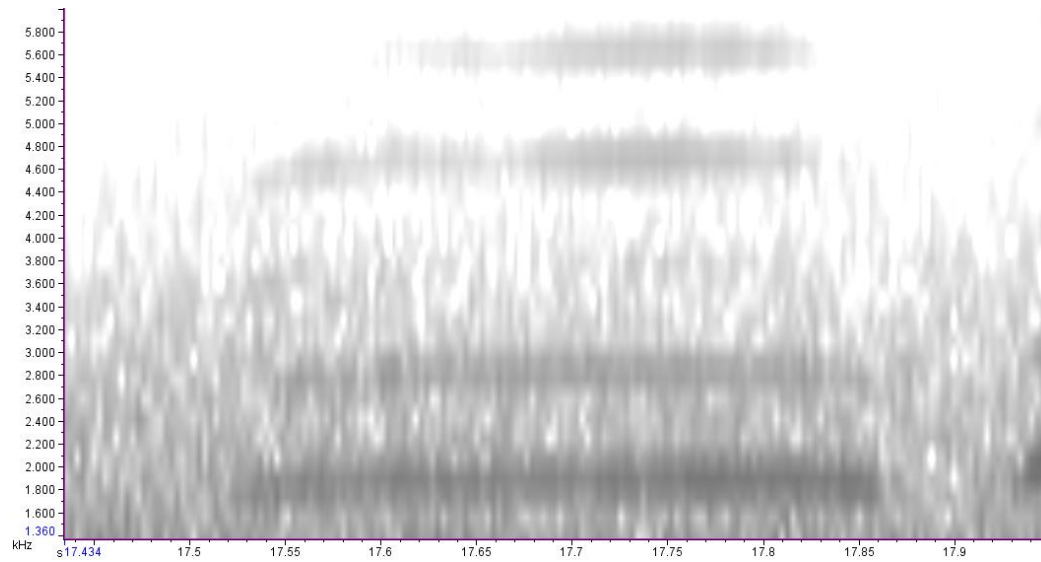
Repeated.



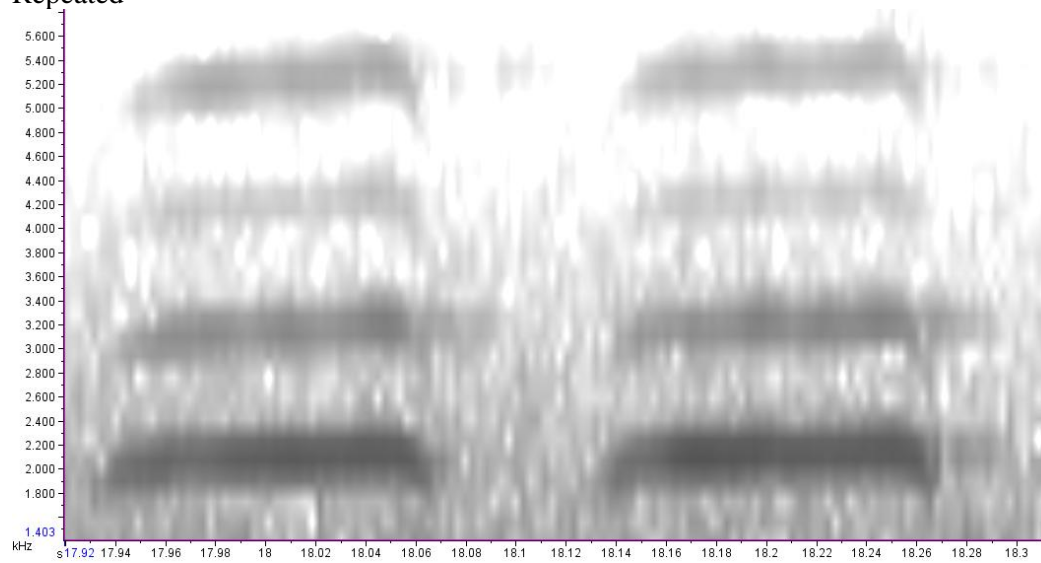
Repeated



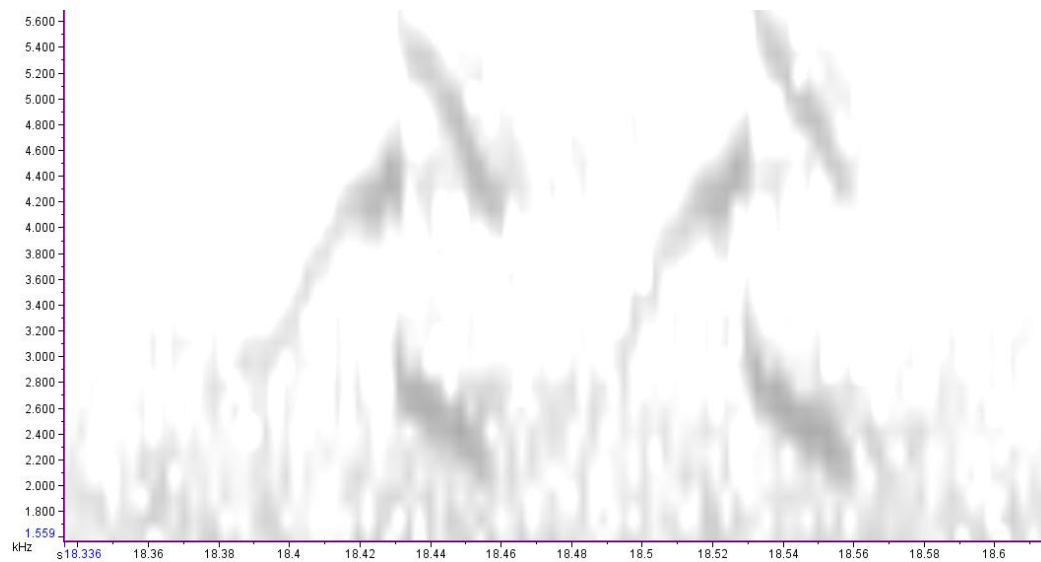
Repeated.



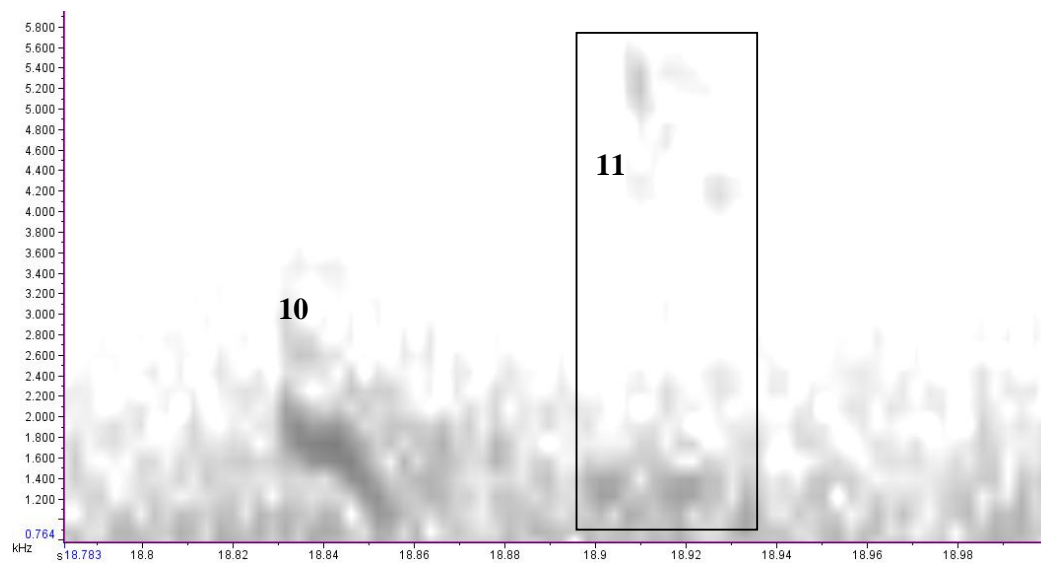
Repeated



Repeated. The running man.

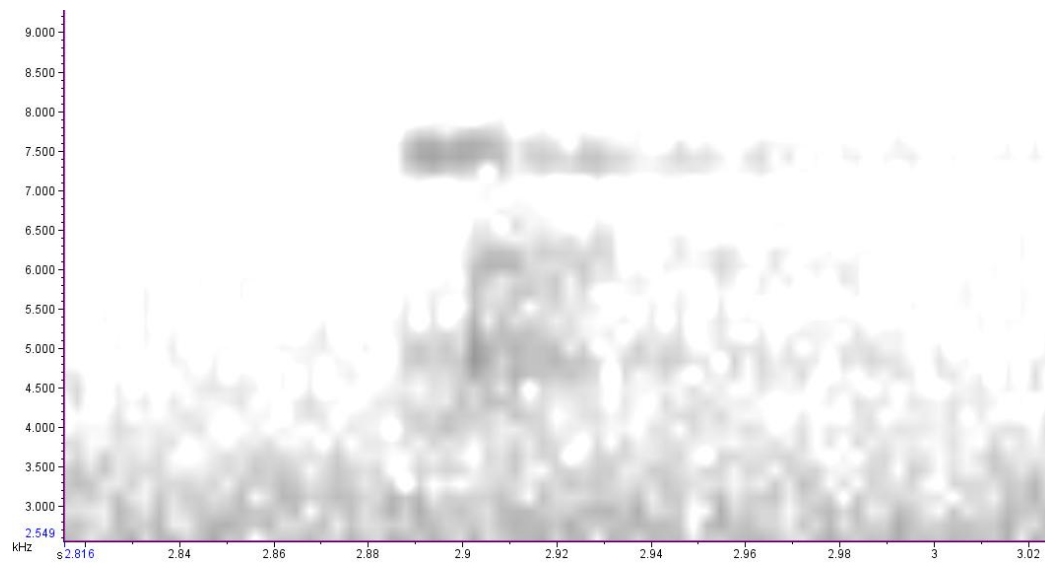


Repeated x2. Subtle syllables.

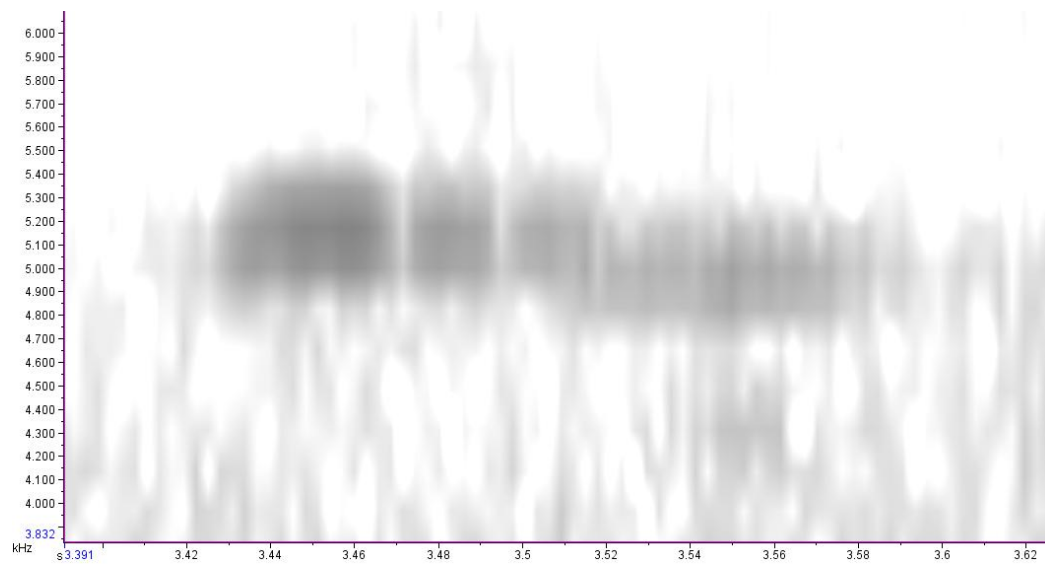


Song 28 - 001-2010-11-22 05_00_02.

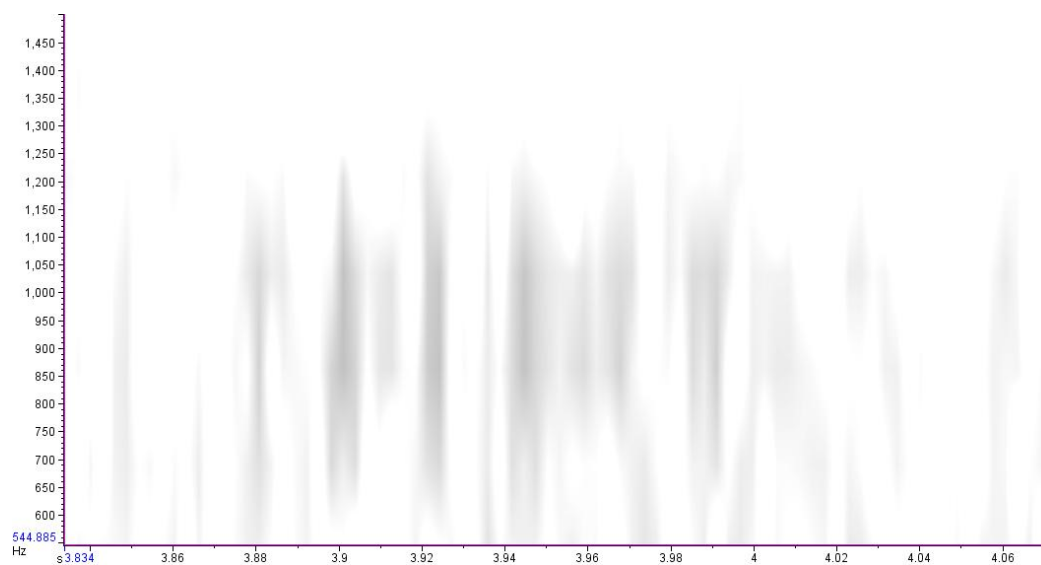
Syllable 199.



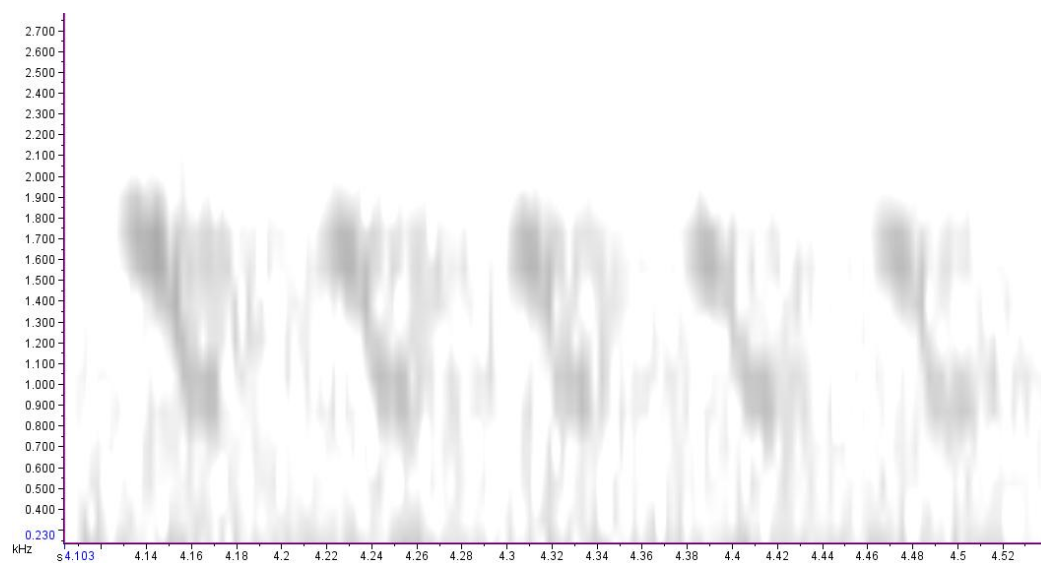
Syllable 200.



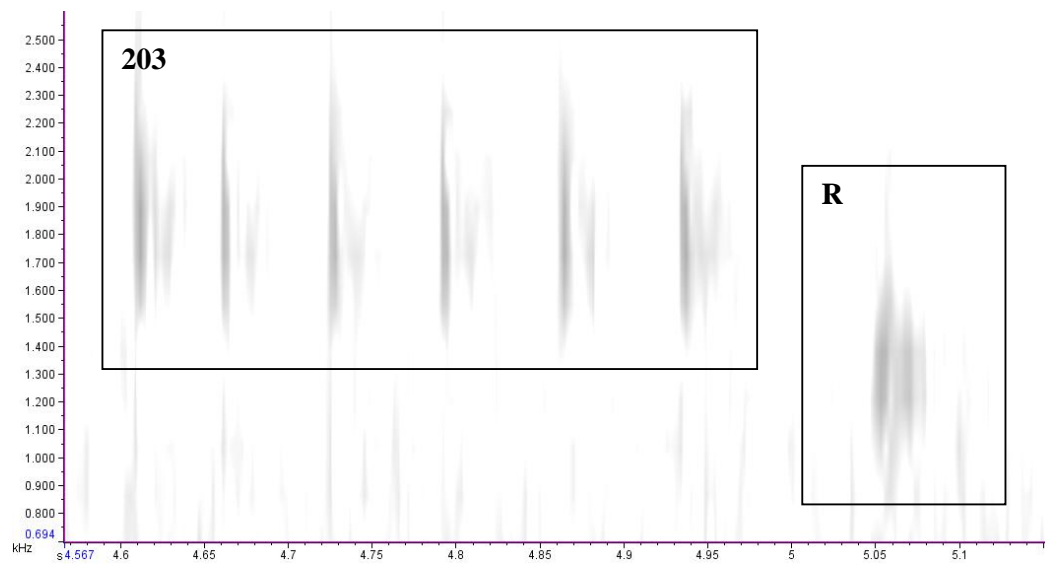
Syllable 201. Low-frequency syllable.



Syllable 202.

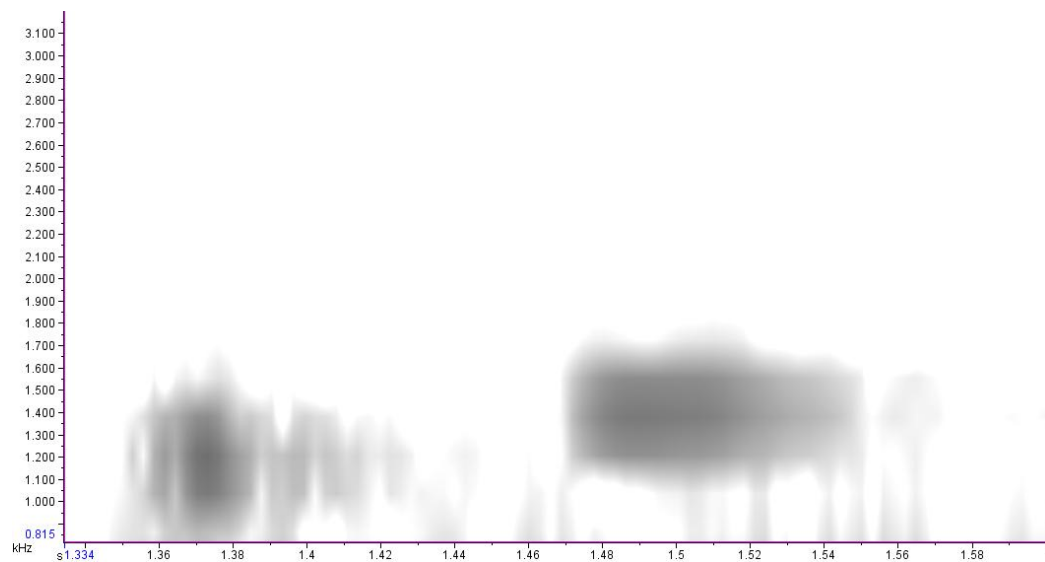


Syllable 203 and Repeated.

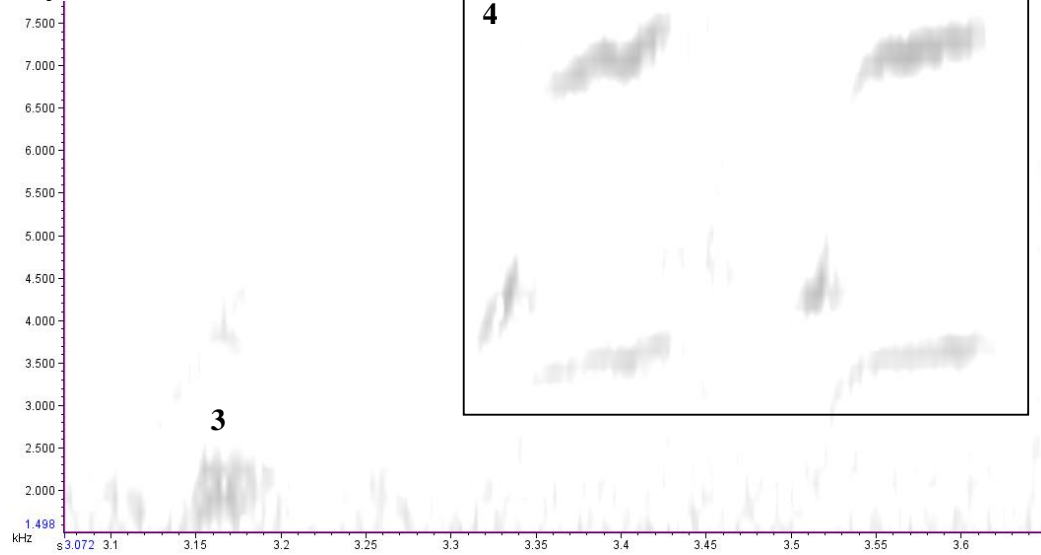


Song 29 - 001-2010-11-22 06_16_49. Highly territorial song at West Landing, Rangatira (male to male).

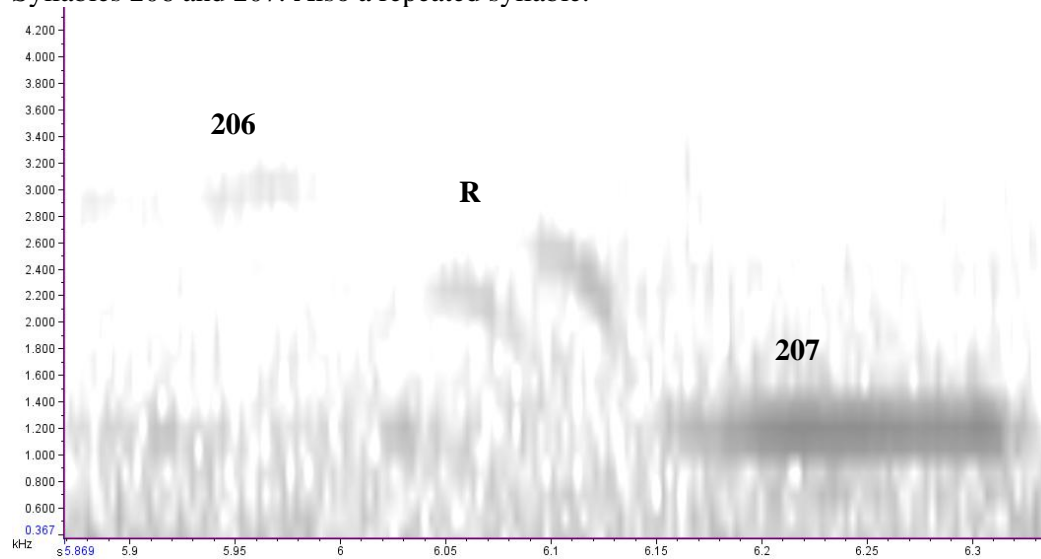
Syllable 204 and 205.



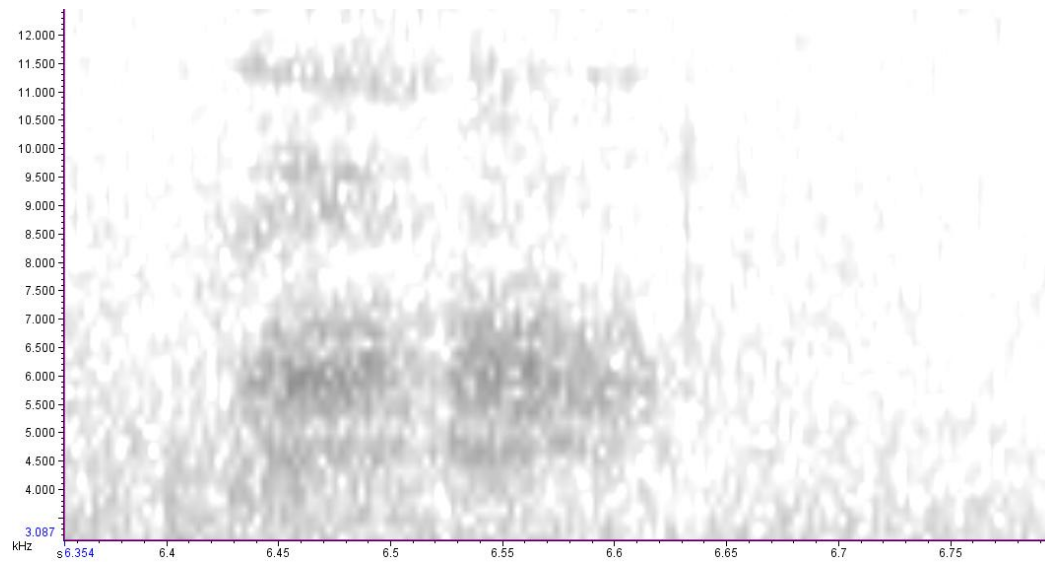
Repeated x2



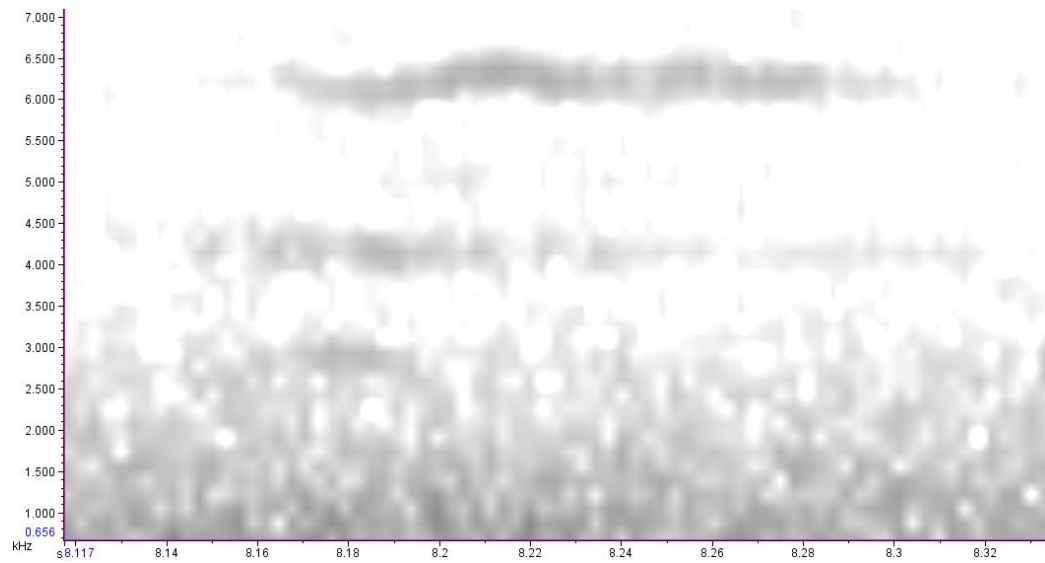
Syllables 206 and 207. Also a repeated syllable.



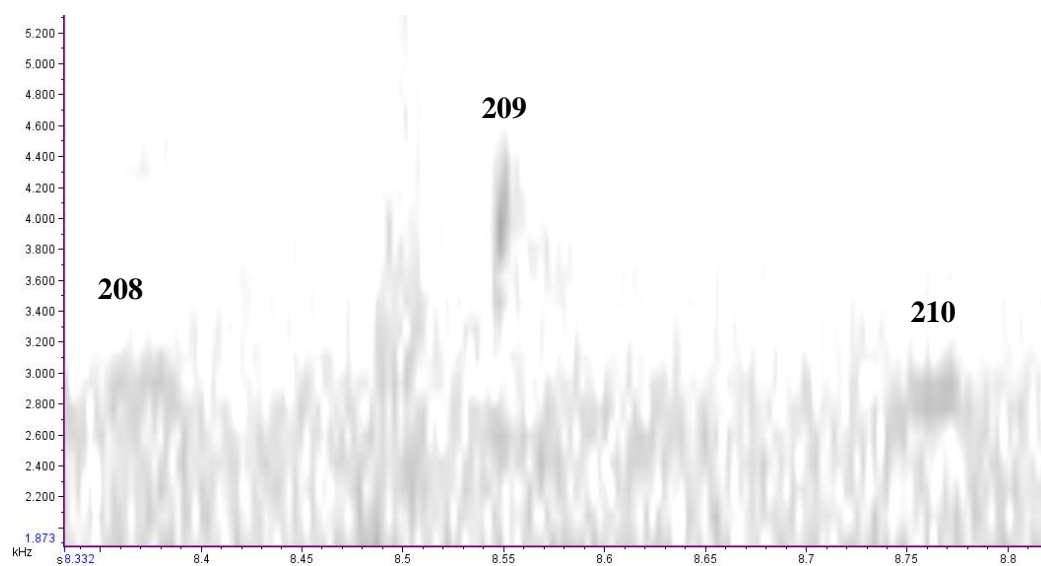
Repeated. A nice pair of maraca-like notes.



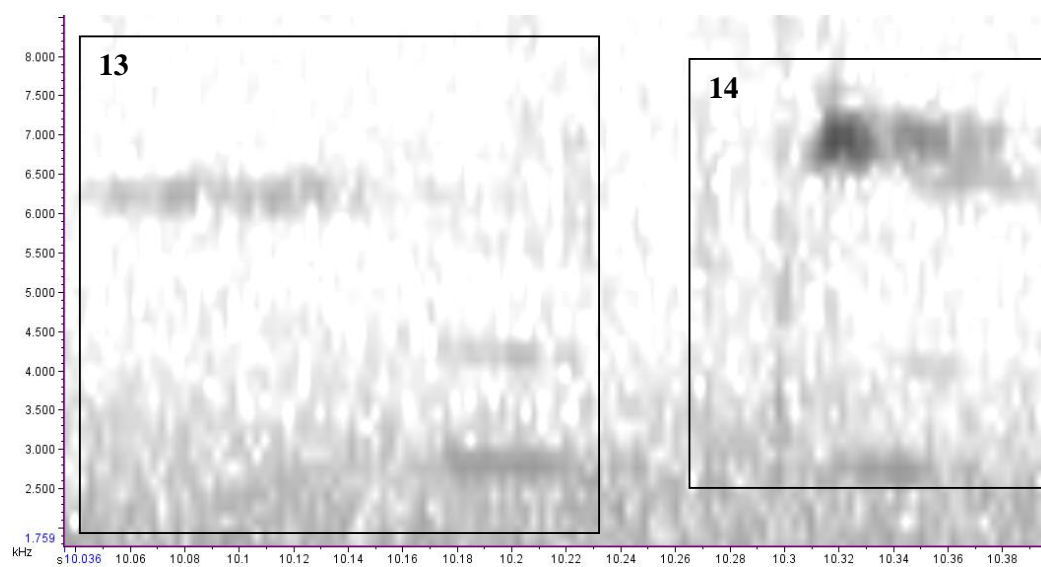
Repeated



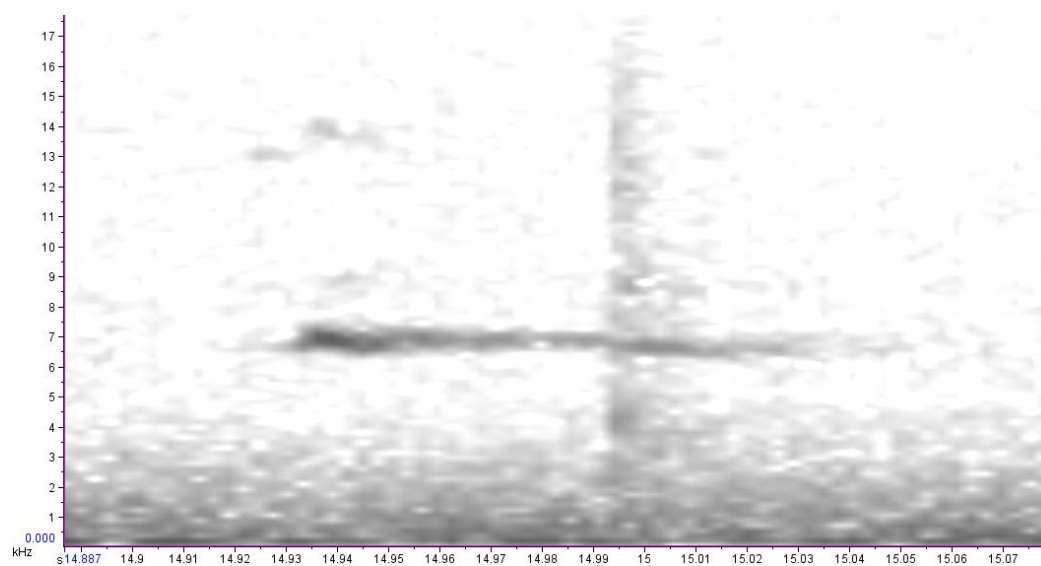
Syllables 208-210.



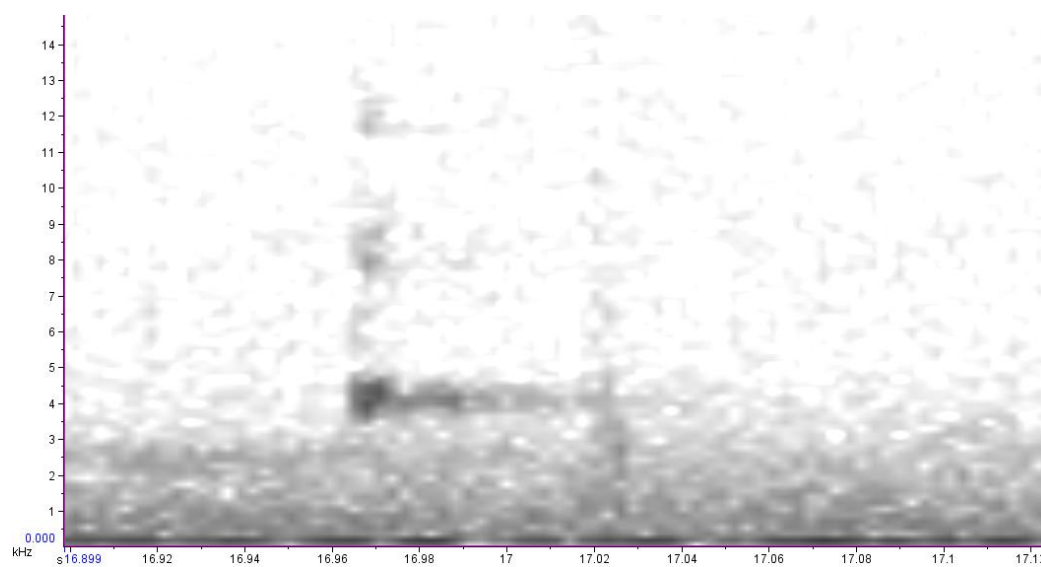
Syllable 211 and 212.



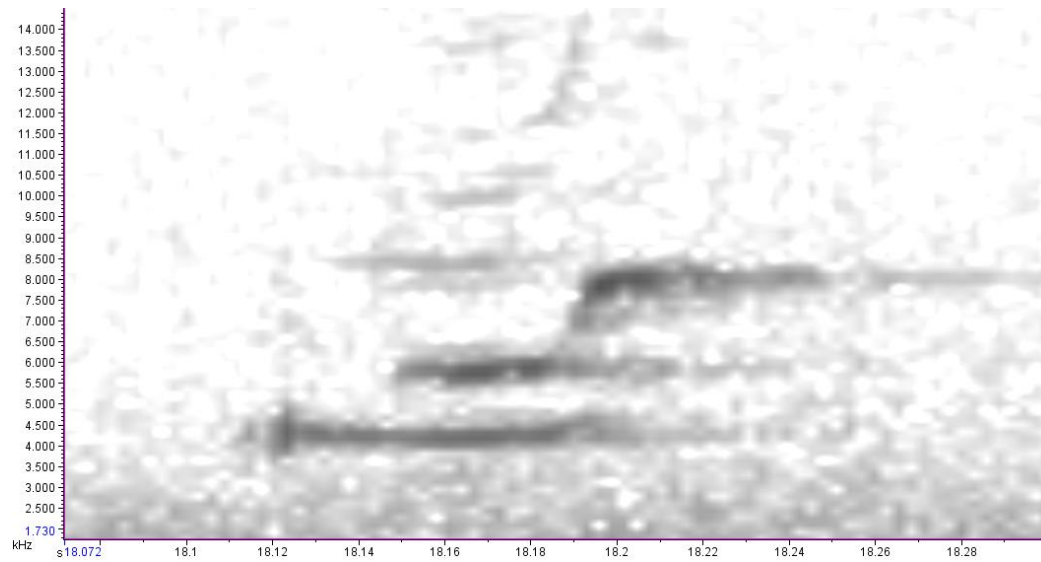
Syllable 213.



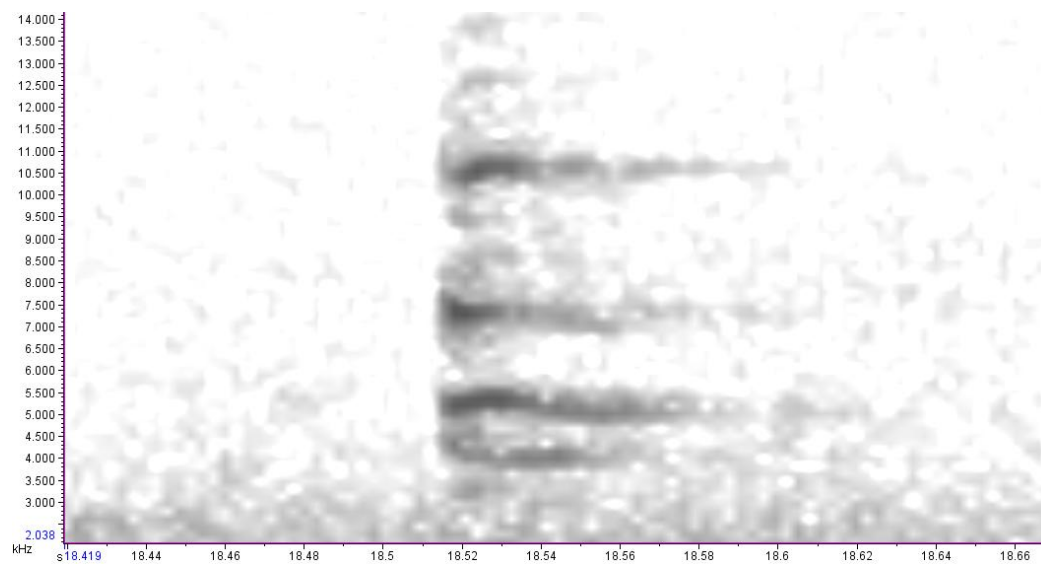
Syllable 214.



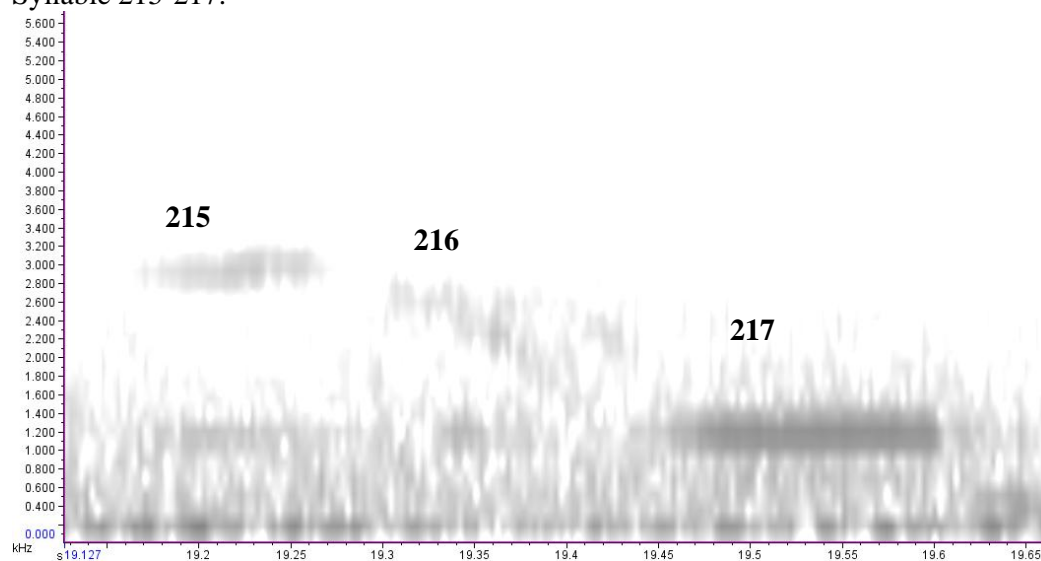
Repeated



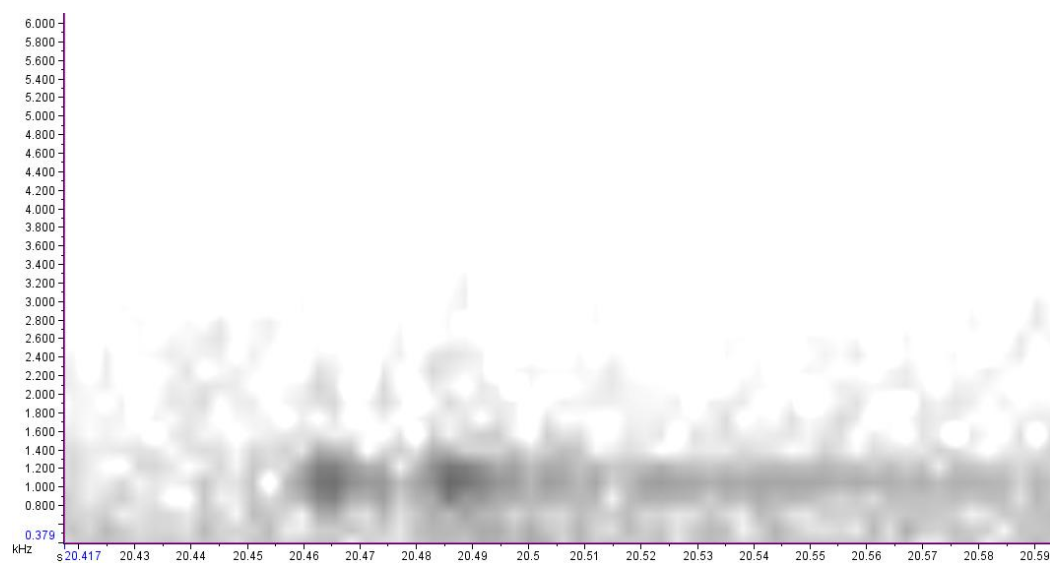
Repeated



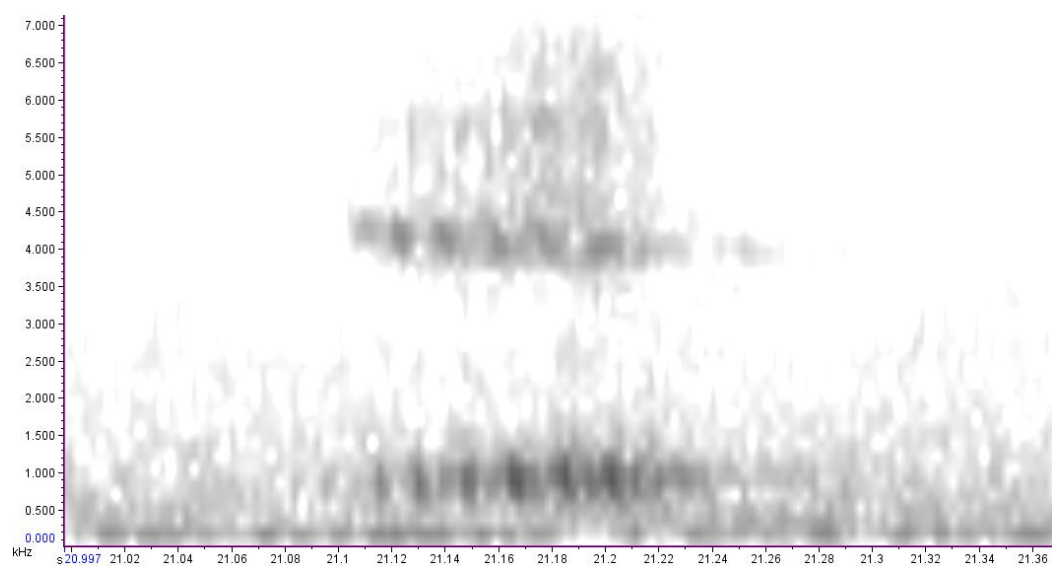
Syllable 215-217.



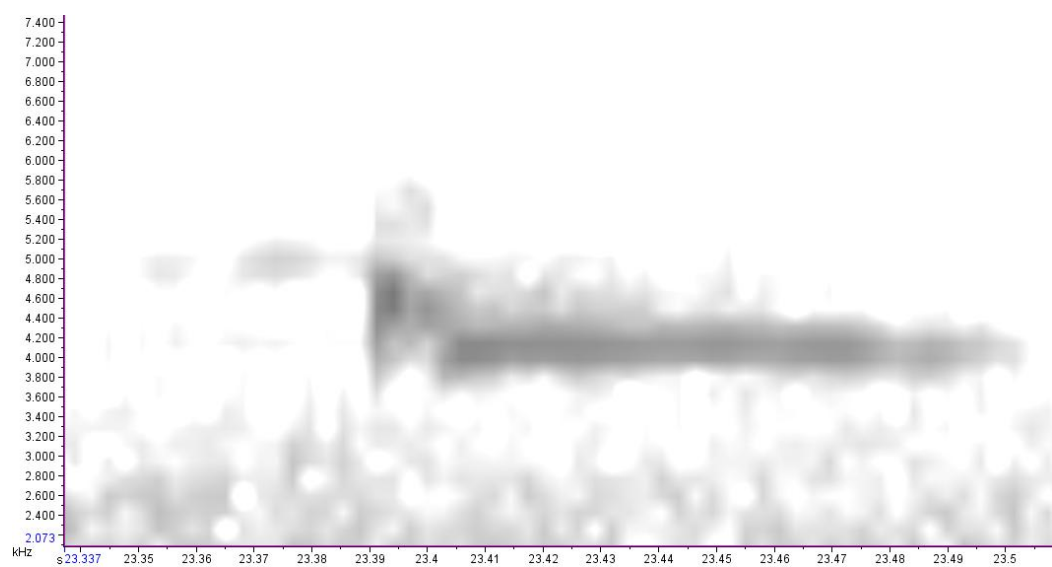
Syllable 218.



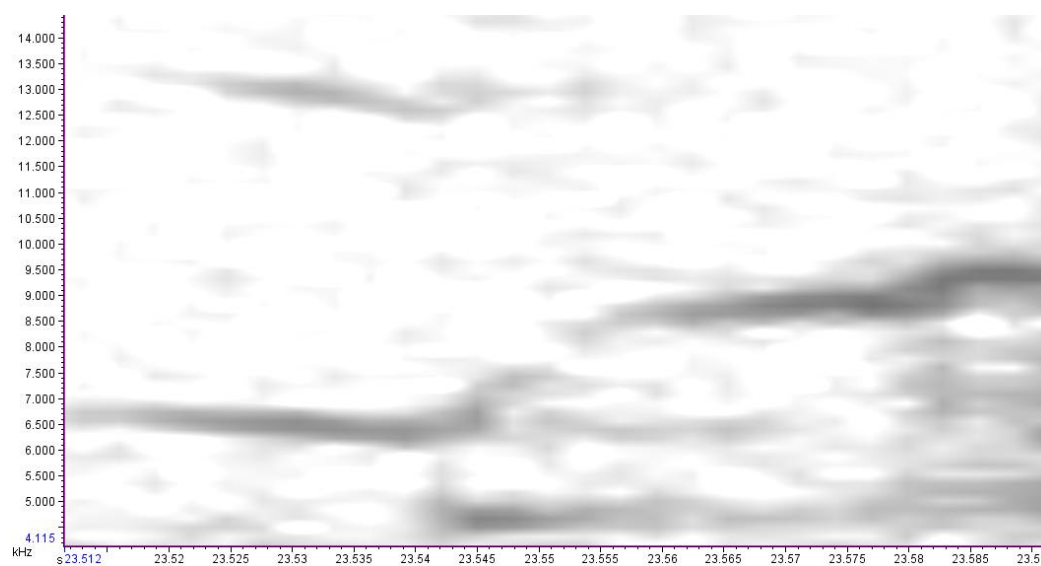
Syllable 219.



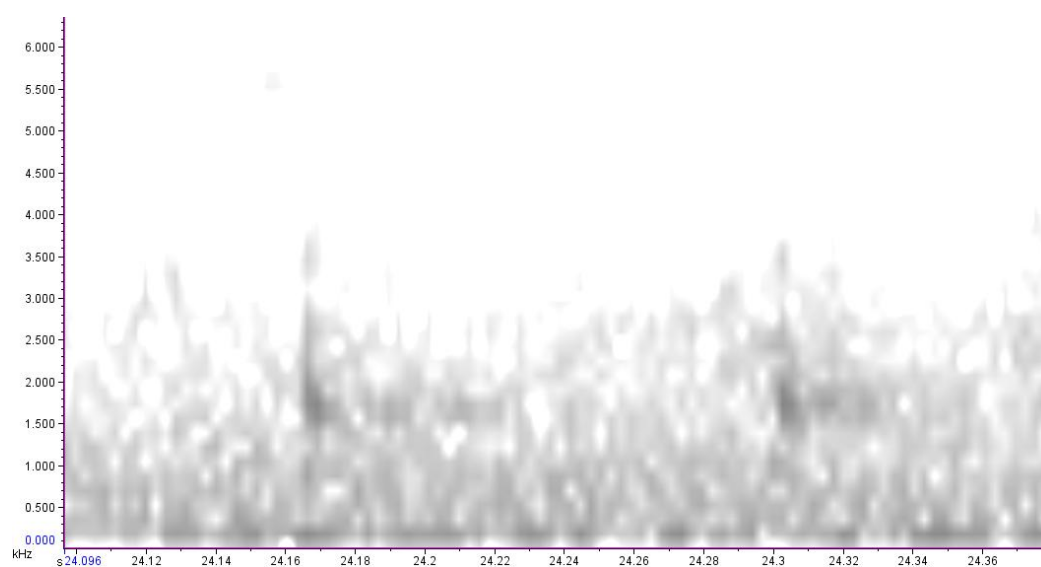
Repeated



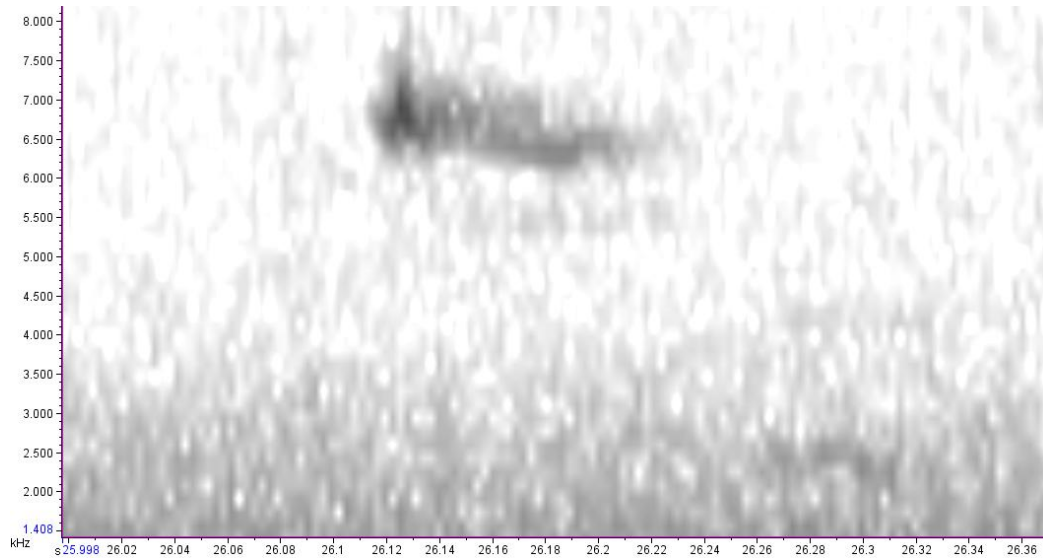
Repeated



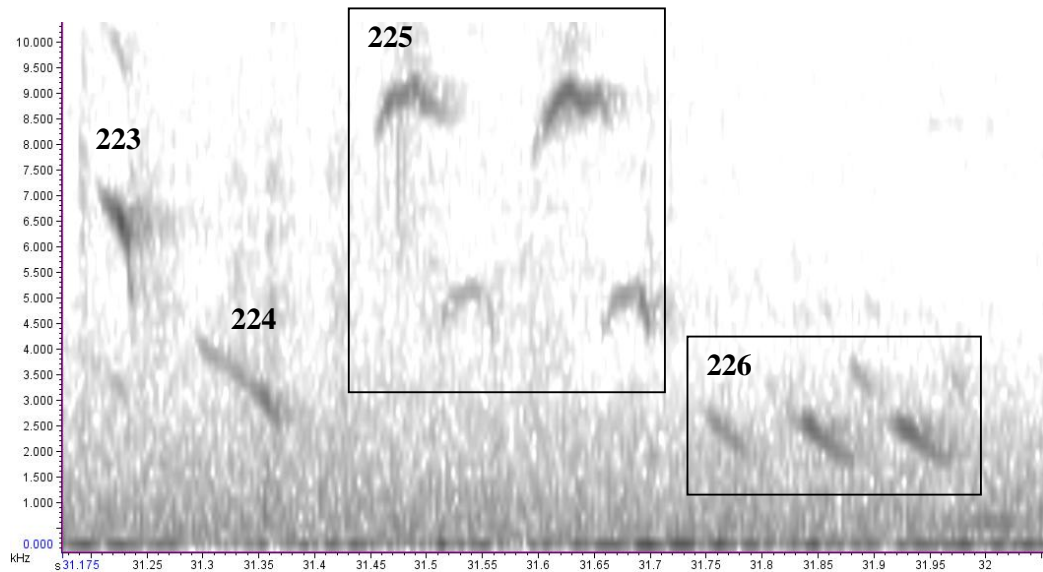
Syllable 220.



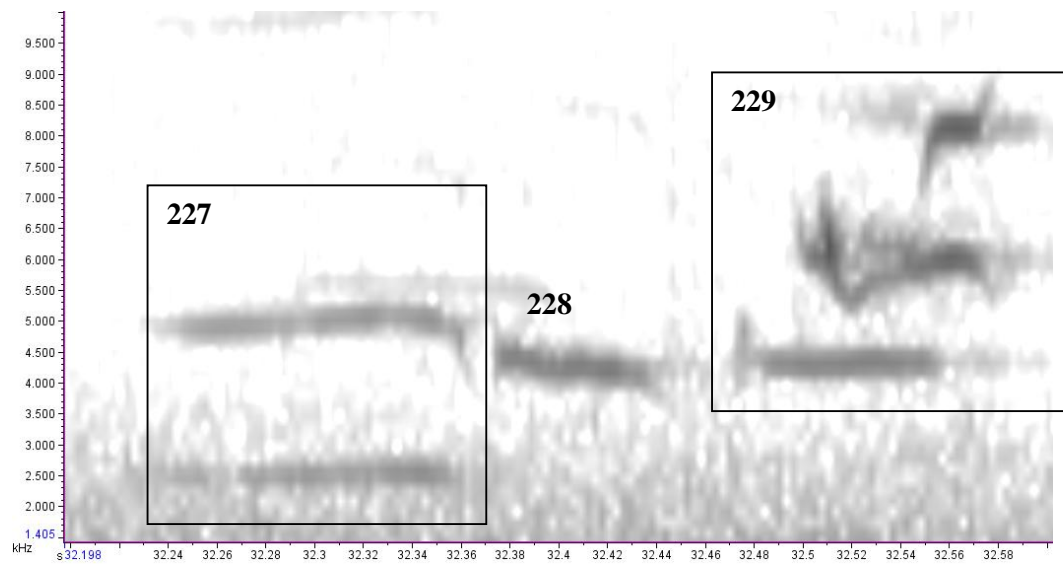
Syllable 221 and 222.



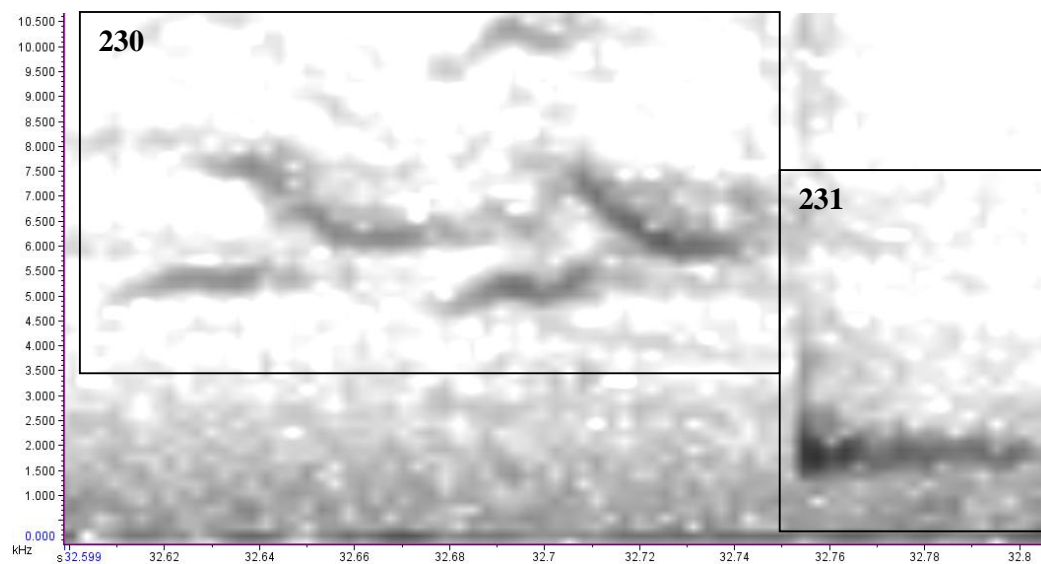
Syllable 223-226. 4 syllables of a complex trill (there are 2 syllable 225s and syllable 226 is comprised of 3 notes). If a syllable has more than one frequency component (i.e. syllable 225 here) and is then repeated (as syllable 225 is here), it is considered a repeated syllable (i.e. 2 syllable 225s); but if a syllable has just one frequency or one vertical component (i.e. syllable 226 here), and then that subunit is repeated (as in syllable 32), it is considered multi-noted (i.e. here syllable 226 consists of 3 notes).



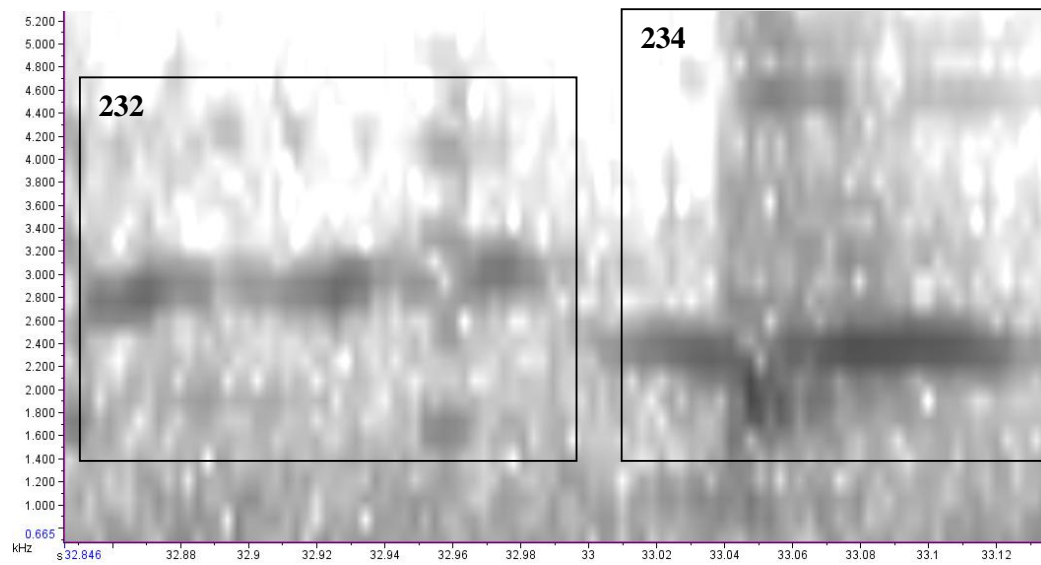
Syllables 227-229.



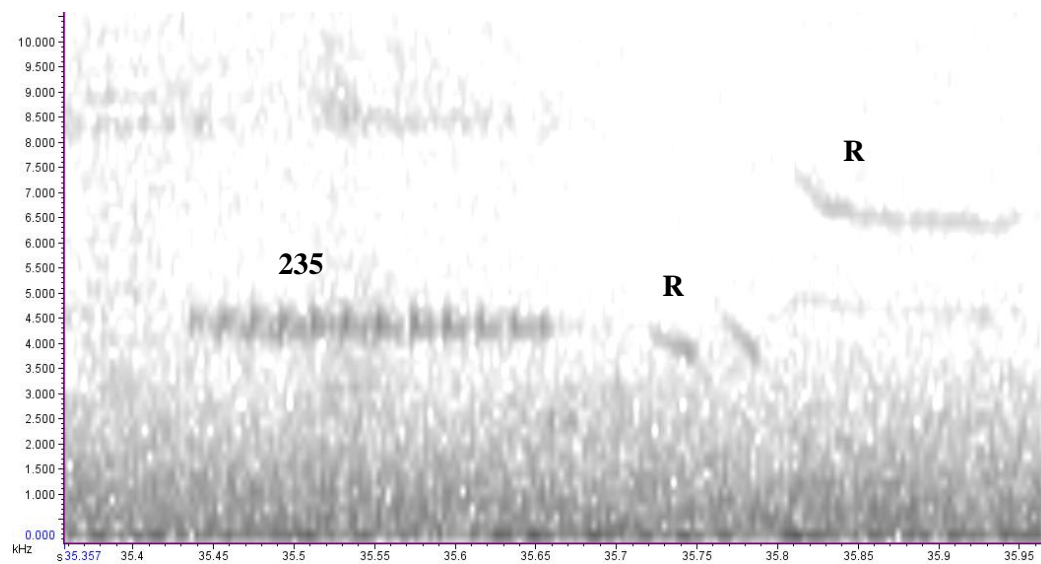
Syllable 230 and 231.



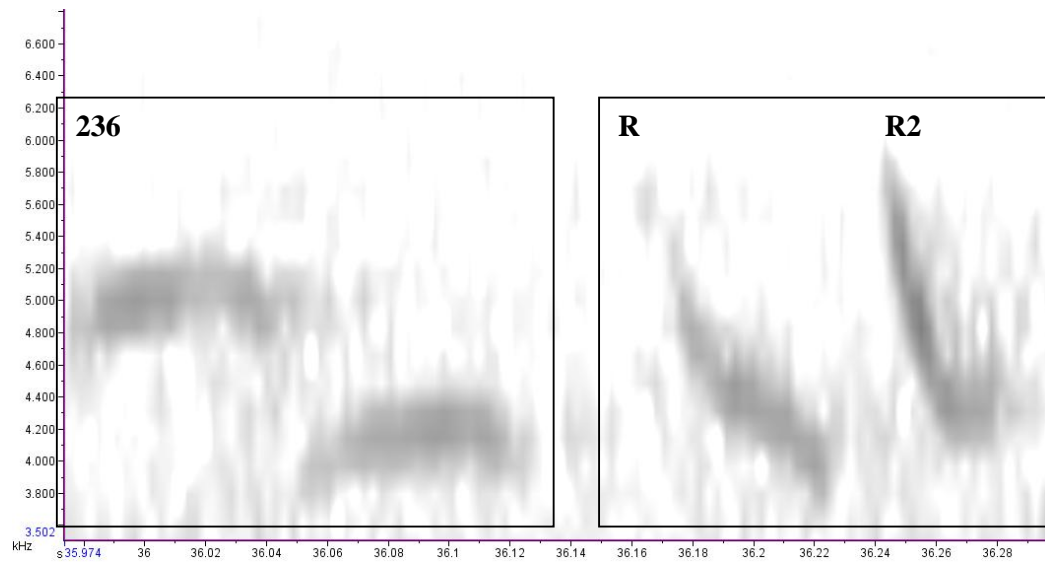
Syllable 232 and 233.



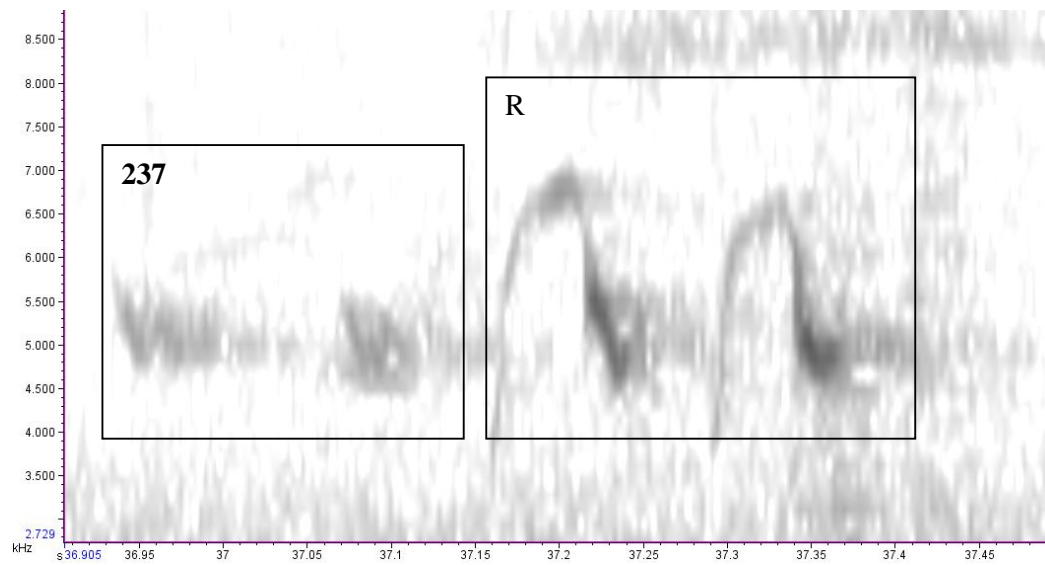
Syllable 235 and 2 repeated syllables.



Syllable 236 and two repeated syllables.

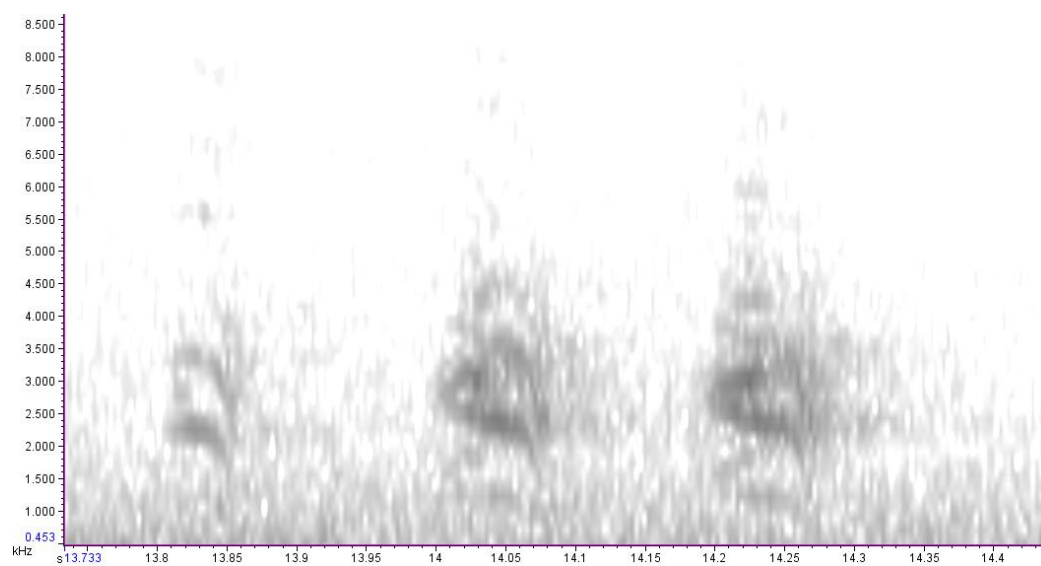


Syllable 237 and 238. 2 of each.

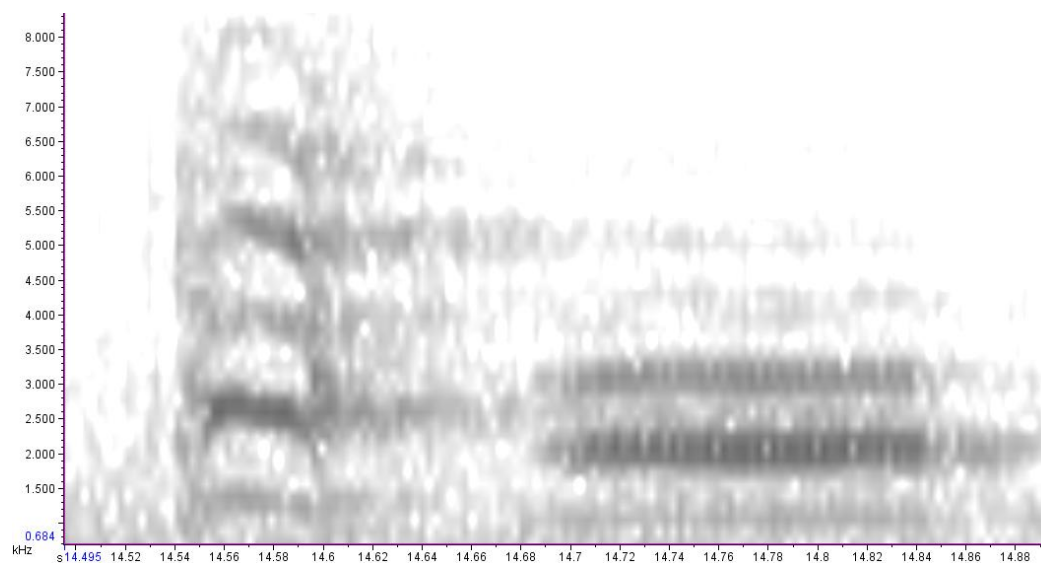


Song 30 - 001-2010-11-22 07_42_56. West Woolshed Bush, Rangatira. A variation on the Rangatira 'crazy Plucker' song.

Repeated x2

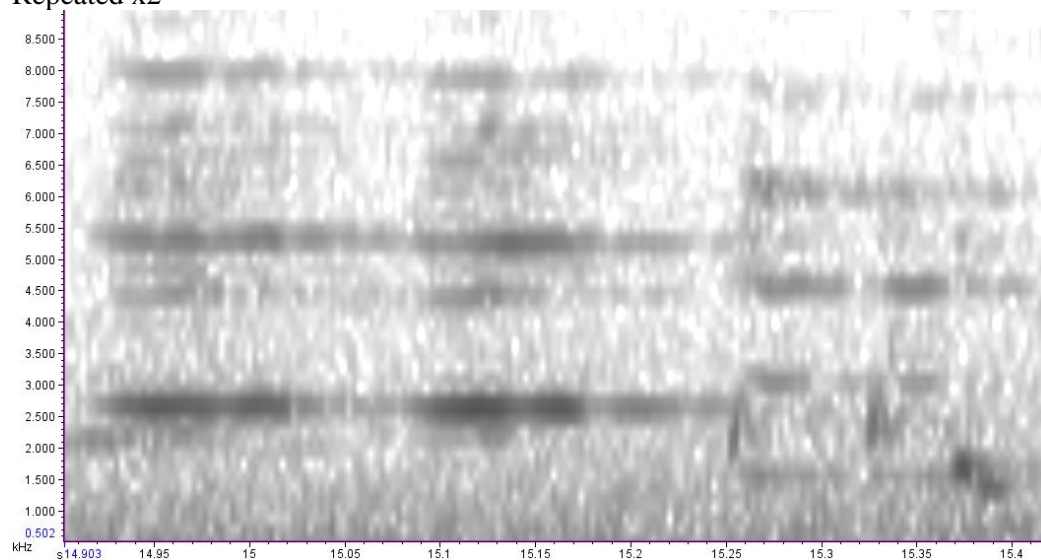


Repeated x2

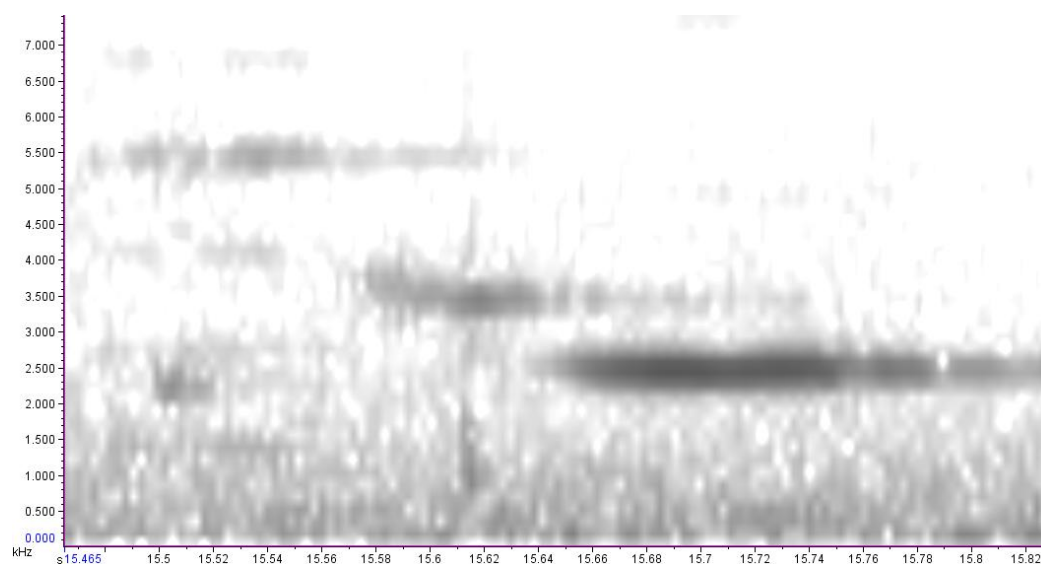


Syllable 400 (cumulative)

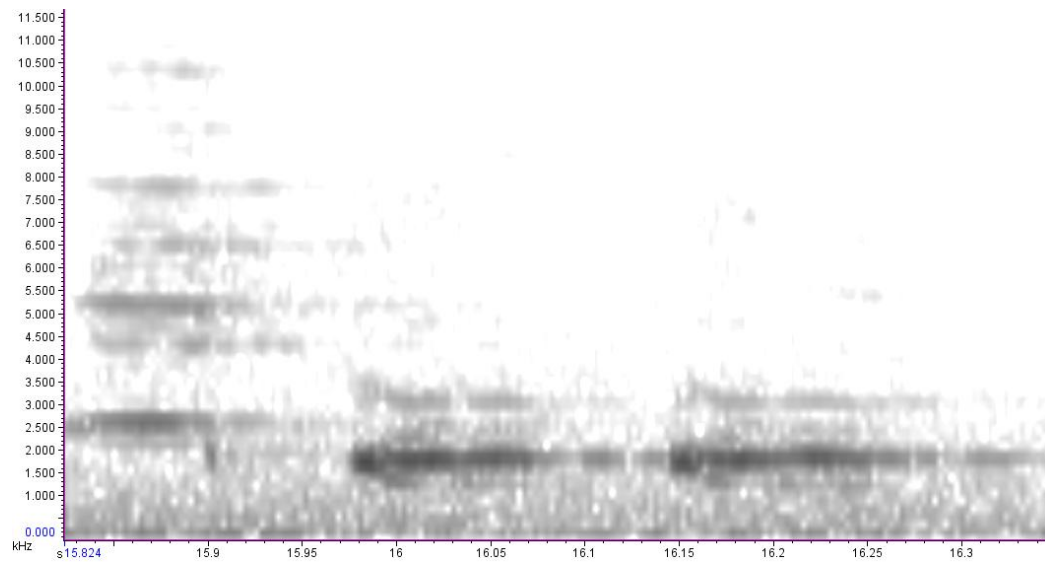
Repeated x2



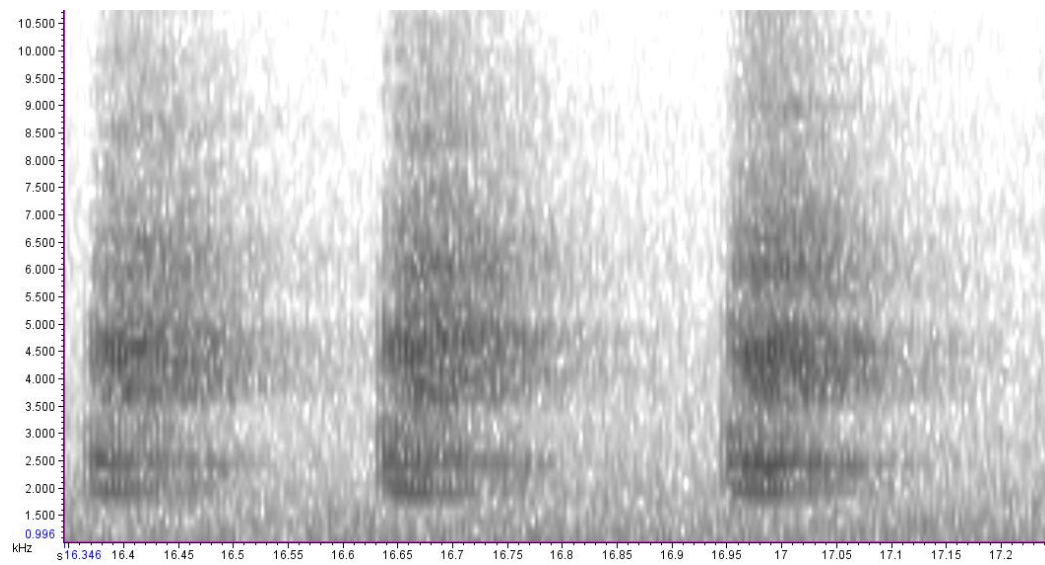
Repeated x2



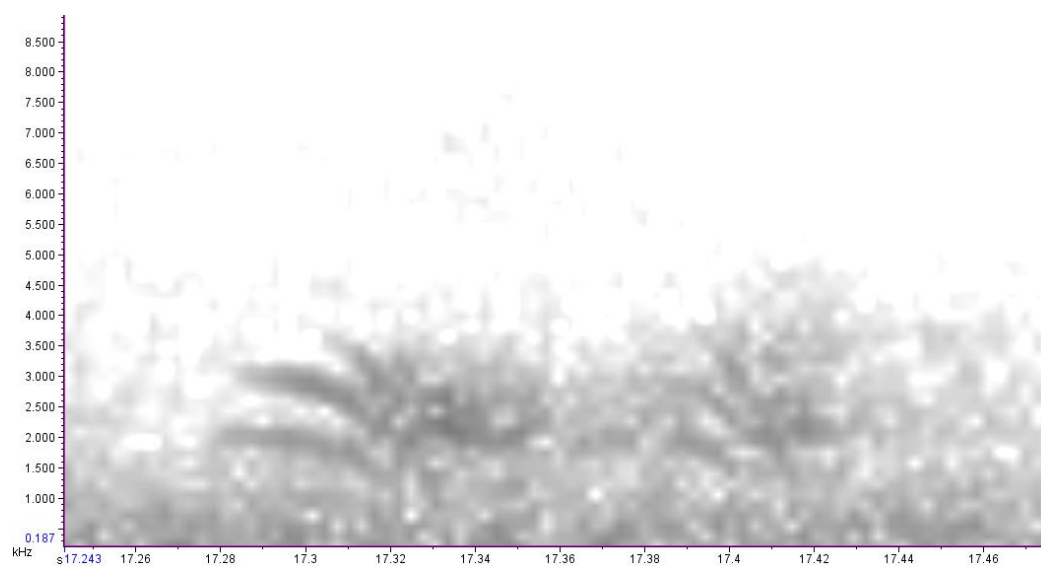
Repeated x2



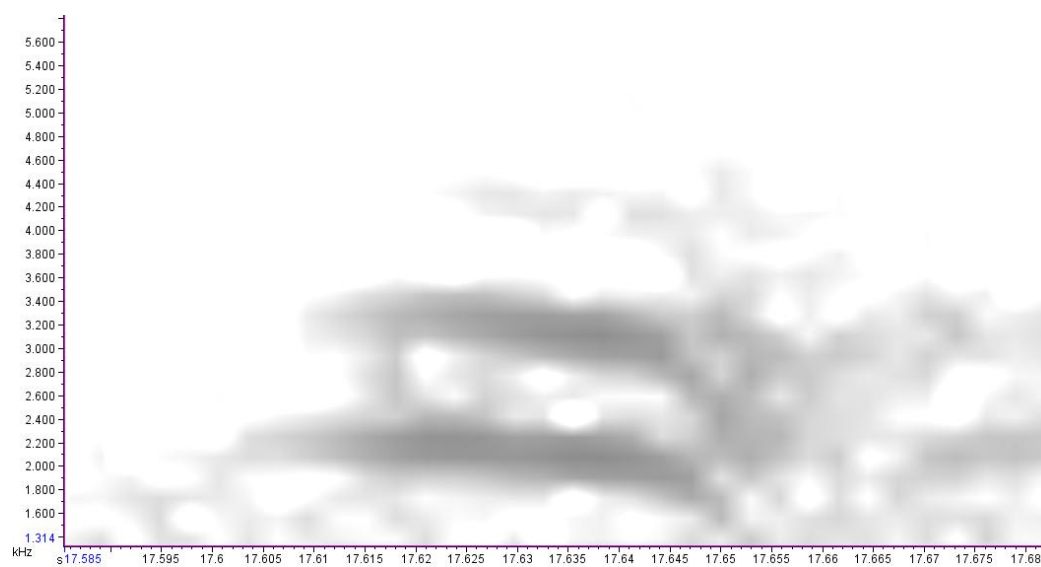
Syllable 239. 3 repeated syllable 239s.



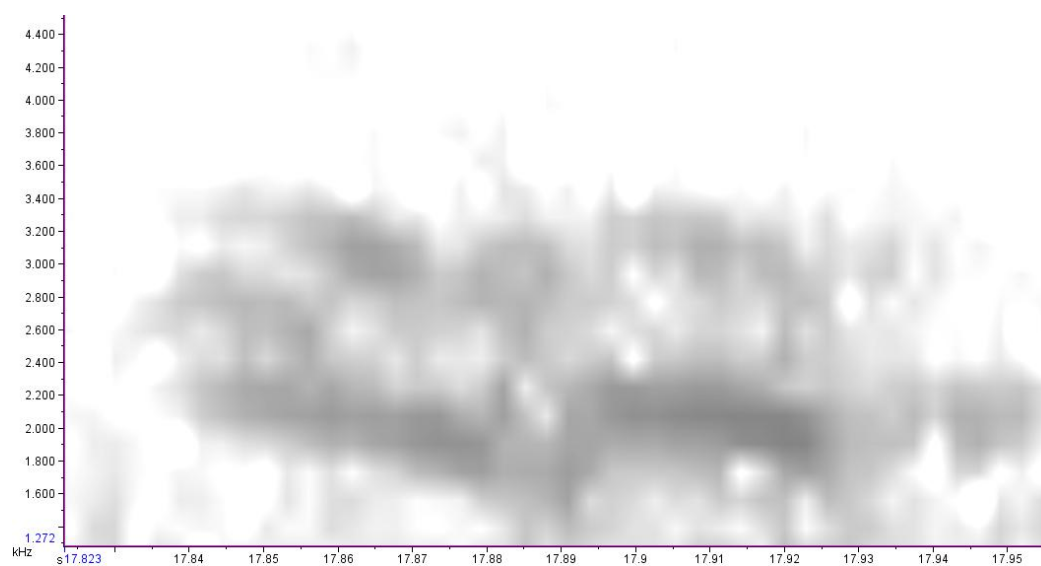
Repeated x2



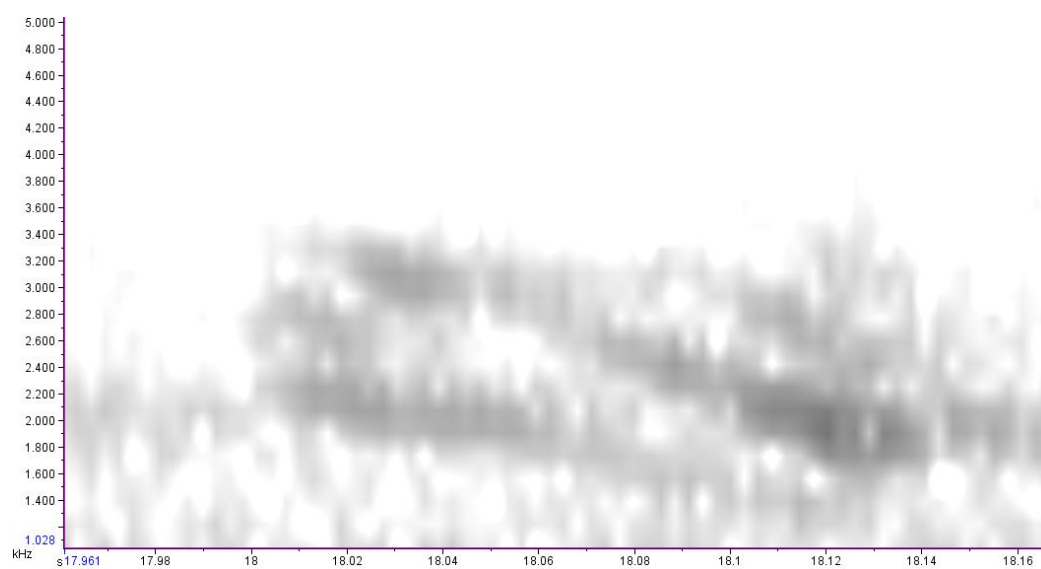
Repeated



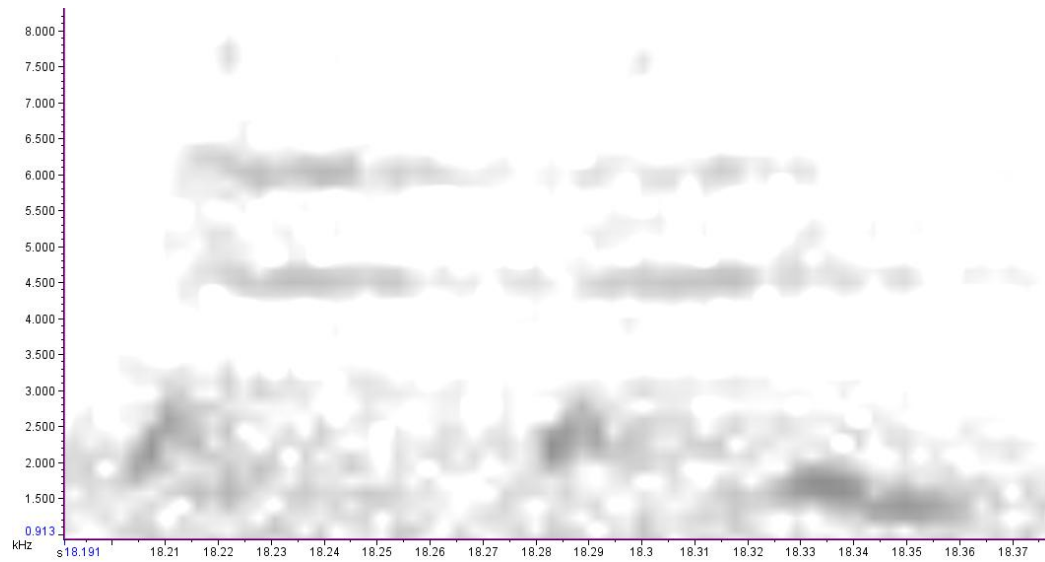
Repeated



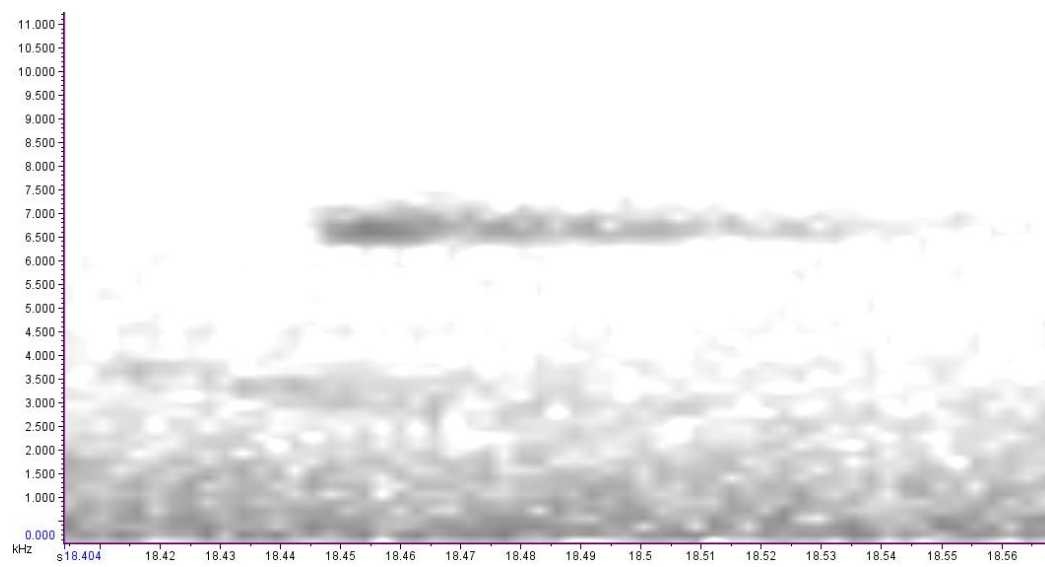
Syllable 240.



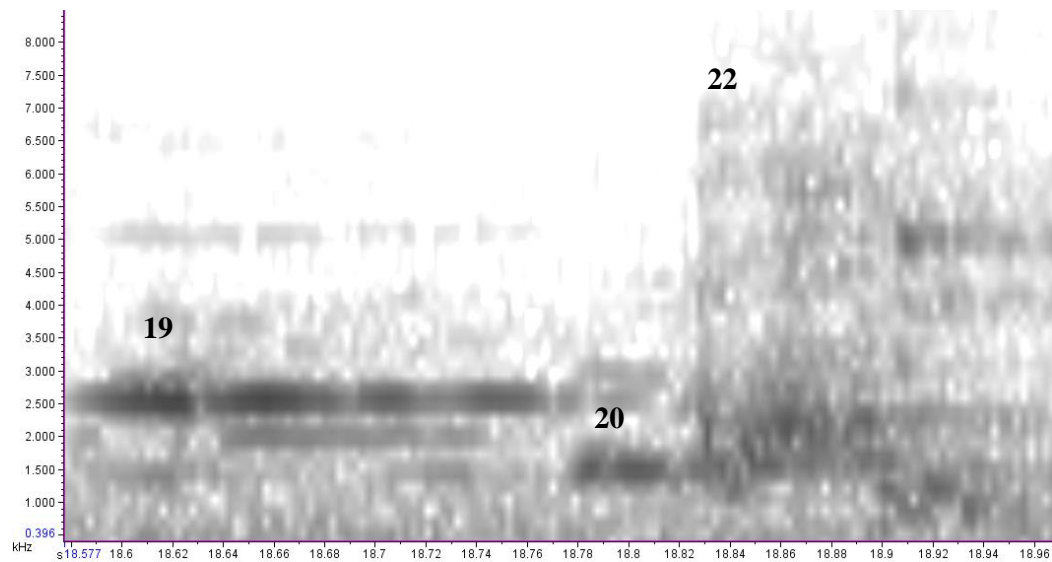
Repeated



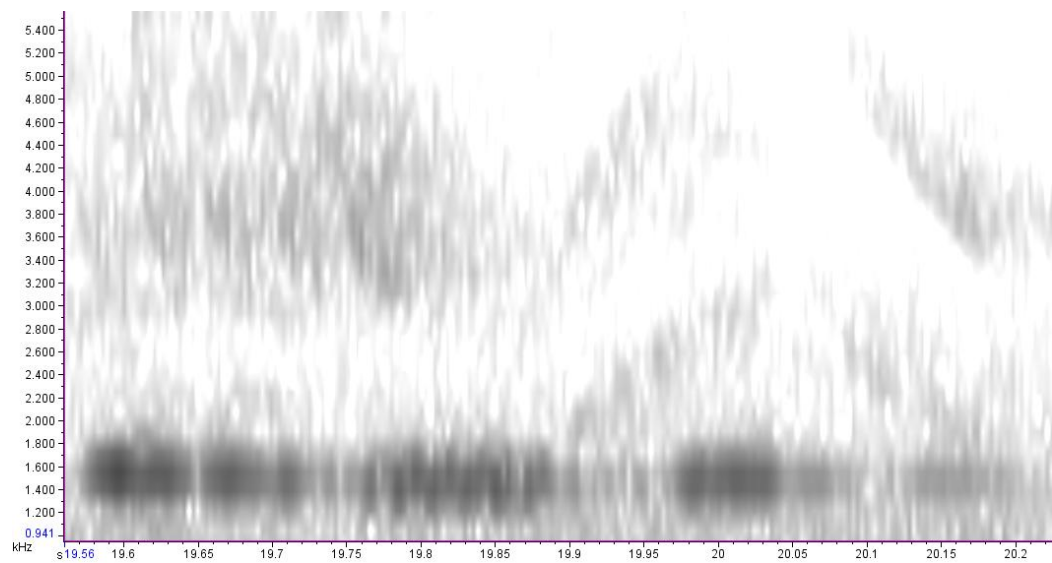
Syllable 241.



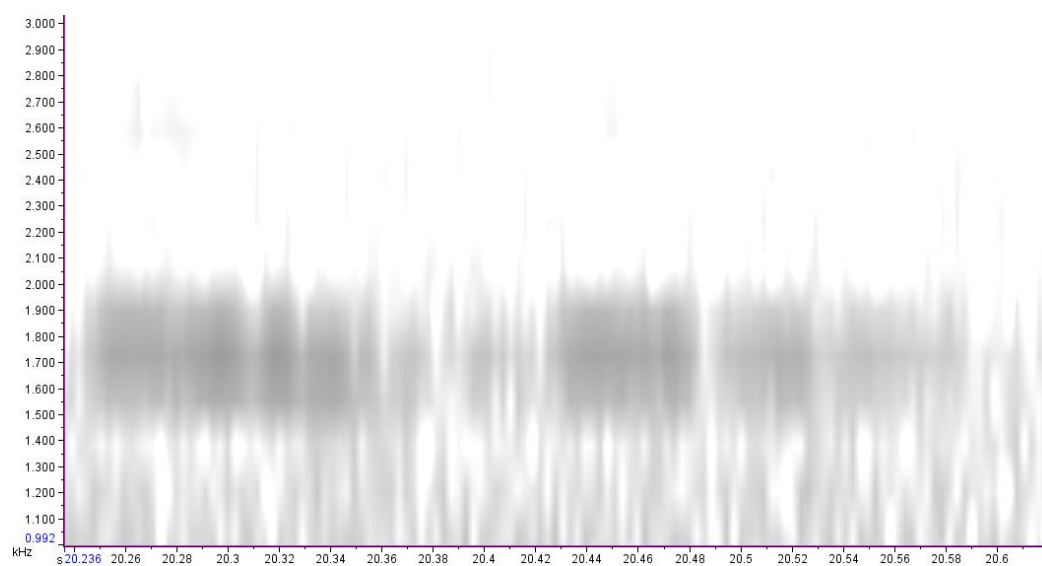
Repeated x3



Repeated. Long, conjoined bell-like syllable.



Repeateds. Conjoined, double-noted syllable.



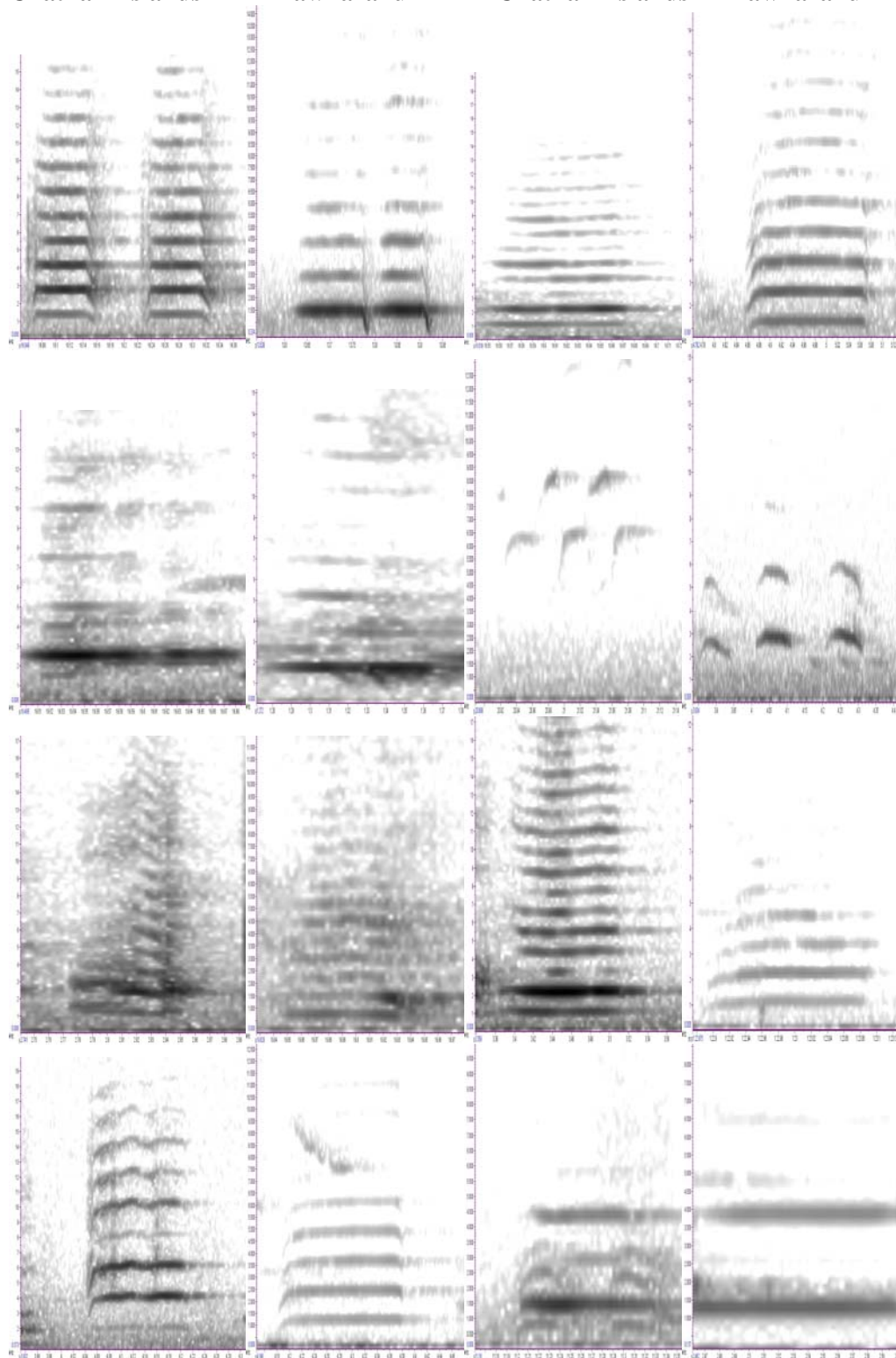
Appendix Four

Appendix 4: Similar syllables from the two populations (5.3.3).
Chatham Islands

Tawharanui

Chatham Islands

Tawharanui

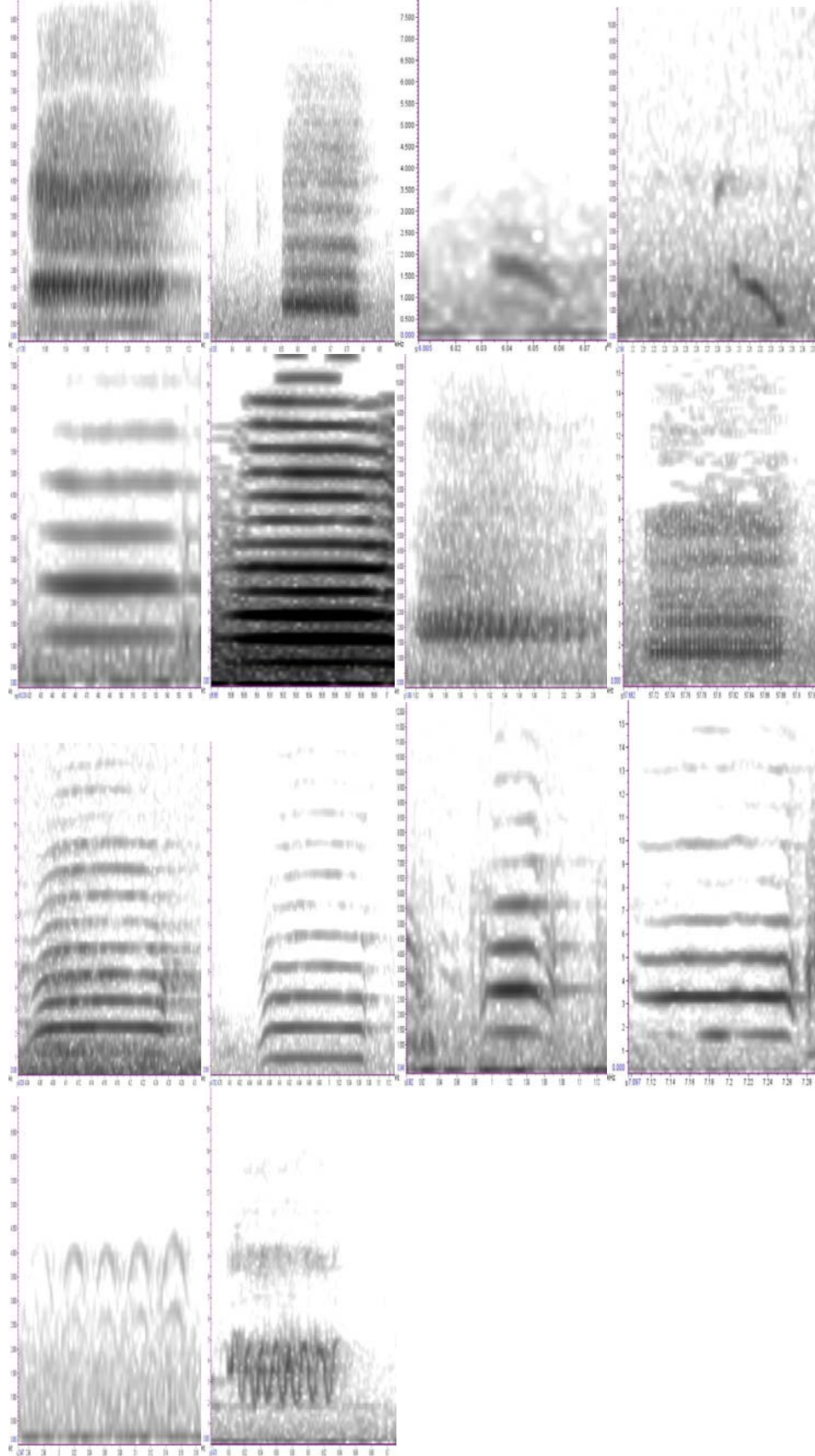


Chatham Islands

Tawharanui

Chatham Islands

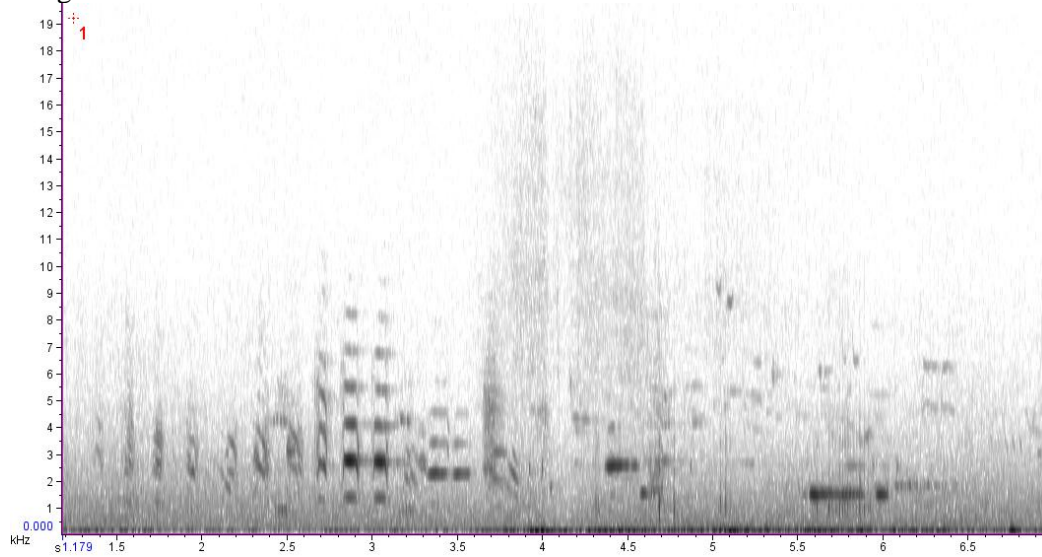
Tawharanui



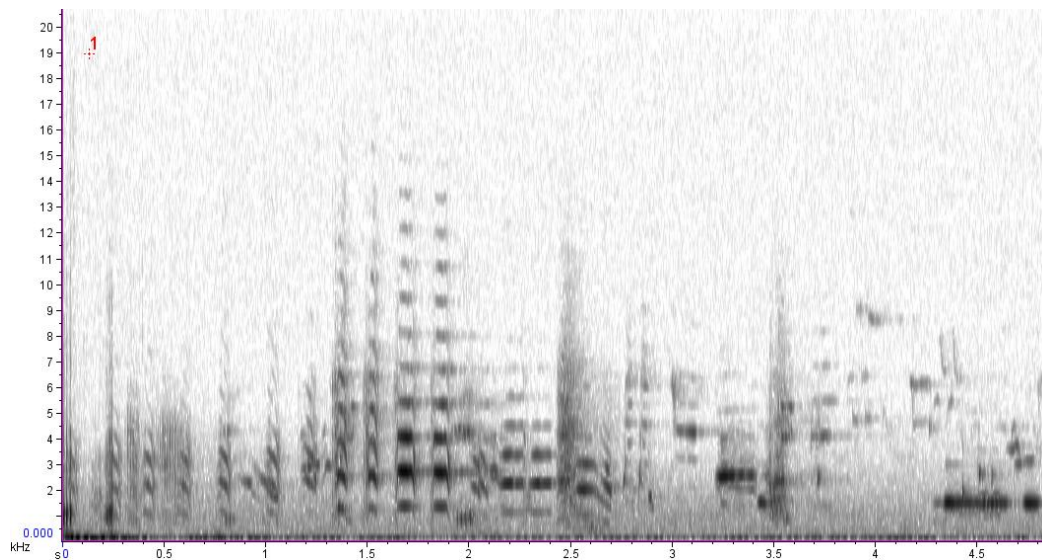
Appendix Five

Appendix 5: The number of different songs heard within the Chatham Island population of tui in a recording period of 1.2 hours was 79 songs (For 5.3.1) .

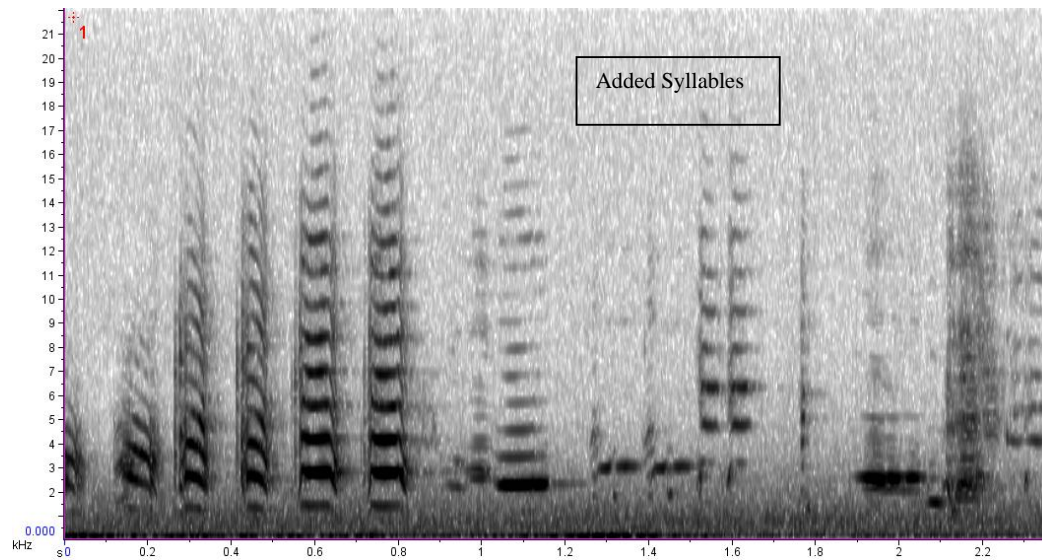
Song 1.



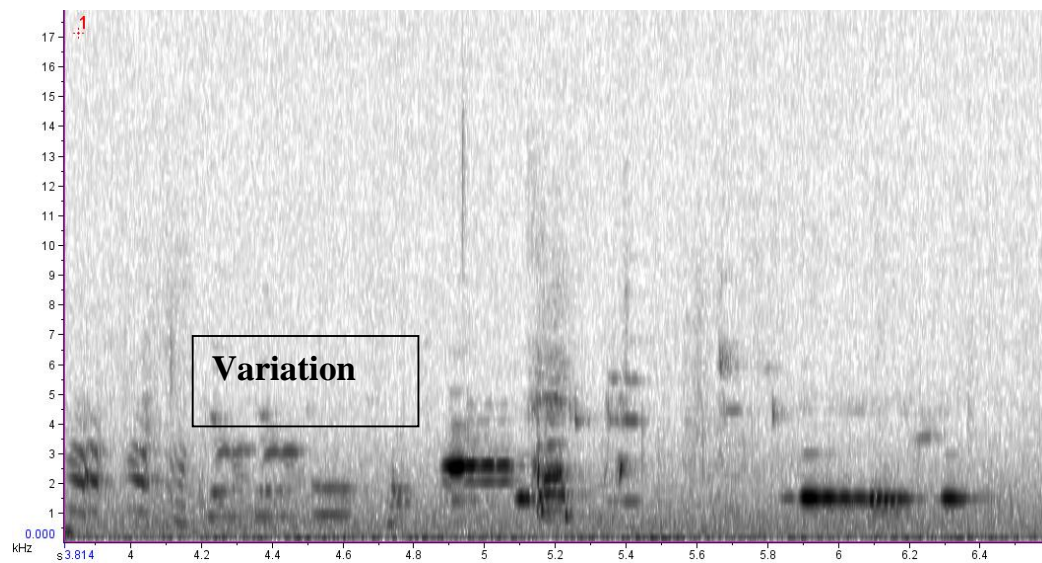
Song 2. October 24th 2010 (14.00h) - 080-2010-11-22 05_30_53, Rangatira Island. This was a commonly heard song around West Landing area of Rangatira Island, variations of this song were heard (very similar to song above, just a better recording). This particular song was sung by a male who had just landed on a flax plant, defending it from intruding tui (i.e. male to male song).



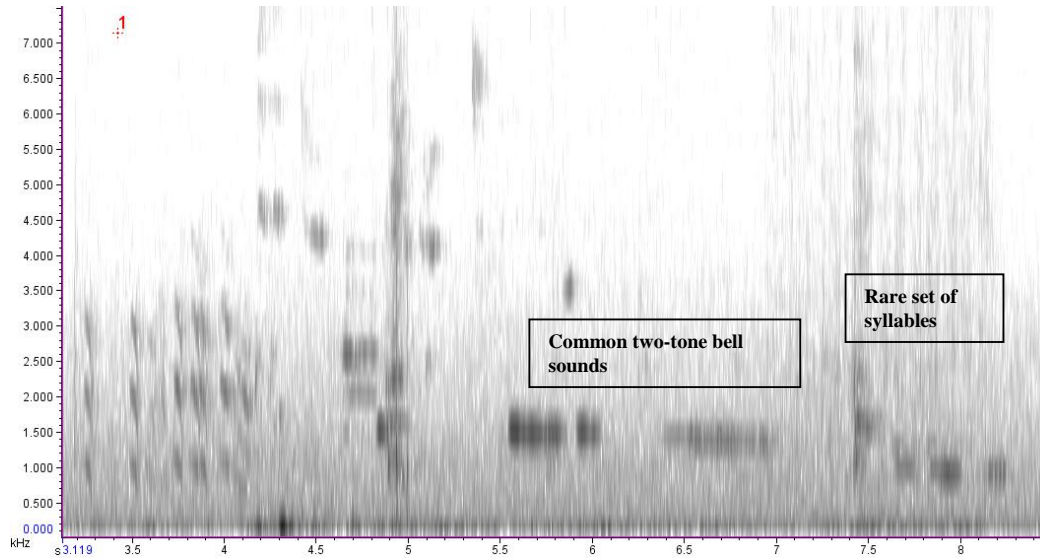
Song 3. October 25th 2010 (18.00h). 046-2010-11-22 06_07_24. Identical to the above common West Landing song but with 3 extra notes (2 syllables)



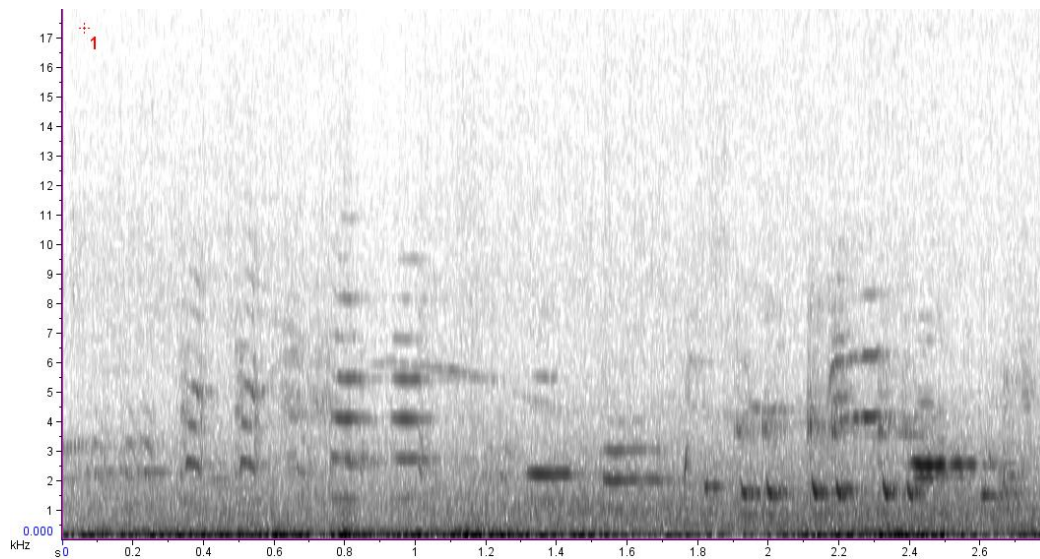
Song 4. October 26th 2010 (11.30h). 010-2010-11-22 06_31_45. Variation on the above common West Landing song. 4 notes (3 syllables).



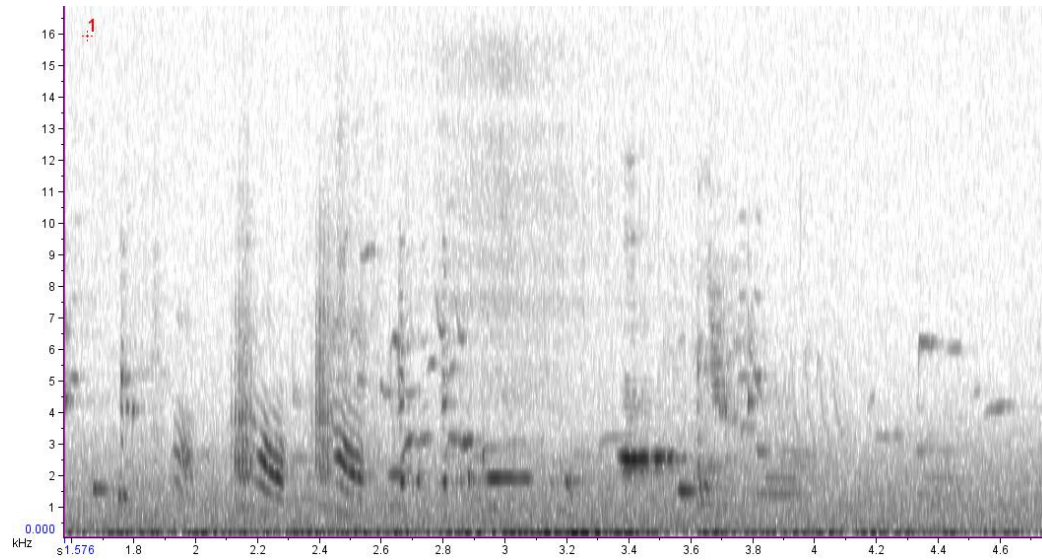
Song 5. October 26th 2010 (11.00h). 037-2010-11-22 06_16_50. An example of a song containing the end of the above common West Landing song, with 2 bell sounds and a rare set of 4 syllables at the end.



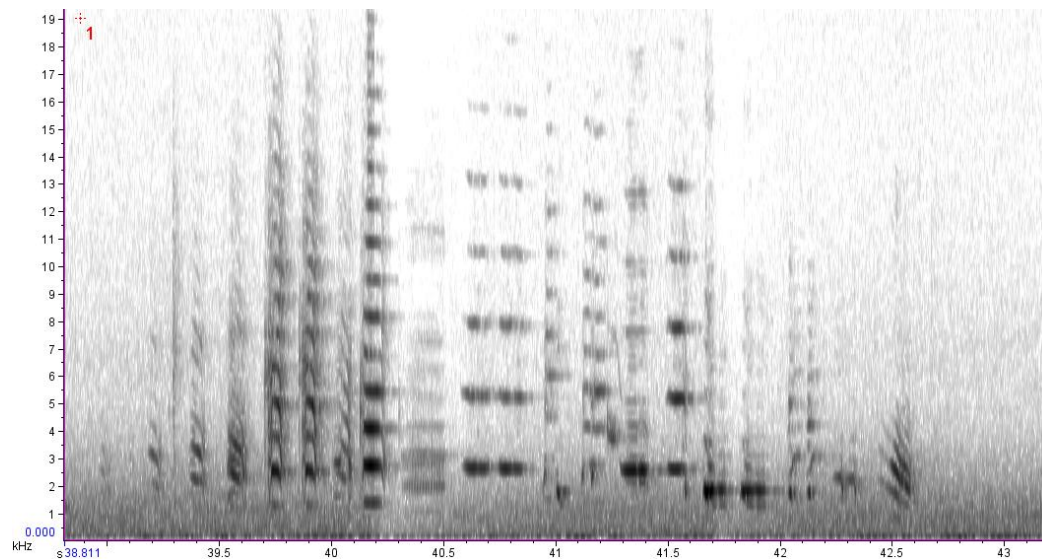
Song 6. October 23rd 2010. 2010 - 009-2010-11-22 05_14_36, Rangatira Island. 18.30. Slight variation of example number 1. This song lacks the 'bell-like' sound at the end of the common West Landing call at Rangatira.



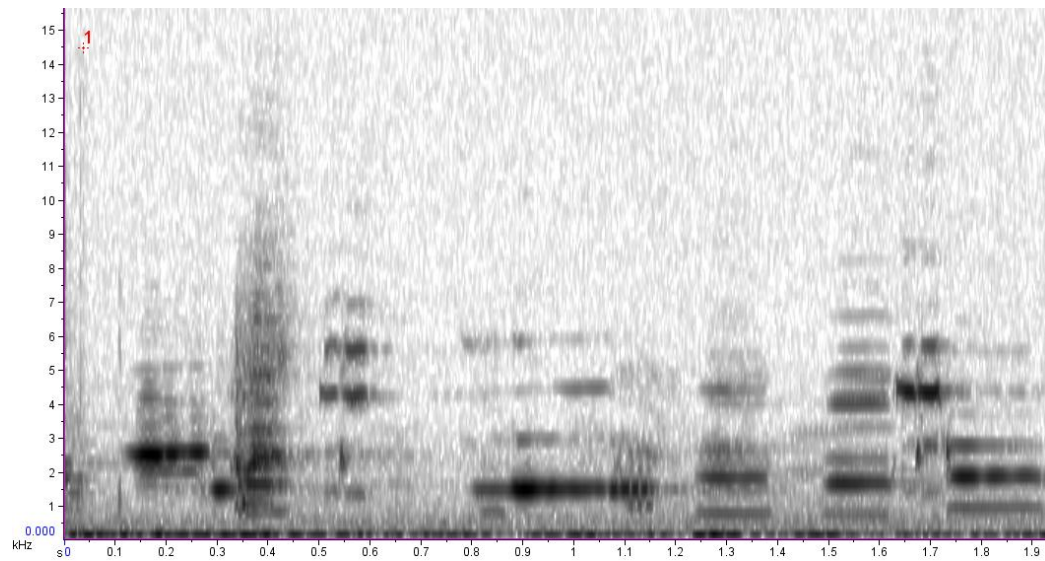
Song 7. October 24th 2010 (15.00h). 017-2010-11-22 05_52_04 (In Chatham Island Disc One Folder 6). Another variation on the common West Landing song (two extra syllables at 2.2 and 2.4 seconds and some bell-like sounds incorporated).



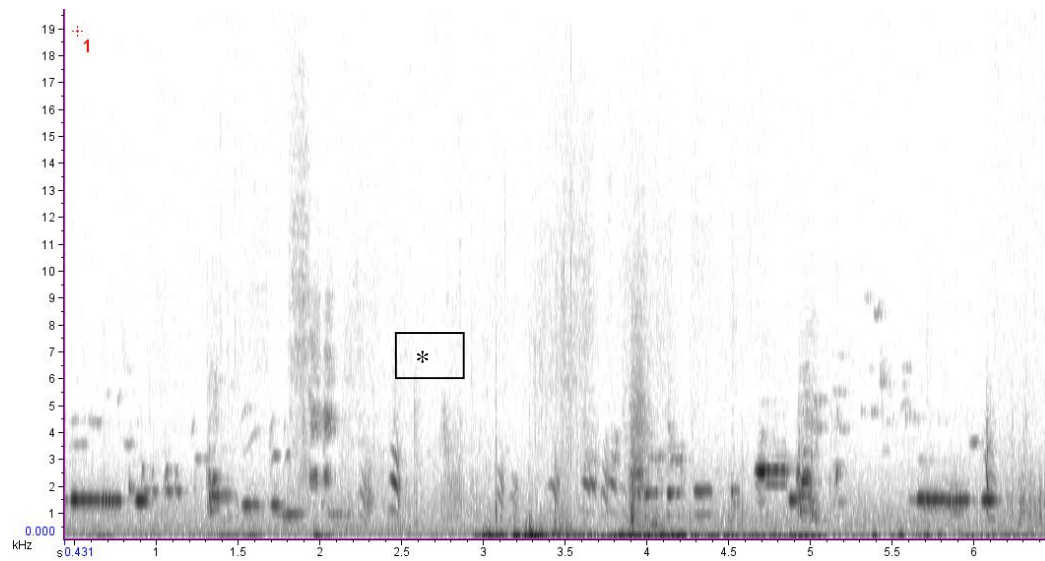
Song 8. October 23rd 2010. 016-2010-11-22 05_14_36. Yet another variation on the common West Landing songs above. An additional three syllables added onto the end (between 42.05 seconds and 42.6 seconds on this spectrograph).



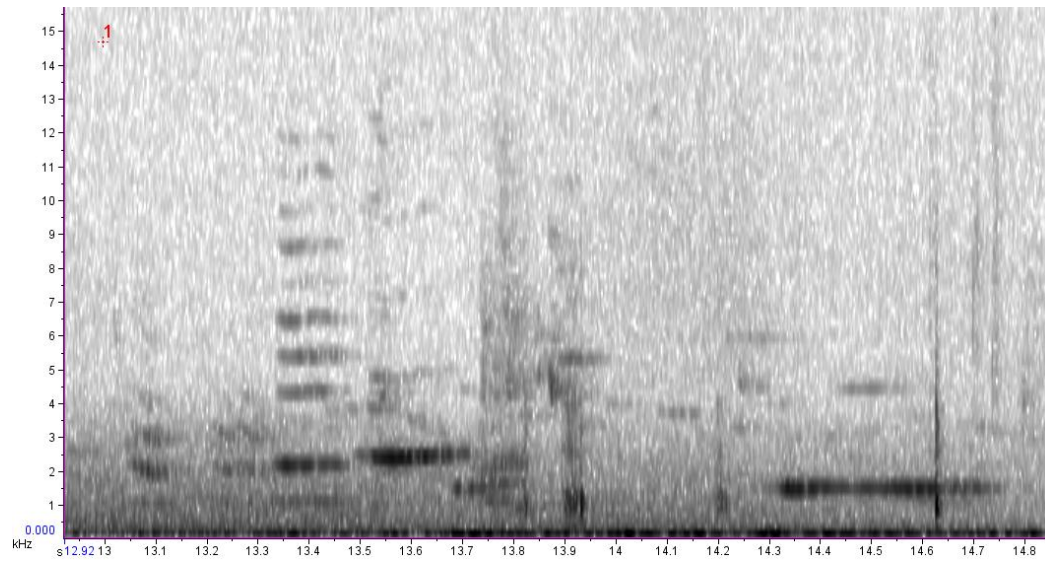
Song 9. October 24th 2010 (14.00h). 045-2010-11-22 05_30_53. A variation on the *ending* of the above song, West Landing, Rangatira.



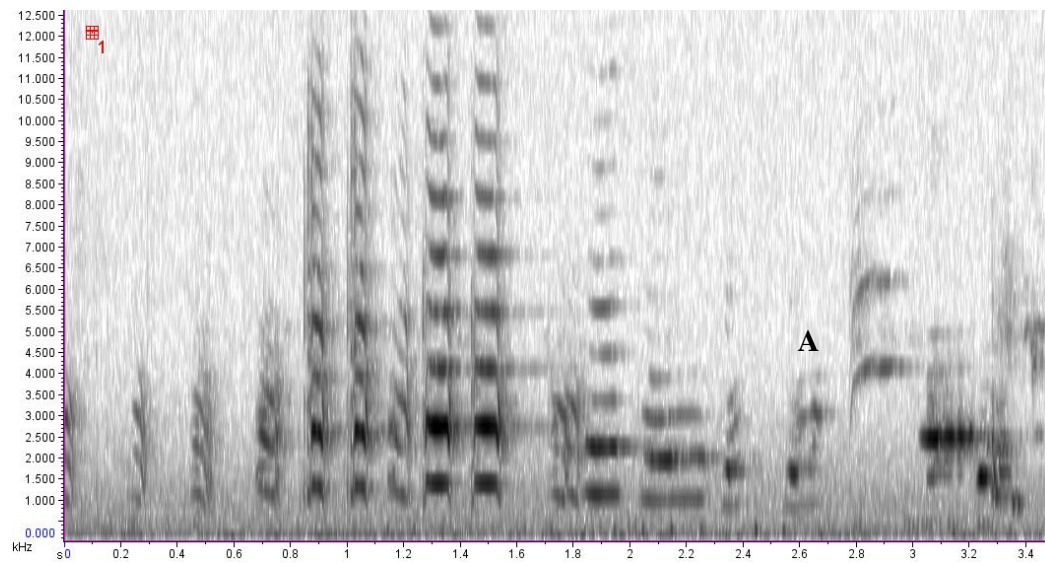
Song 10. October 26th 2010 (11.00h). 010-2010-11-22 06_31_45. Example of a song containing the ending of the above song but with other syllables included.
* denotes especially rare syllable (2 notes)



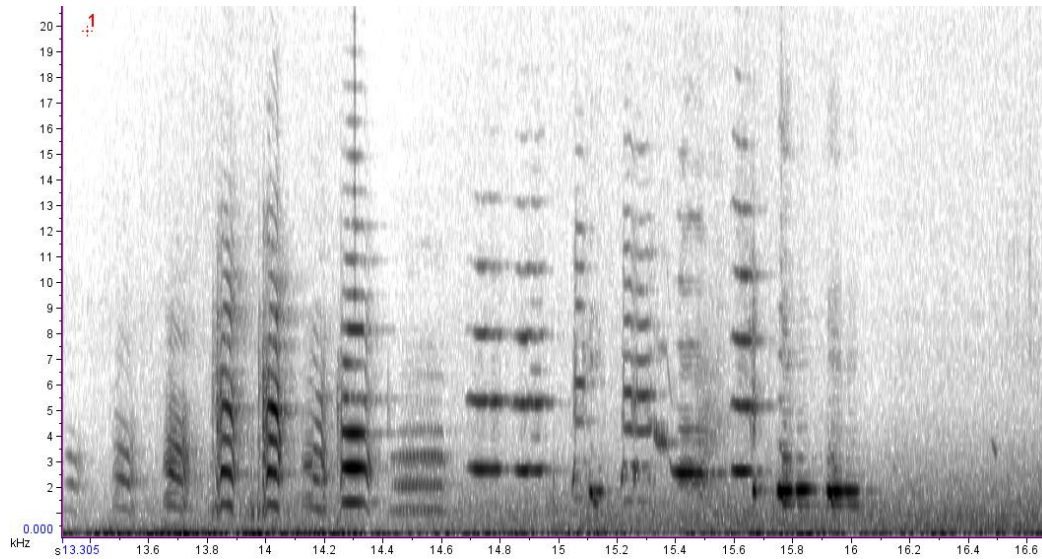
Song 11.



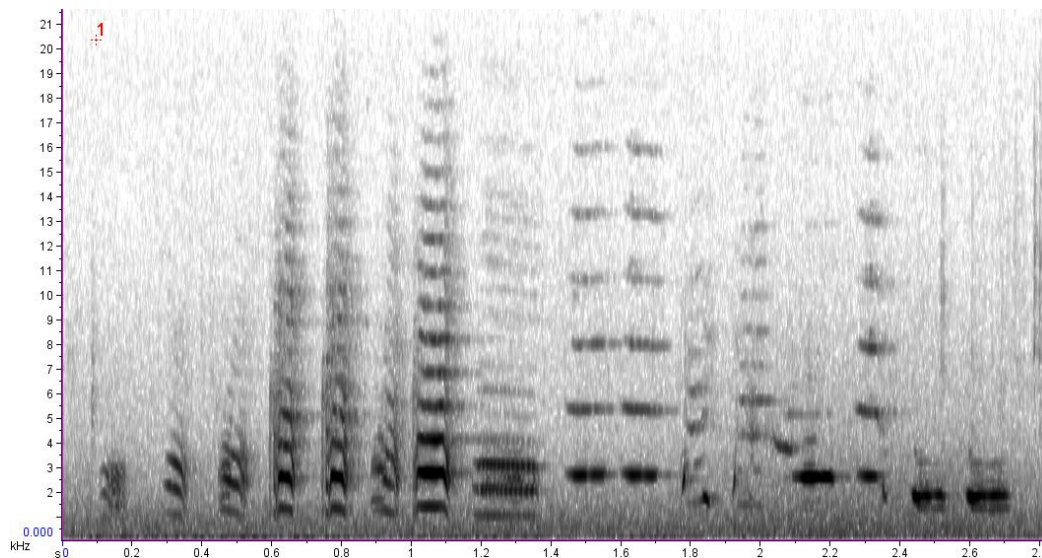
Song 12. October 27th 2010 (8.00h). 008-2010-11-22 06_48_16. Almost identical to the above common West Landing song but with one extra note (labelled 'A').



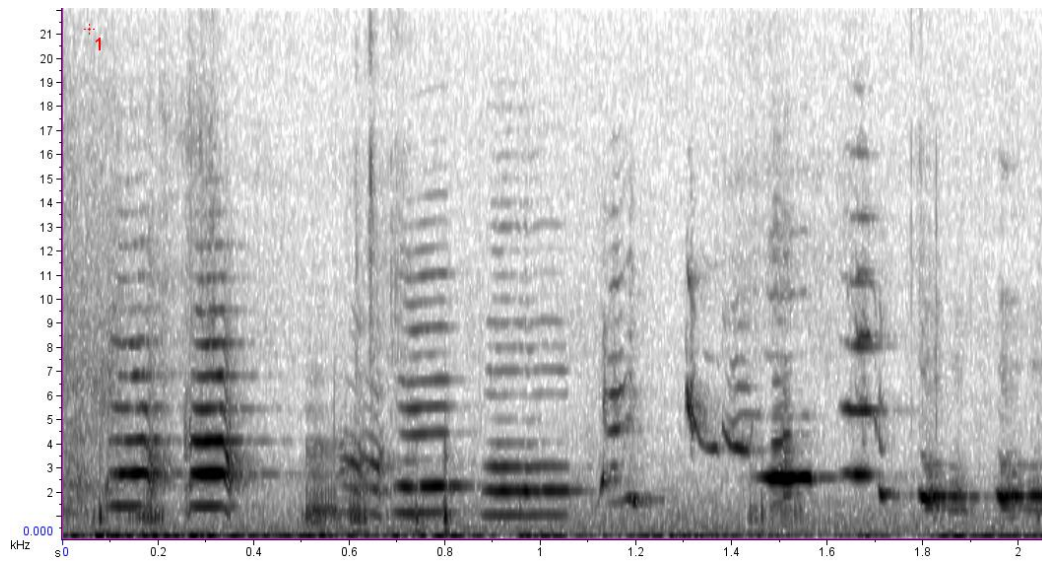
Song 13. October 23rd 2010. 012-2010-11-22 05_14_36. Another common song around West Landing, Rangatira. The last two notes always sounded like the tui were saying the words “crazy plucker” (well, to me at least!)



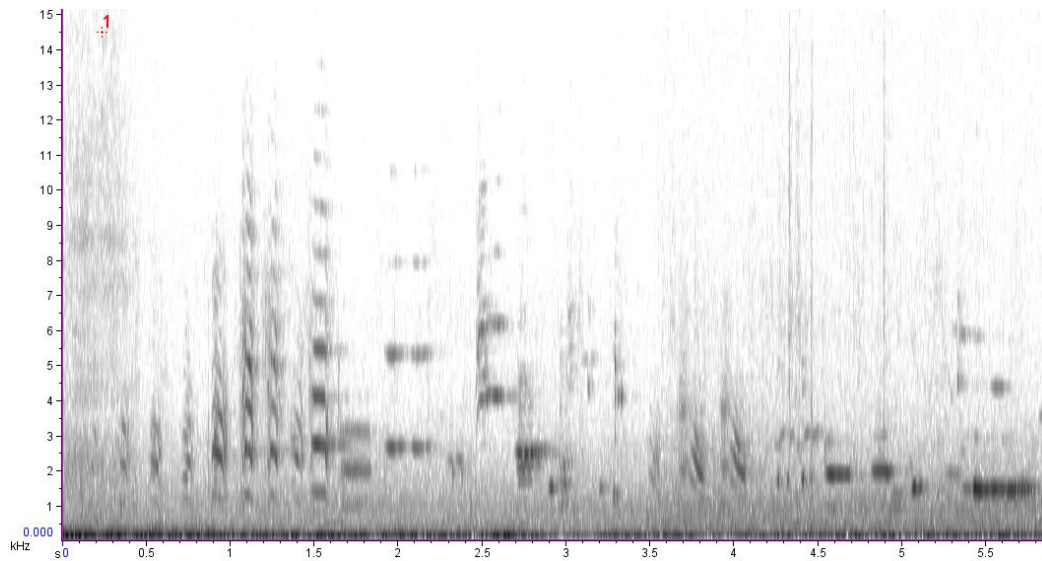
Song 14. October 25th 2010 (18.00h) 017-2010-11-22 06_07_24. Another example of the above song at West Landing, Rangatira (note the identical length [2.7s] as well as identical syllables).



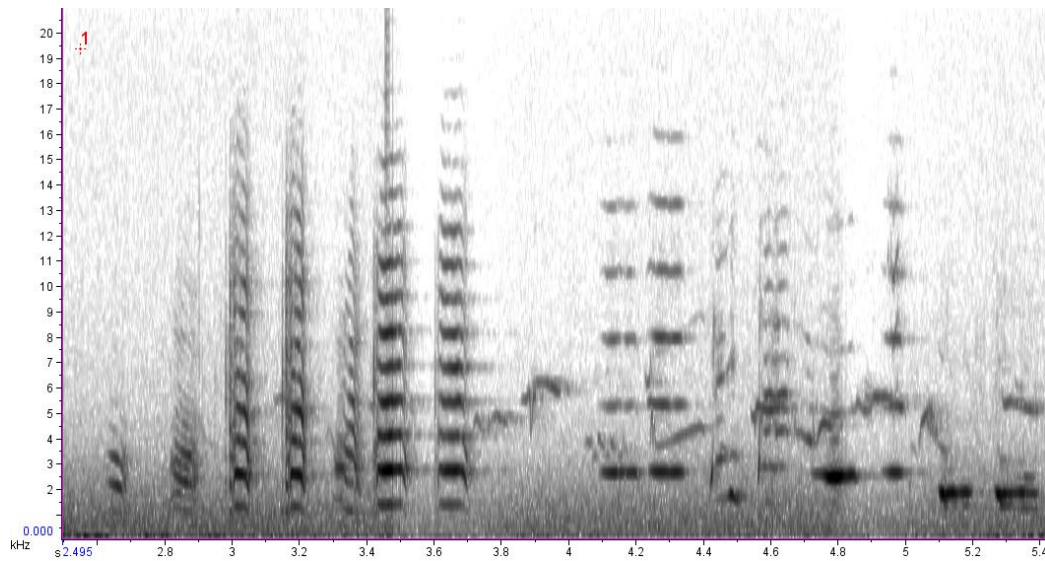
Song 15. October 24th 2010. 040-2010-11-22 05_21_24. A song with a combination of both of the above two common West Landing songs (a *hybrid* of the two common West Landing songs).



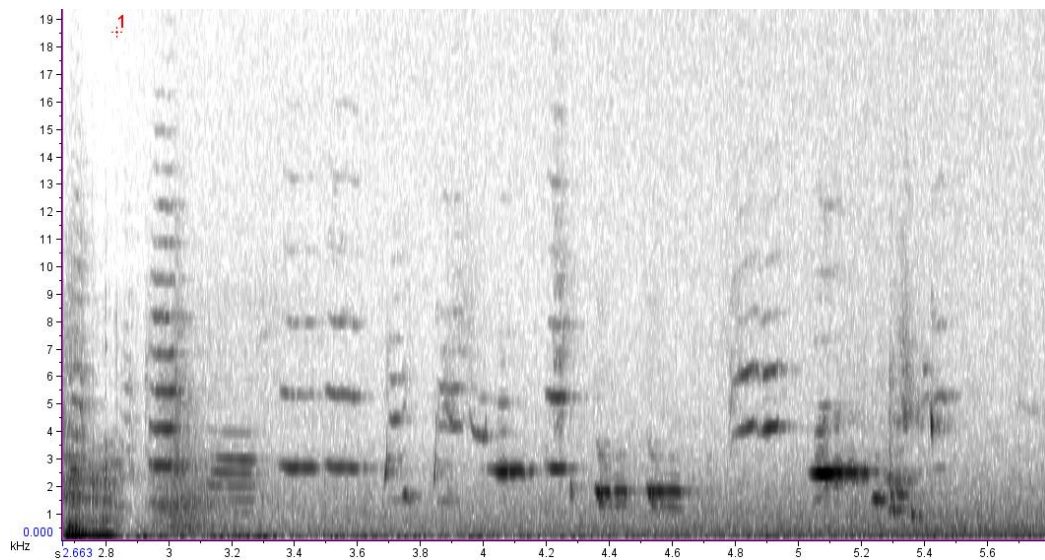
Song 16. October 31st 2010 (13.30h). 018-2010-11-22 02_41_57 (CI Disc Two, Folder 3). Variation of the 'Crazy Plucker' song.



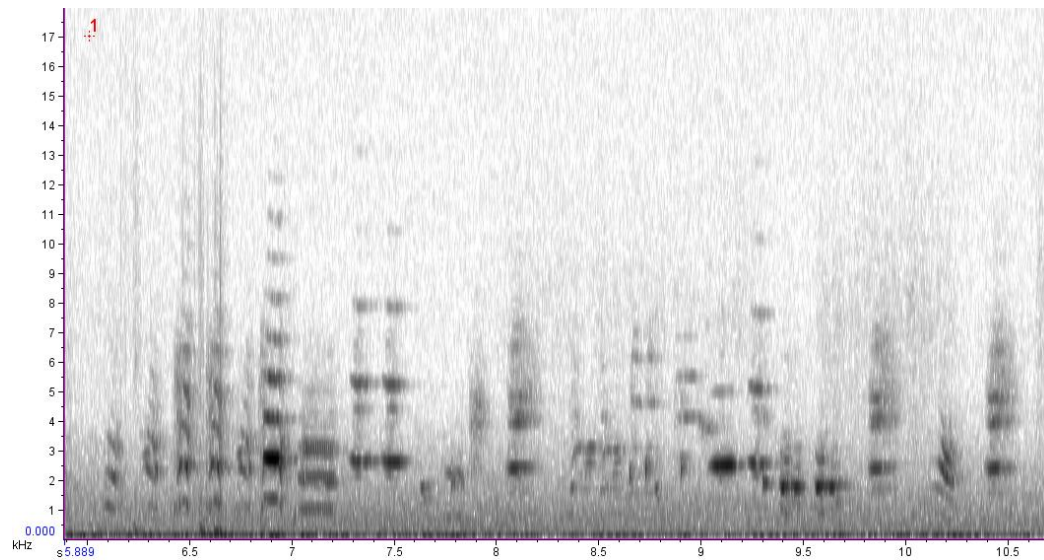
Song 17. October 25th 2010 (10.00h). 005-2010-11-22 06_01_03. Again, a song with a combination of both of the above two common West Landing songs (a *hybrid* of the two common West Landing songs).



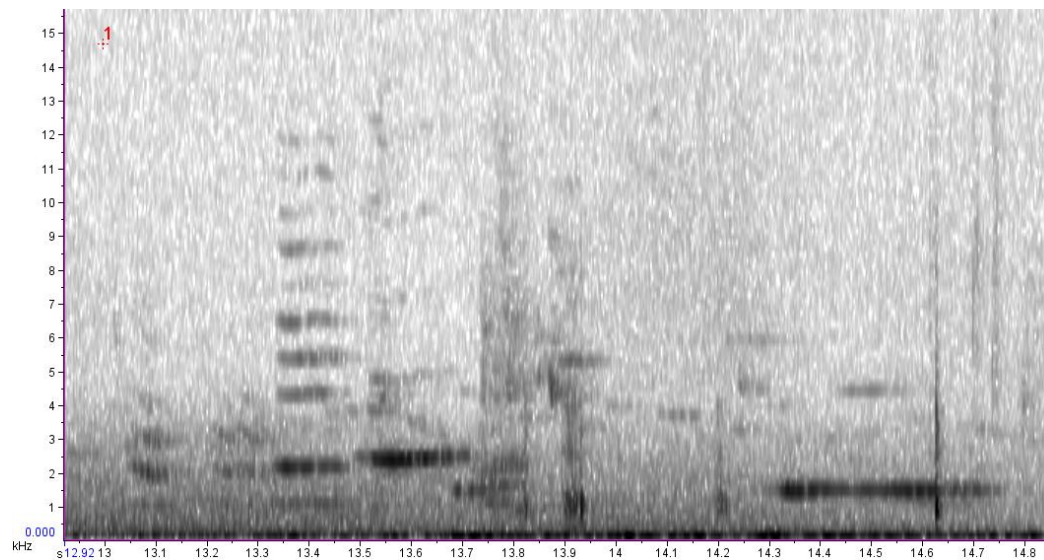
Song 18. October 26th 2010 (08.00h). 008-2010-11-22 06_16_50. The common 'crazy plucker' West Landing song with the last 3 notes of the other common West Landing song added at the end. First syllable (ascending crescendo) omitted from this figure, due to human voice talking over it.



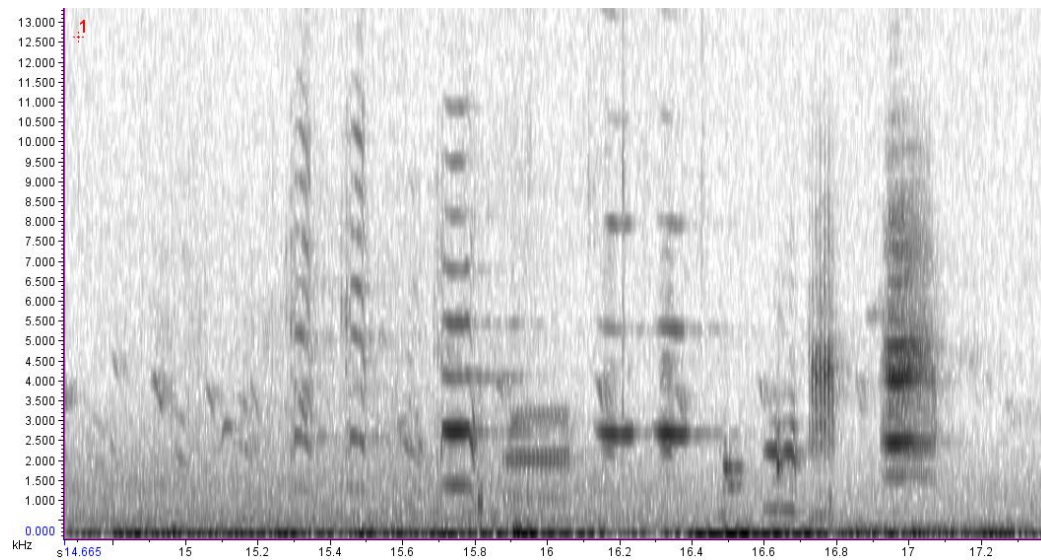
Song 19. October 24th 2010 (Morning). 002-2010-11-22 05_20_57. A variation on song number 4. Also at West Landing, Rangatira.



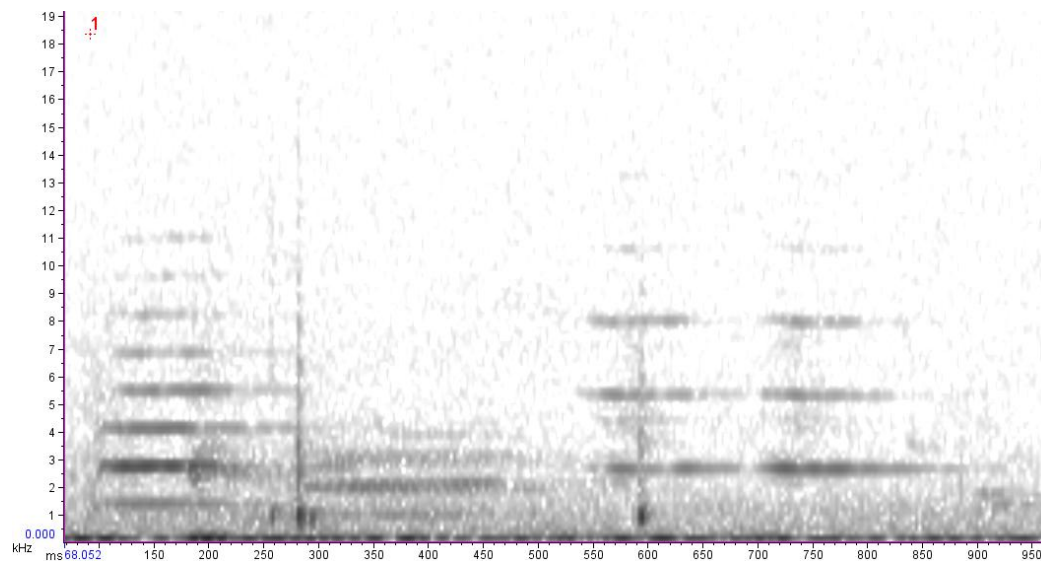
Song 20. October 24th 2010 (Morning). Another variation on the above song. This is a truncated version of the full common West Landing song.



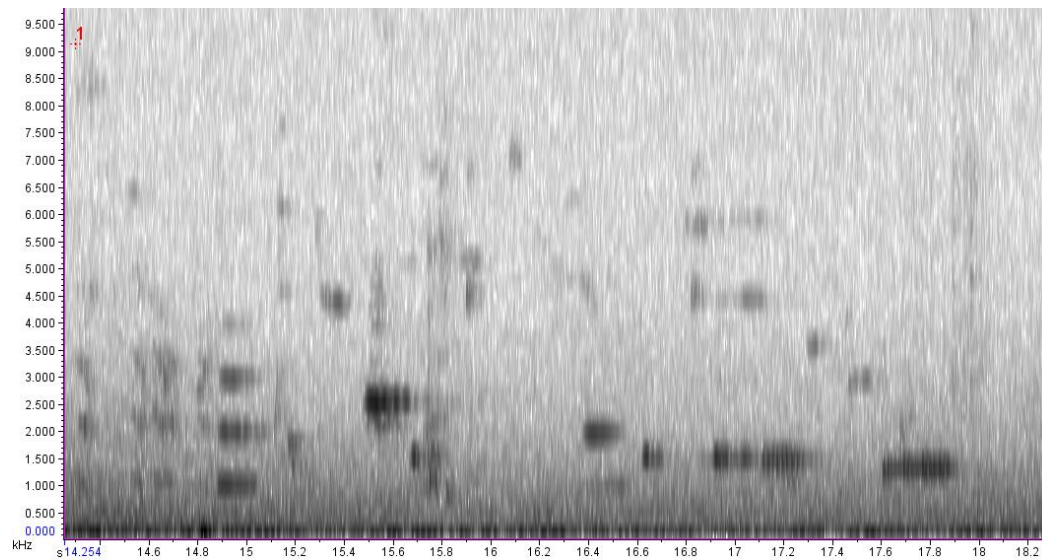
Song 21. October 24th 2010 (Morning). 006-2010-11-22 05_21_24. Another variation of the above song.



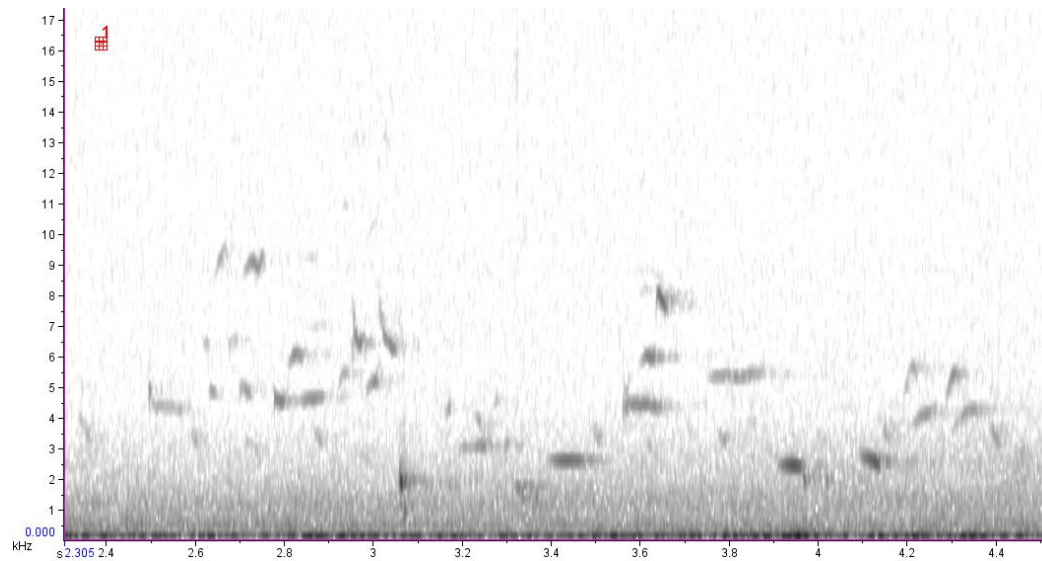
Song 22. October 24th 2010 (Morning). 003-2010-11-22 05_21_24. A truncated version of the above song (containing only the syllables seen at 14.3-15.0 seconds of song number 4).



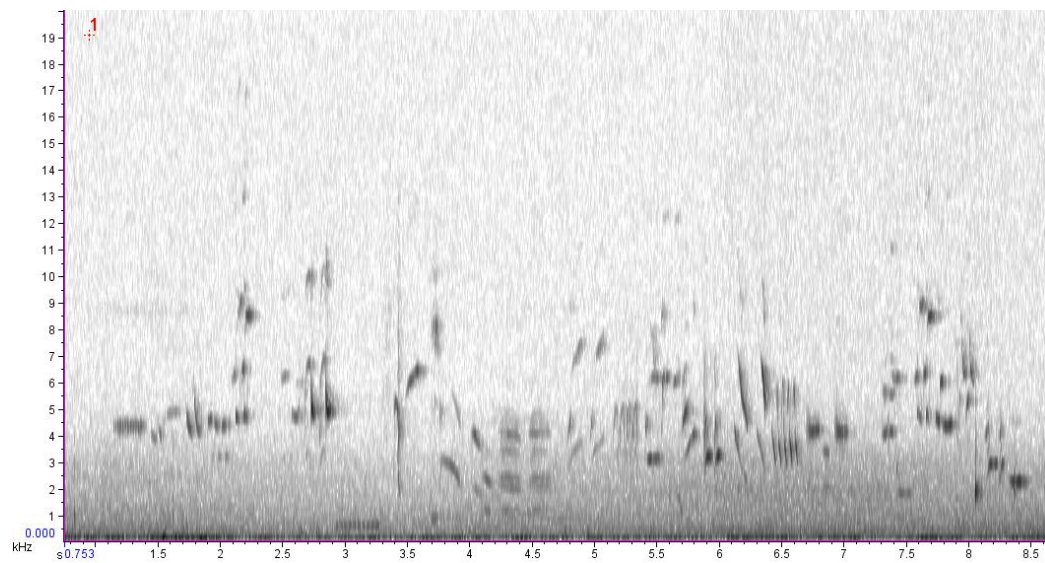
Song 23. October 24th 2010. (14.00h). 036-2010-11-22 05_30_53 (In Chatham Island Disc One Folder 5). A variation of the above songs, bell sound terminal syllables.



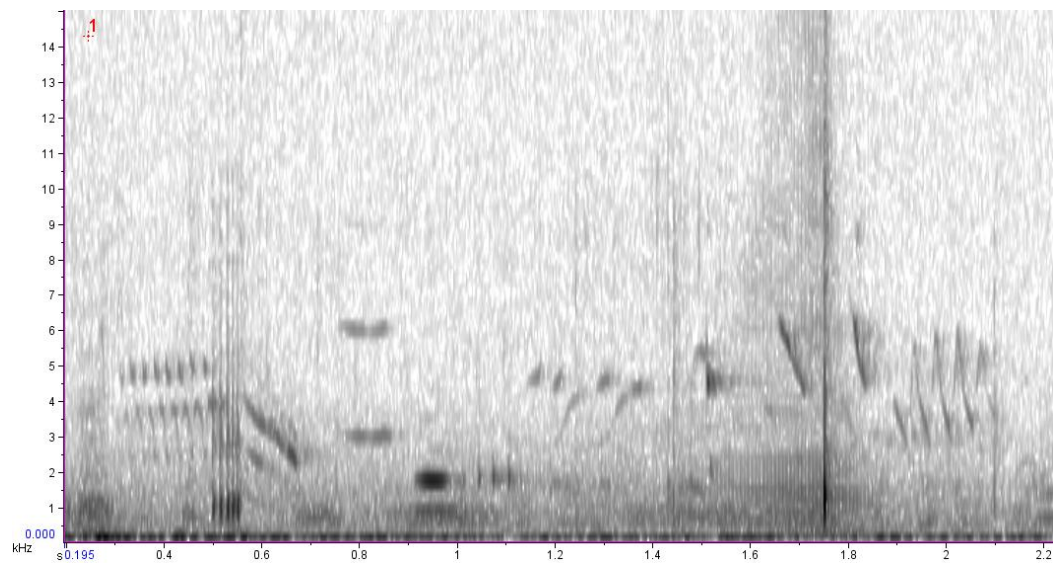
Song 24. October 24th 2010 (Morning). 002-2010-11-22 05_21_24 (In Chatham Island Disc One Folder 3). An exemplar of a tui song with a heavy trill component at West Landing, Rangatira.



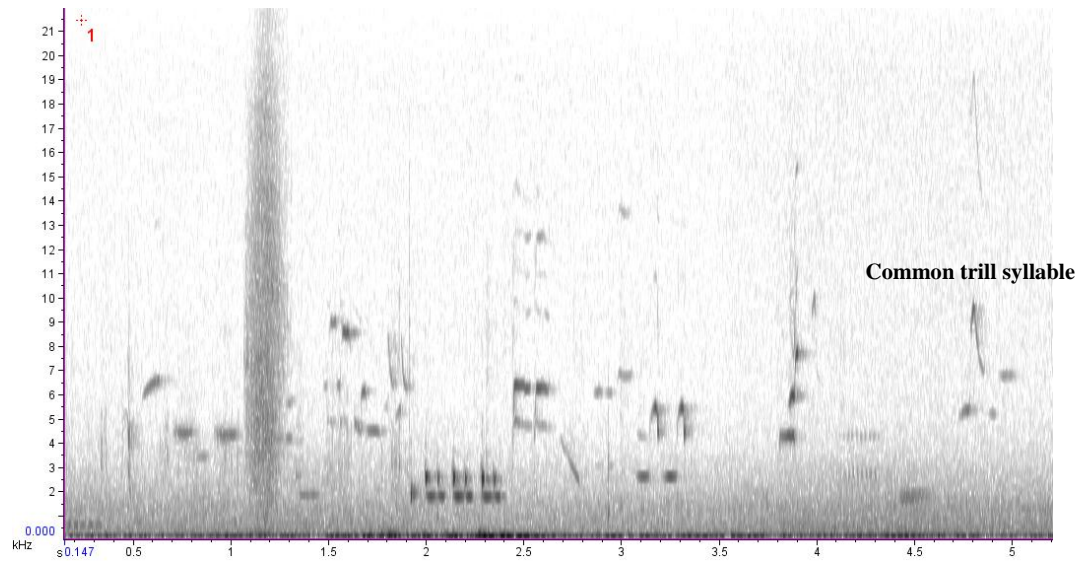
Song 25. October 24th 2010 (13.00h). 013-2010-11-22 05_30_52
(In Chatham Island Disc One Folder 3). Another exemplar of the complex trill
component of tui song at West Landing, Rangatira.



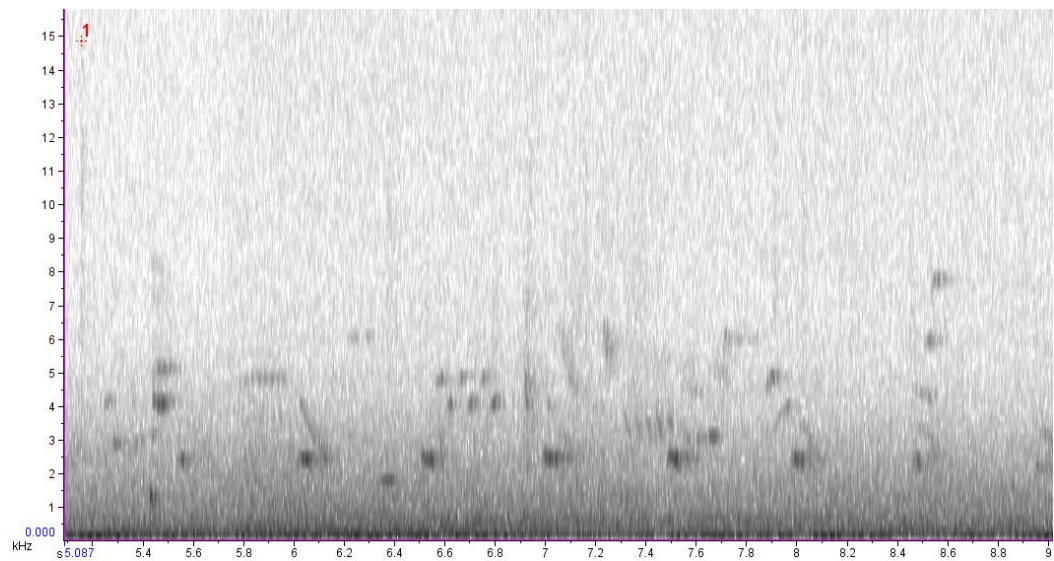
Song 26. October 24th 2010 (13.00h). 027-2010-11-22 05_30_53 (In Chatham Island
Disc One, Folder 5). Another exemplar of a trill component of a tui song at West
Landing, Rangatira.



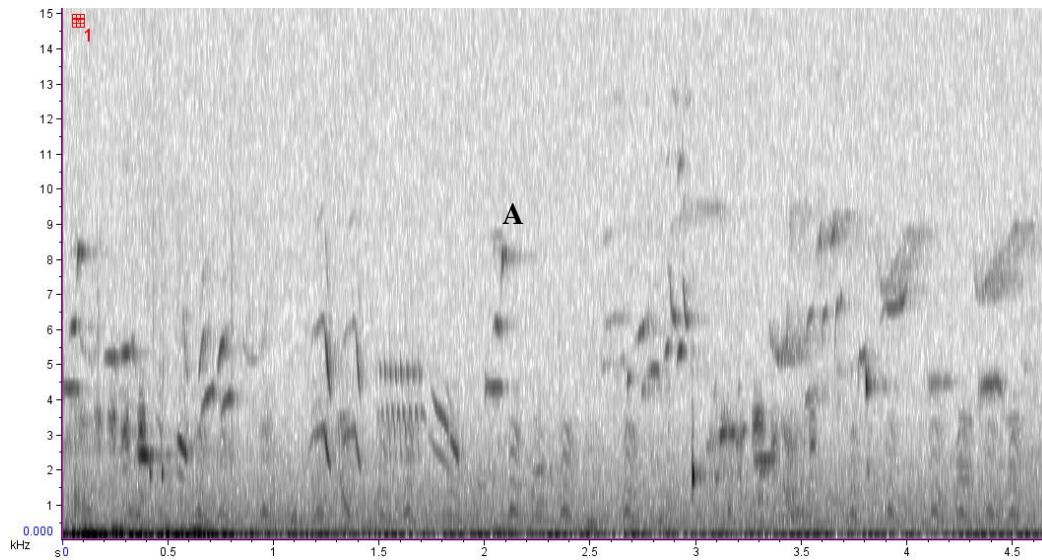
Song 27. October 24th 2010 (13.00h). 061-2010-11-22 05_30_53 (In Chatham Island Disc One, Folder 5). Another exemplar of the complex trill component of a tui song at West Landing, Rangatira.



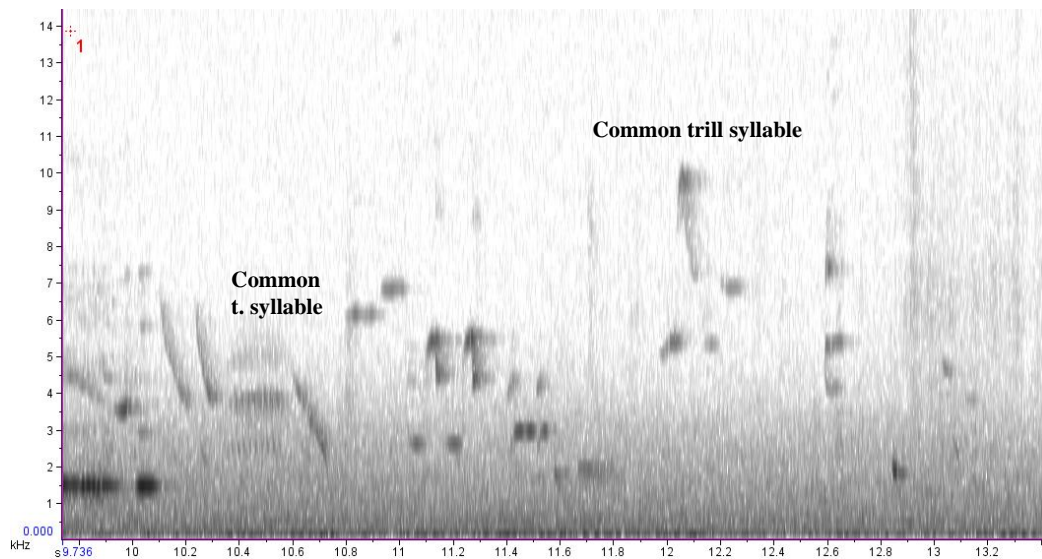
Song 28. October 24th 2010 (13.00h). 063-2010-11-22 05_30_53 (In Chatham Island Disc One Folder 5). Another exemplar of the complex trill component of tui song at West Landing, Rangatira.



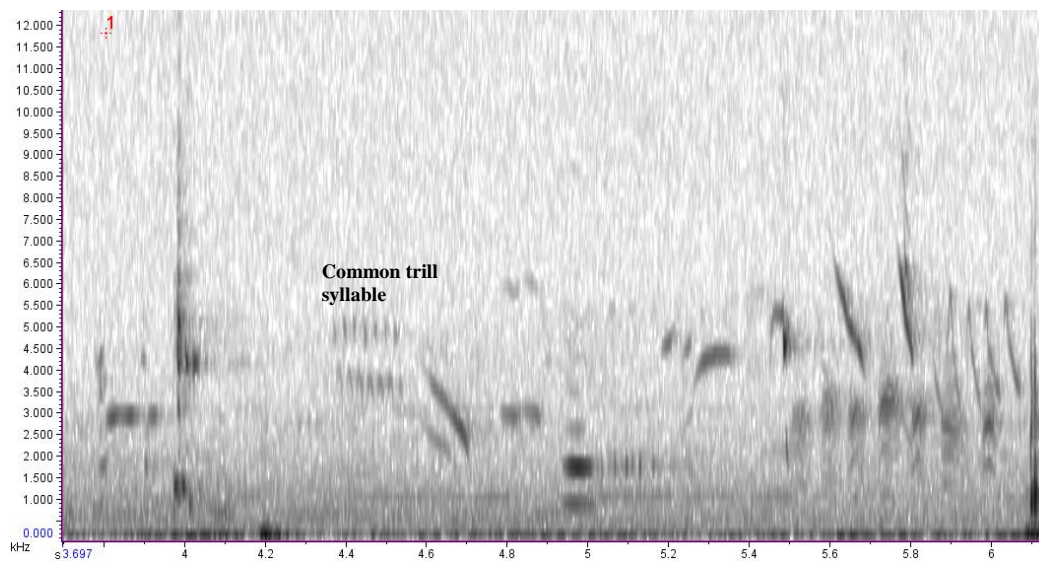
Song 29. October 24th 2010 (13.00h). 071-2010-11-22 05_30_53 (In Chatham Island Disc One Folder 5). Another exemplar of the complex trill component of tui song at West Landing, Rangatira. 'A' denotes trill syllable observed on more than one occasion.



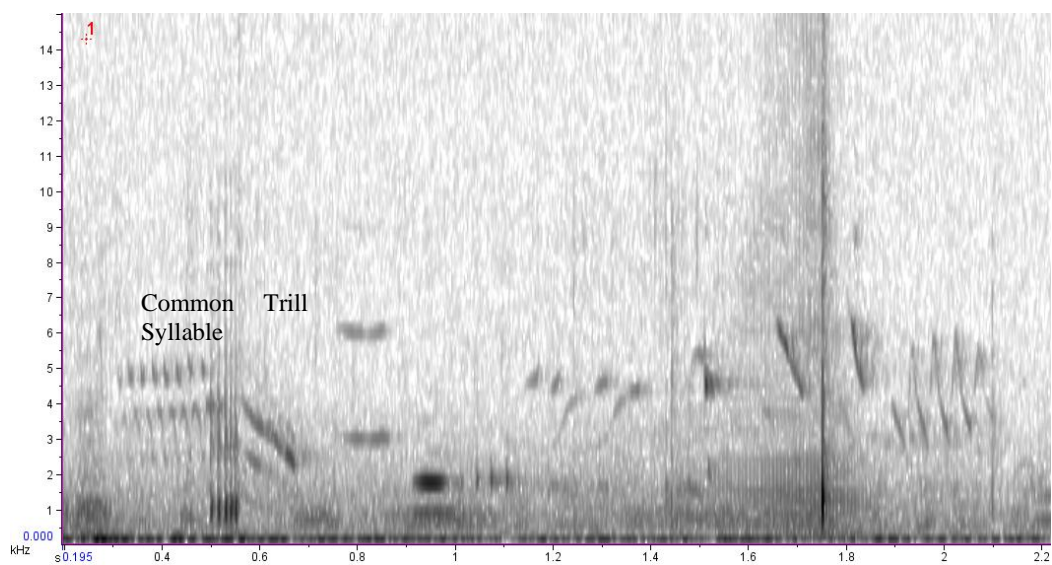
Song 30. October 24th 2010 (13.00h). 083-2010-11-22 05_30_53 (In Chatham Island Disc One Folder 5). Another exemplar of the complex trill component of tui song at West Landing, Rangatira.



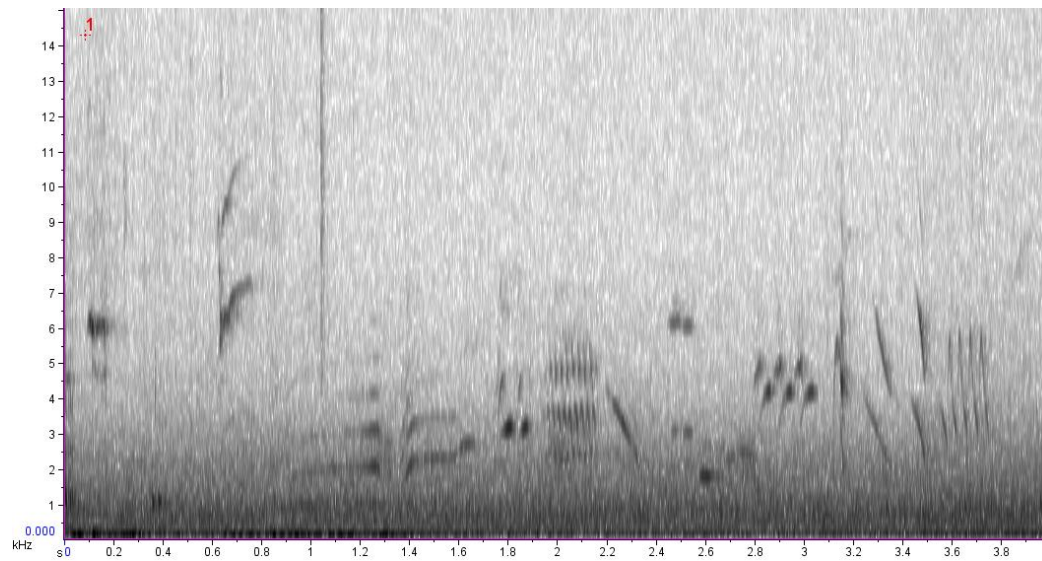
Song 31. October 24th 2010 (13.00h). 086-2010-11-22 05_30_53 (In Chatham Island Disc One Folder 5). Another exemplar of the complex trill component of tui song at West Landing, Rangatira.



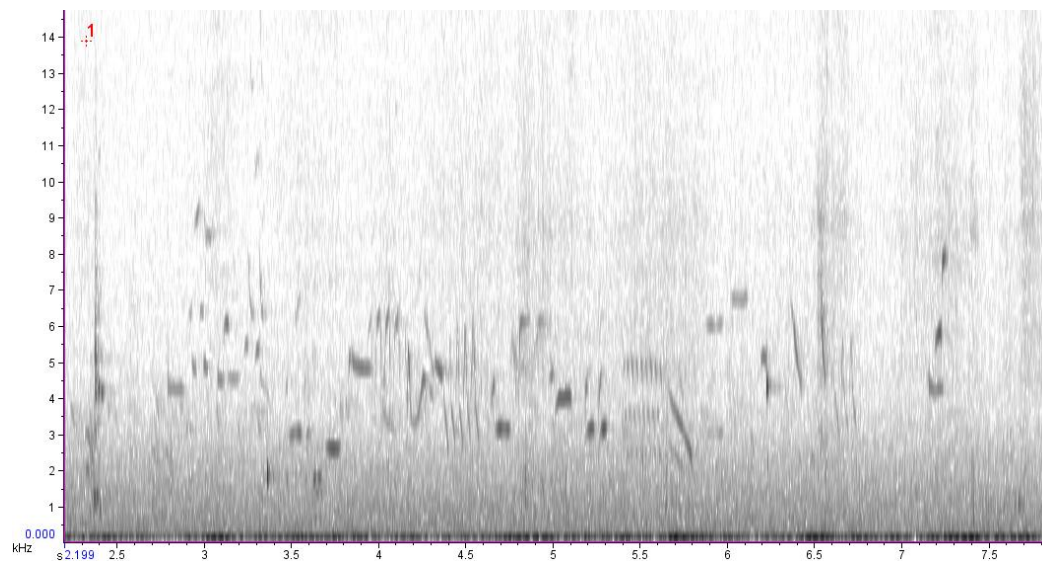
Song 32. October 24th 2010 (15.00h). 027-2010-11-22 05_30_53 (In Chatham Island Disc One Folder 5). Another exemplar of the complex trill component of tui song at West Landing, Rangatira. This is almost identical to the trill song directly above (aside from the first cluster of notes (2 syllables) between 3.697 and 4s of the above figure).



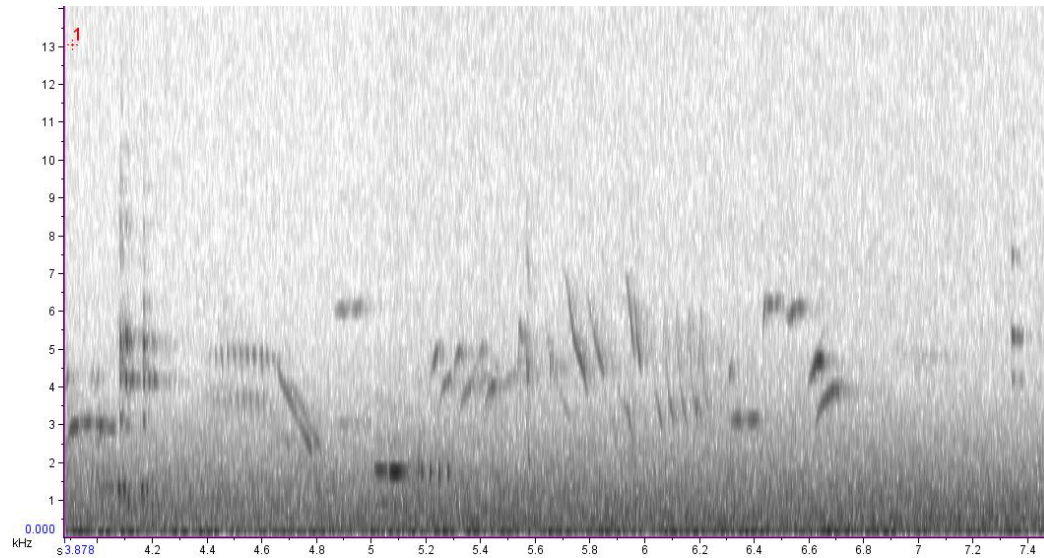
Song 33. October 25th 2010 (19.00h). 050-2010-11-22 06_07_25. Another exemplar of the complex trill component of tui song at West Landing, Rangatira. Similar to the above but counted as a different song within the repertoire of Chatham Island populations.



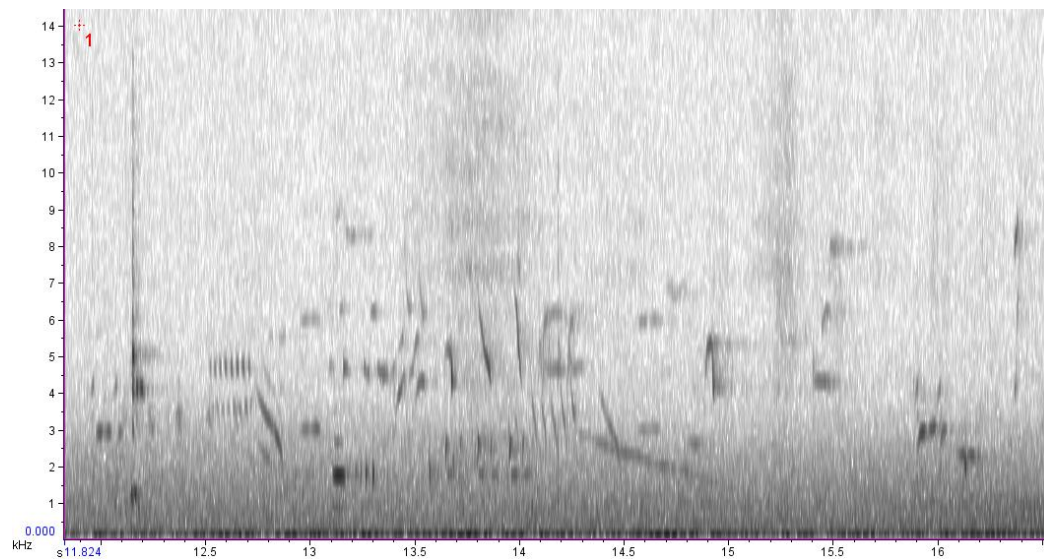
Song 34. October 25th 2010 (09.00h). 004-2010-11-22 05_52_04 (In Chatham Island Disc One Folder 6). Another exemplar of the complex trill component of tui song at West Landing, Rangatira.



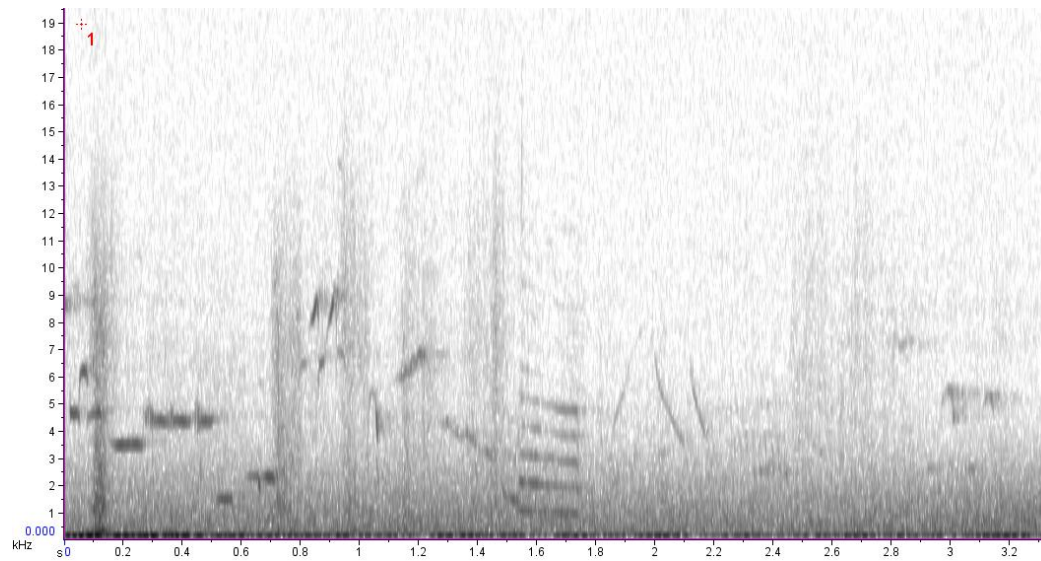
Song 35. October 25th 2010 (09.00h). 005-2010-11-22 05_52_04 (In Chatham Island Disc One Folder 6). Another exemplar of the complex (*and highly variable?*) trill component of tui song at West Landing, Rangatira .



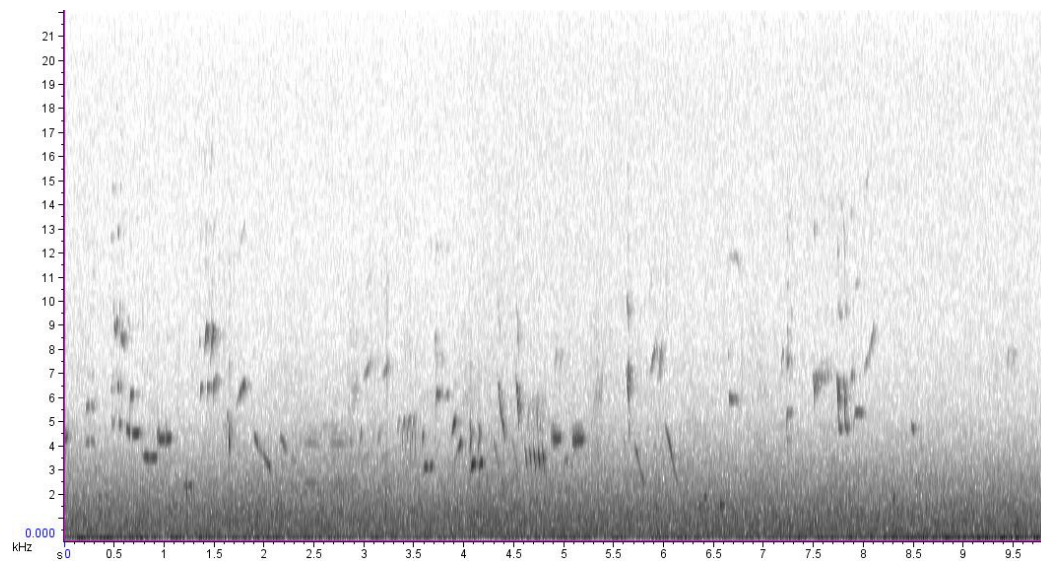
Song 36. October 25th 2010 (09.00h). 006-2010-11-22 05_52_04 (In Chatham Island Disc One Folder 6). Another exemplar of the complex trill component of tui song at West Landing, Rangatira.



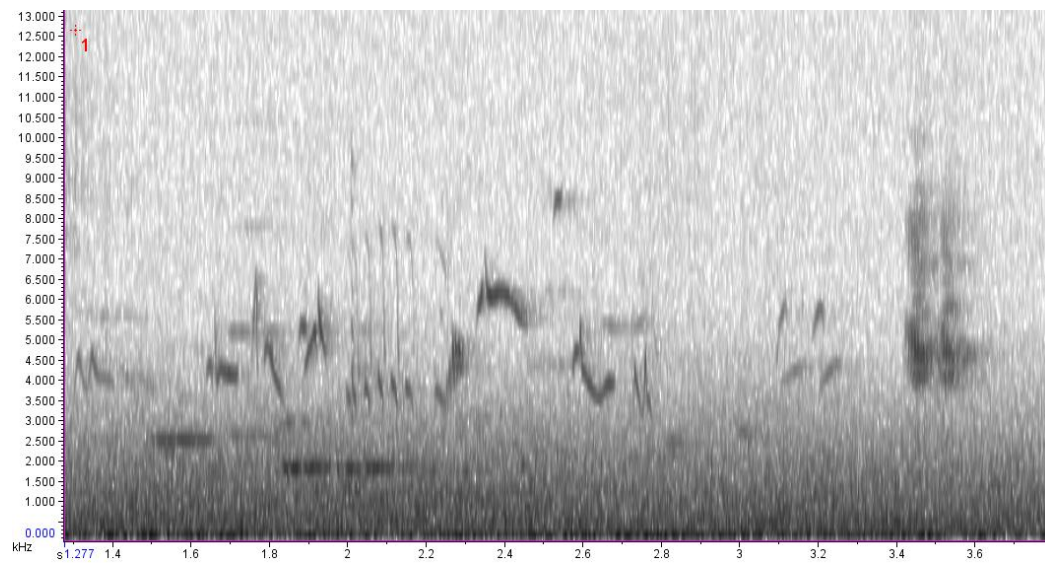
Song 37. October 25th 2010 (09.00h). 007-2010-11-22 05_52_04 (In Chatham Island Disc One Folder 6). Another exemplar of the complex trill component of tui song at West Landing, Rangatira.



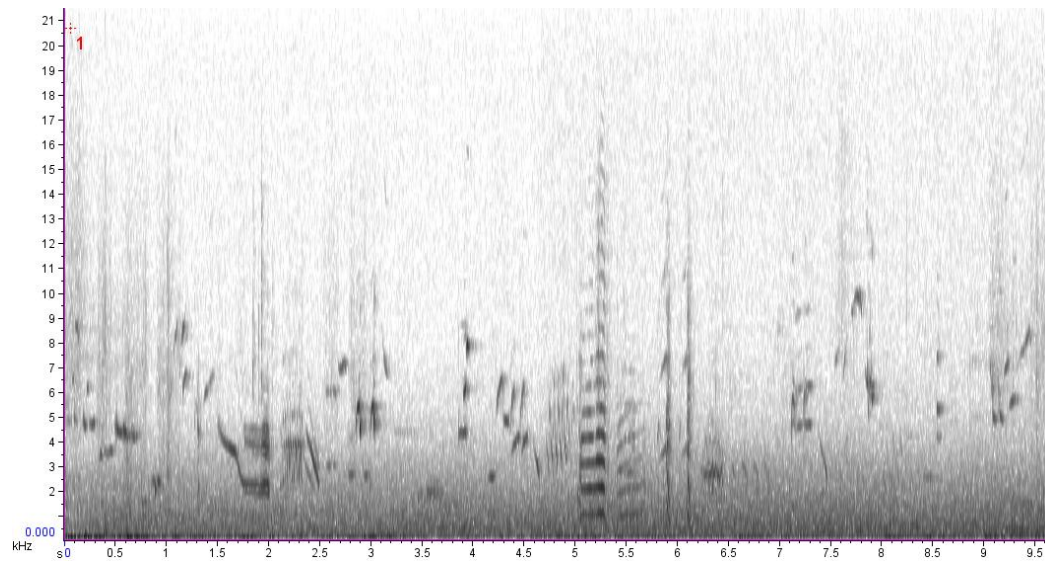
Song 38. October 25th 2010 (09.00h). 023-2010-11-22 05_52_04 (In Chatham Island Disc One Folder 6). Another exemplar of the complex trill component of tui song at West Landing, Rangatira.



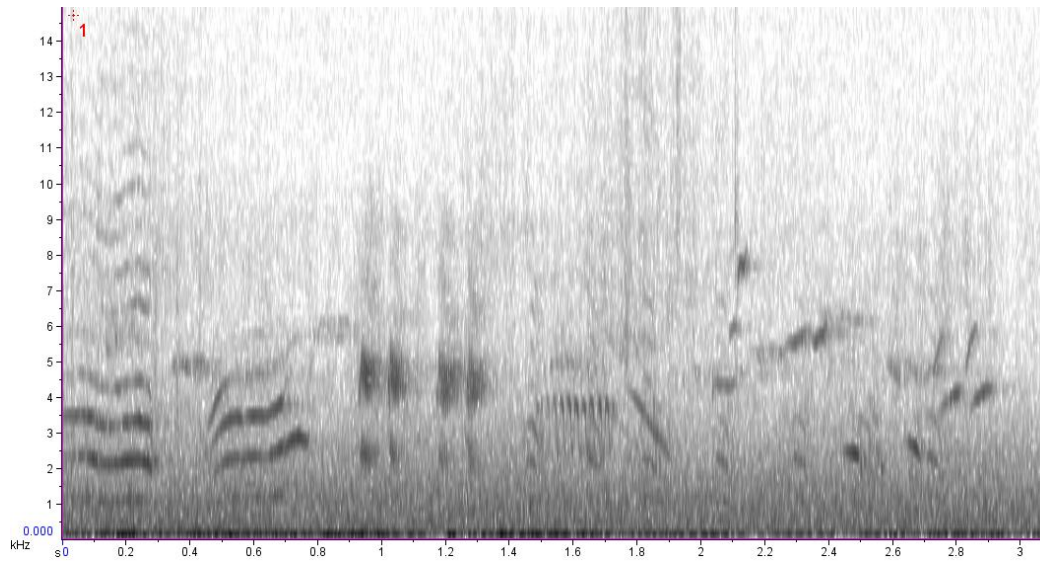
Song 39. October 25th 2010 (09.00h). 026-2010-11-22 05_52_05 (In Chatham Island Disc One Folder 6). Another exemplar of the complex trill component of tui song at West Landing, Rangatira.



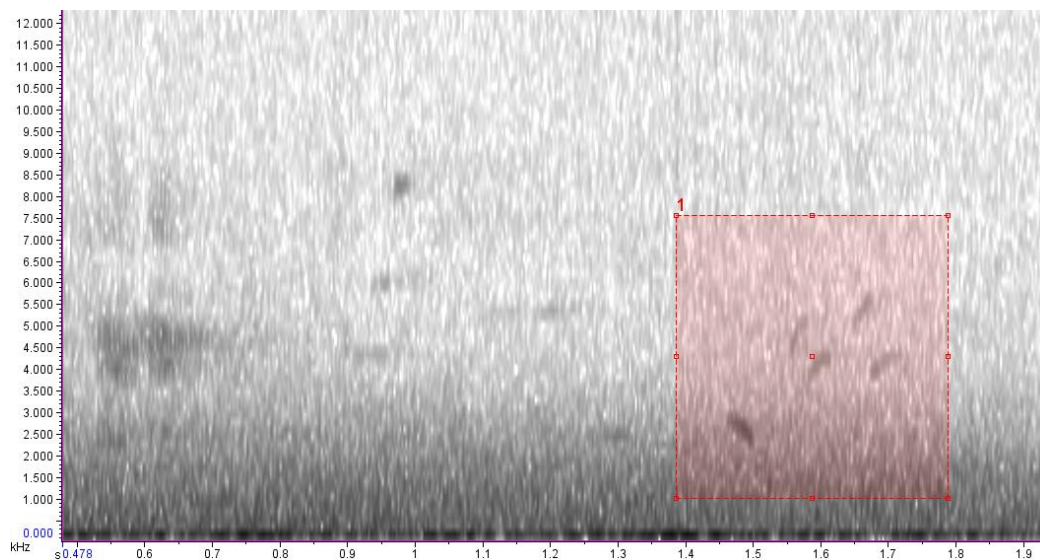
Song 40. October 25th 2010 (09.00h). 030-2010-11-22 05_52_05 (In Chatham Island Disc One Folder 6). Another exemplar of the complex trill component of tui song at West Landing, Rangatira.



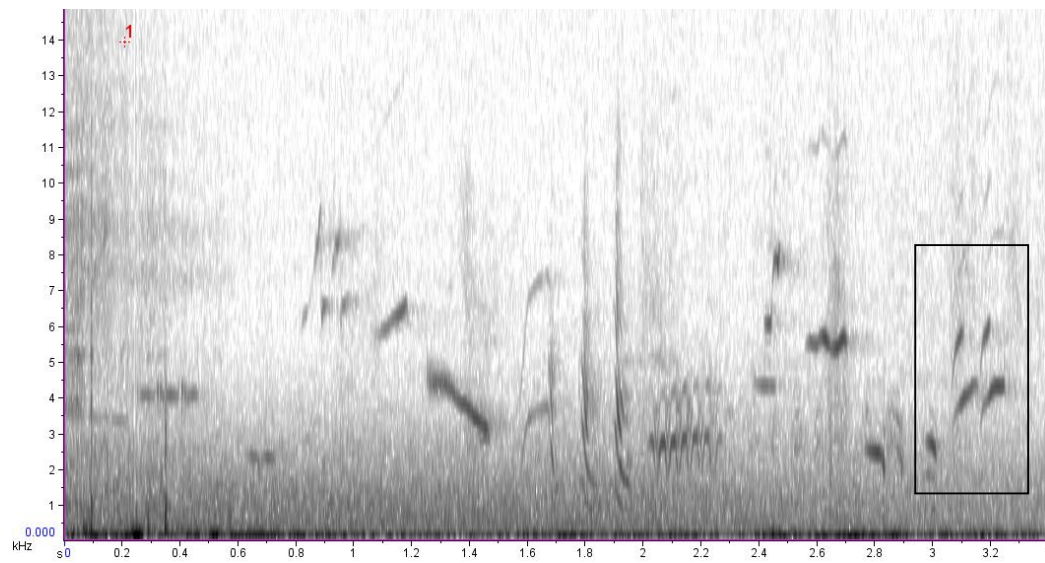
Song 41. October 25th 2010 (09.00h). 035-2010-11-22 05_52_05 (In Chatham Island Disc One Folder 6). Another exemplar of the complex trill component of tui song at West Landing, Rangatira.



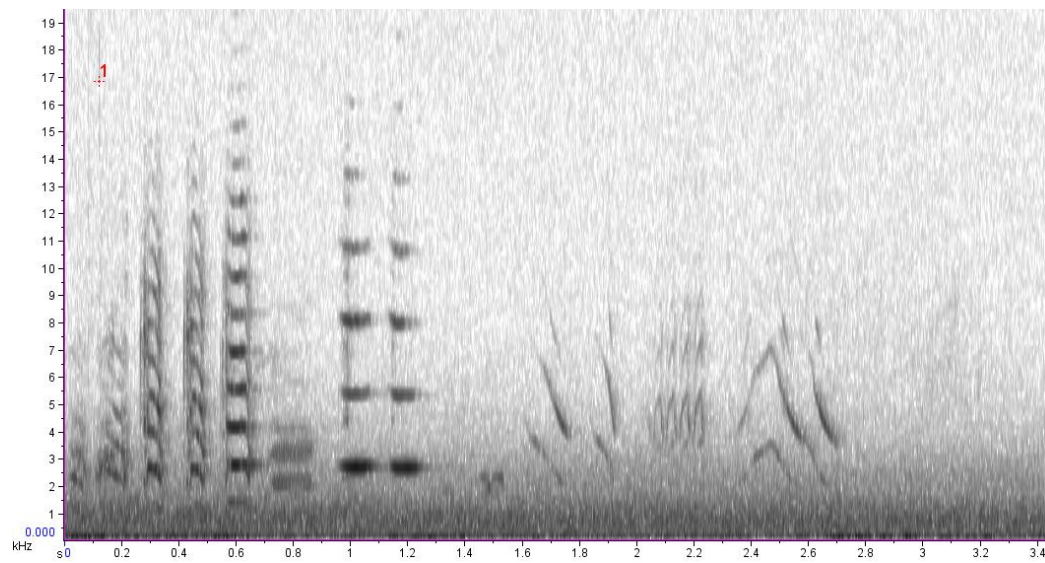
Song 42. October 25th 2010 (09.00h) Next two are: 036-2010-11-22 05_52_05 and 043-2010-11-22 05_52_05 (In Chatham Island Disc One Folder 6). Exemplars of the complex trill component of tui song at West Landing, Rangatira. Note the red box below and the black box in the figure below that are the same trill syllable.



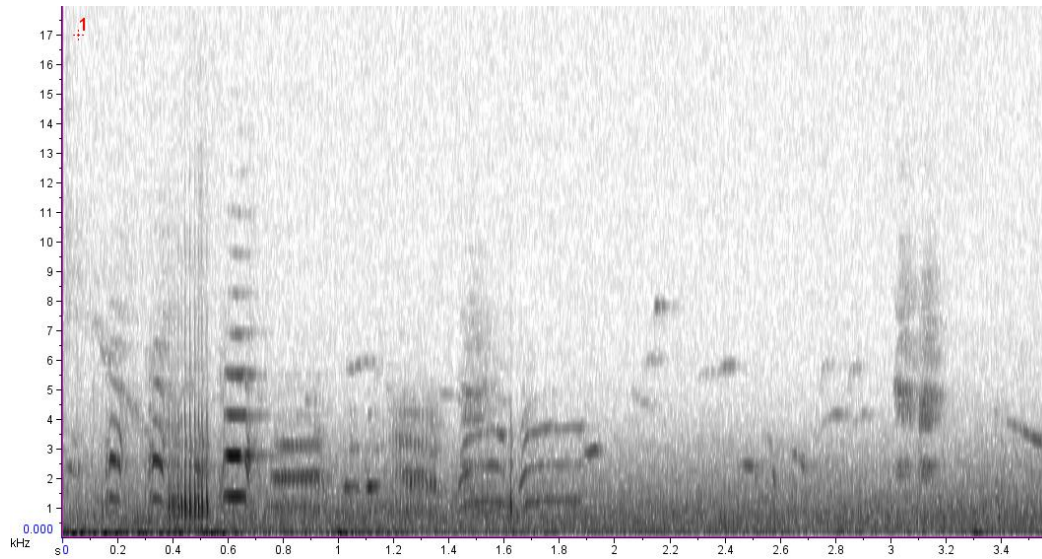
Song 43.



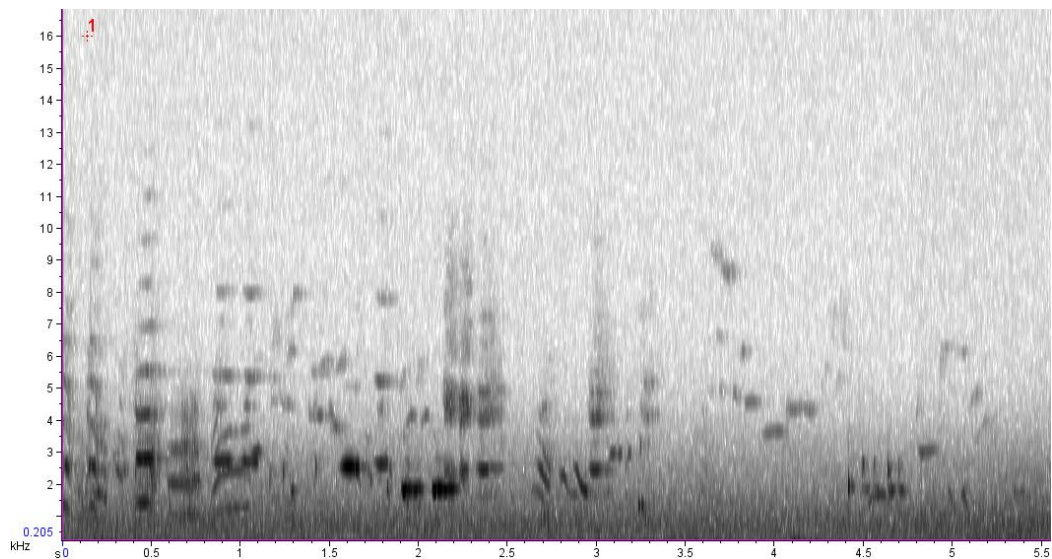
Song 44. October 25th (18.00h). 024-2010-11-22 06_07_24. Exemplar of a trill preceded by a part of one of the common West Landing songs.



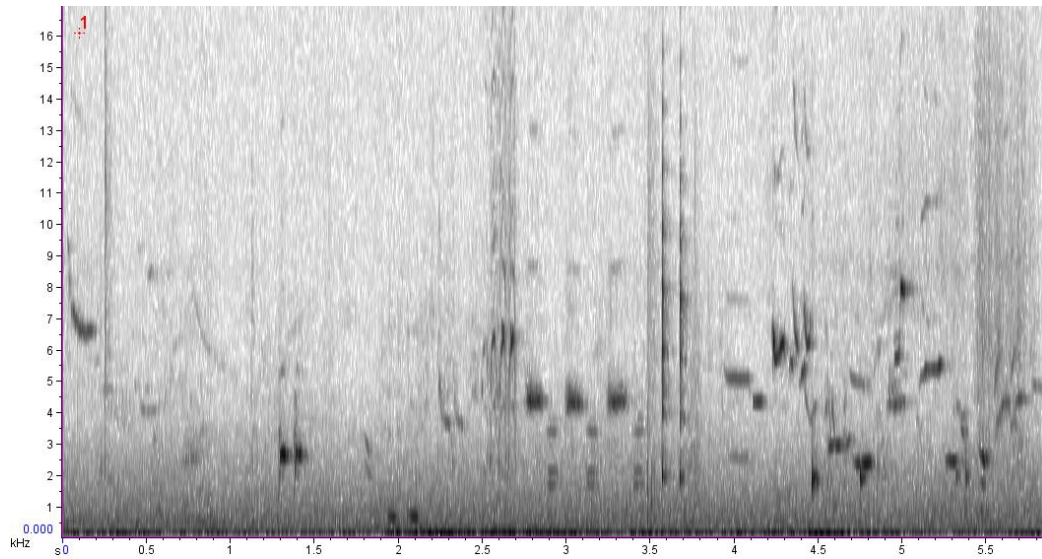
Song 45. October 25th (18.00h). 026-2010-11-22 06_07_24. Exemplar of a trill preceded by a variation of one of the common West Landing songs.



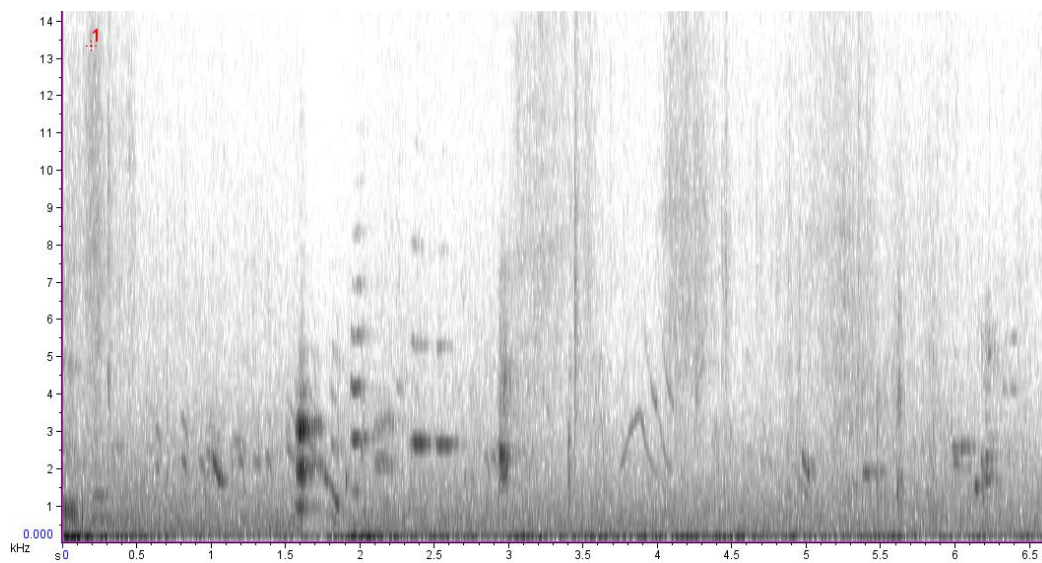
Song 46. October 25th (18.00h). 035-2010-11-22 06_07_24. Exemplar of a trill preceded by a variation of one of the common West Landing songs (the 'crazy plucker' song).



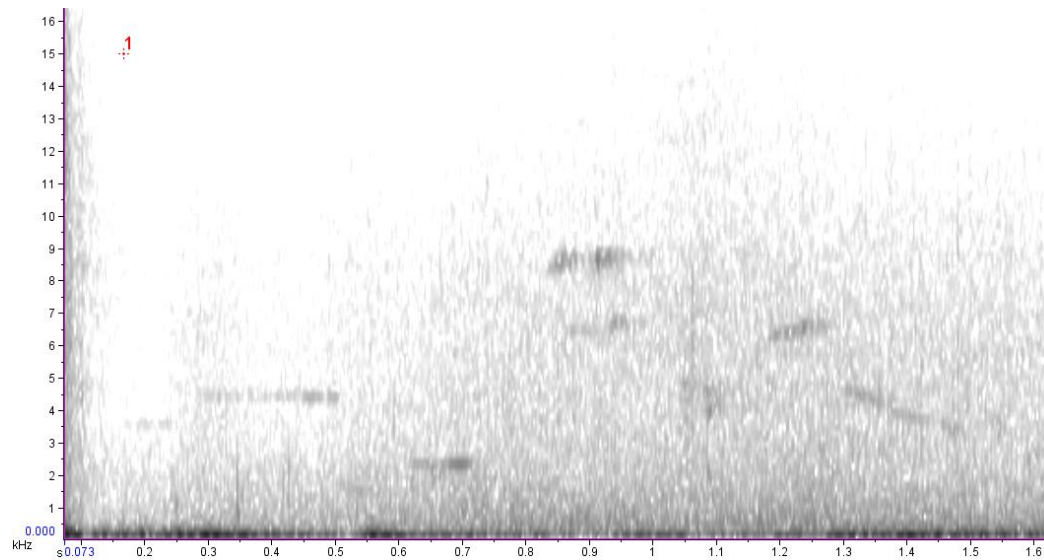
Song 47. October 26th (07.00h). 002-2010-11-22 06_16_50. Exemplar of a trill at West Landing, Rangatira. This followed a highly territorial bout with another male.



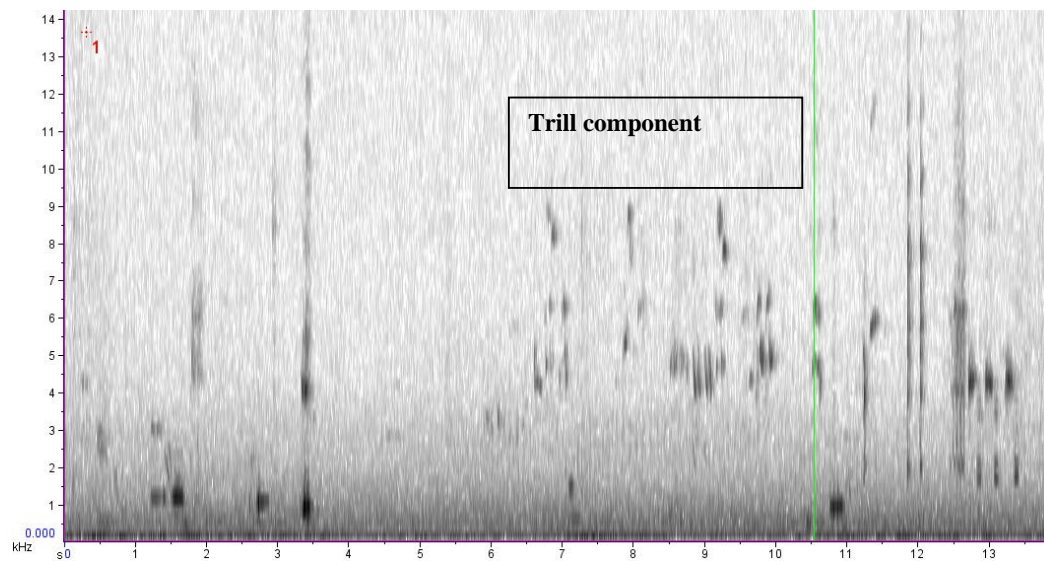
Song 48. October 26th 2010 (07.00h). 003-2010-11-22 06_16_50. Exemplar of a combination of the common songs and also a short trill at West Landing, Rangatira. This followed a highly territorial bout with another male.



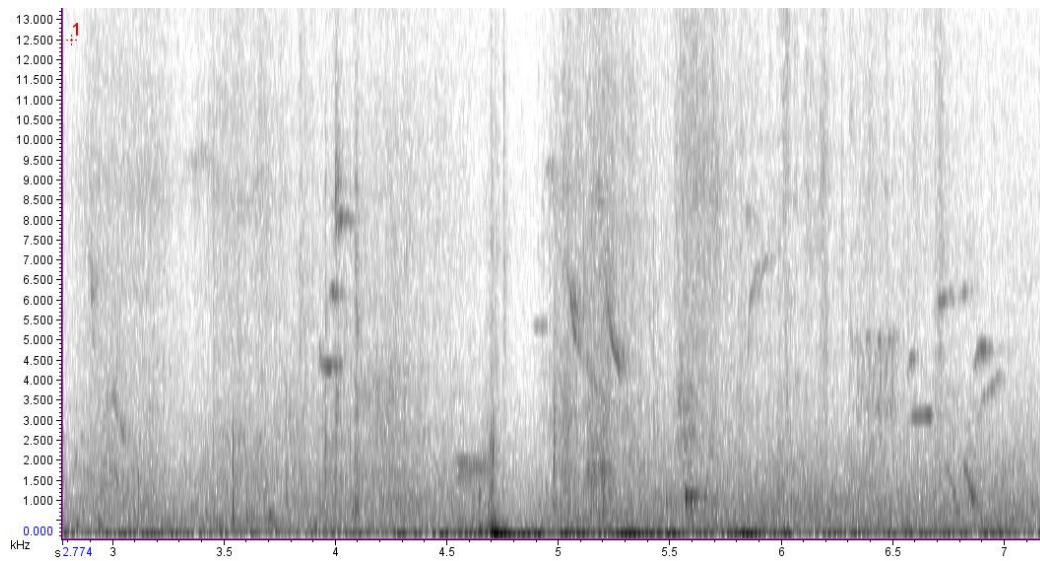
Song 49. October 26th 2010 (07.00h). 004-2010-11-22 06_16_50. Exemplar of a very short trill at West Landing, Rangatira.



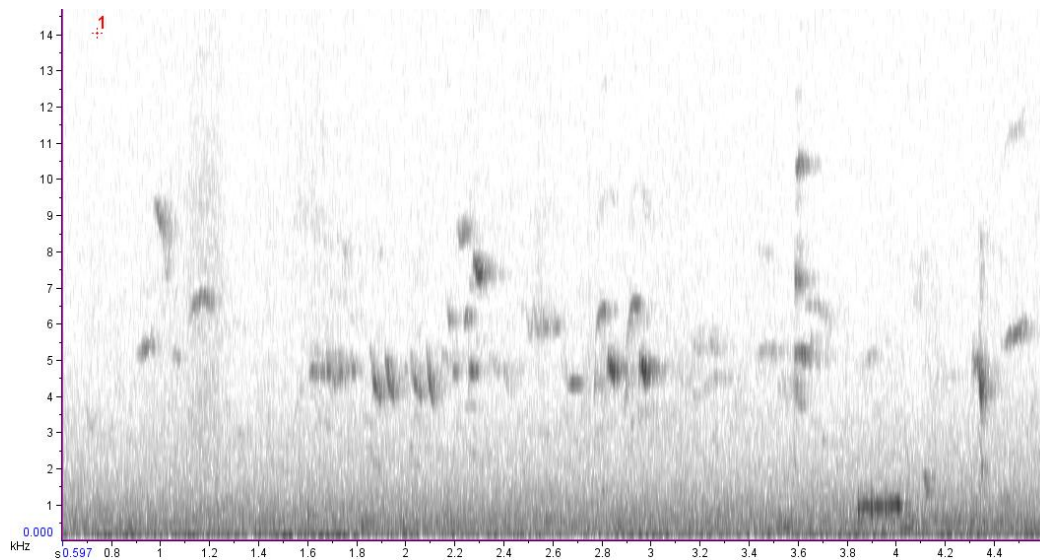
Song 50 October 26th 2010 (8.00h). 010-2010-11-22 06_16_50. West Landing, Rangatira. An exemplar of a song containing a trill component and some wonderful robotic-electronic sounds.



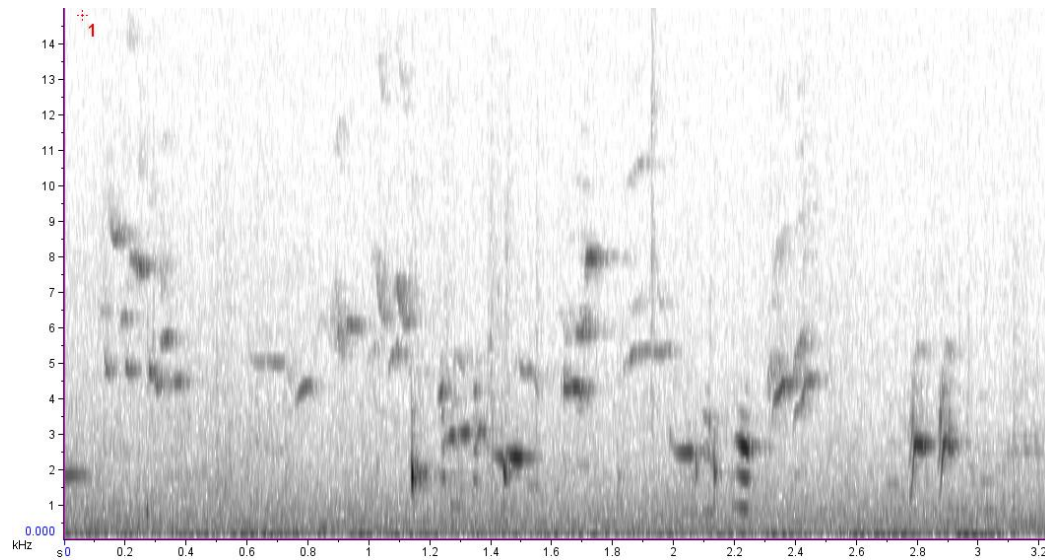
Song 51. October 26th 2010 (07.00h). 006-2010-11-22 06_16_50. Exemplar of a short trill at West Landing, Rangatira.



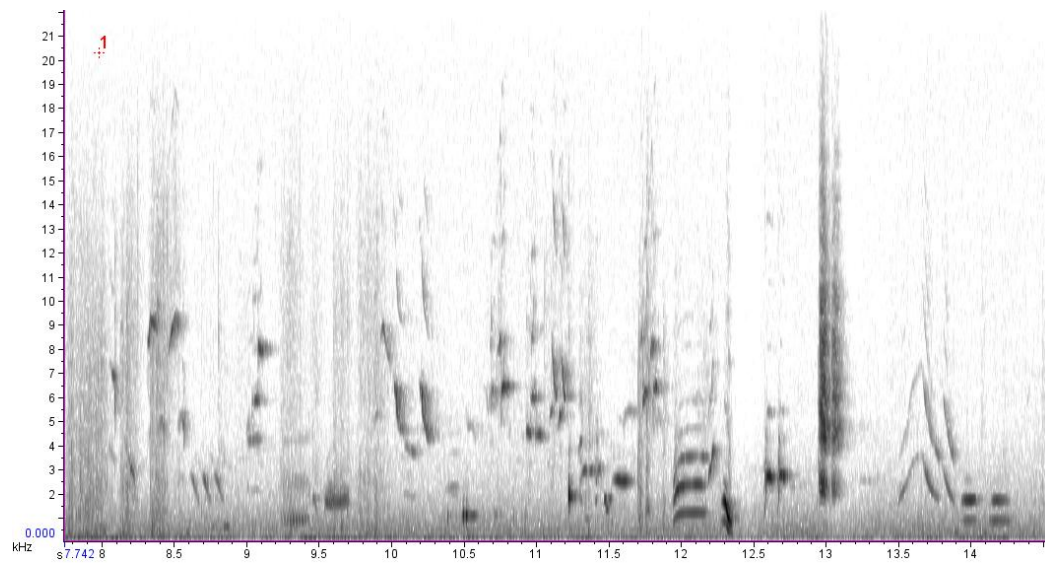
Song 52. October 26th 2010 (8.00h). 012-2010-11-22 06_16_50. An exemplar of a trill component of a song at West Landing, Rangatira. The trill is briefly interrupted by a low frequency, throaty sound at c. 3.82-4s.



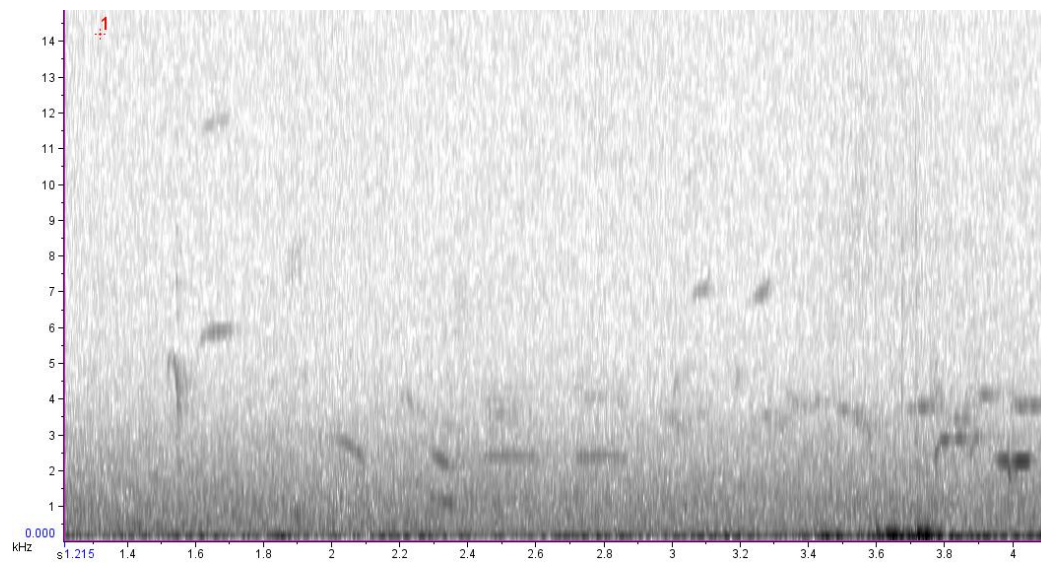
Song 53. October 26th 2010 (8.00h). 014-2010-11-22 06_16_50. An exemplar of a trill component of a song at West Landing, Rangatira.



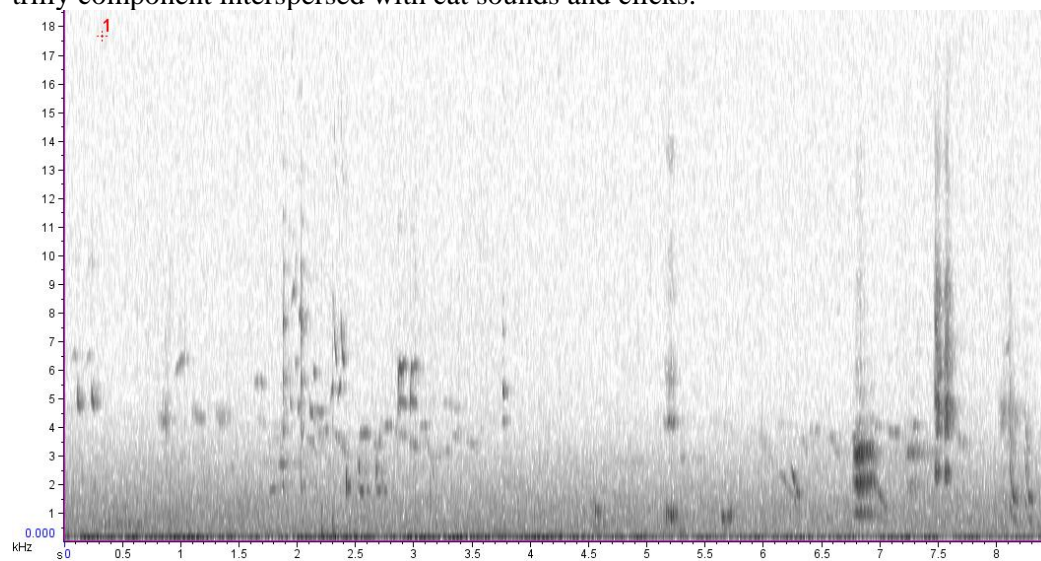
Song 54. October 26th 2010 (8.00h). 014-2010-11-22 06_16_50. An exemplar of the complex trill component of a song at West Landing, Rangatira.



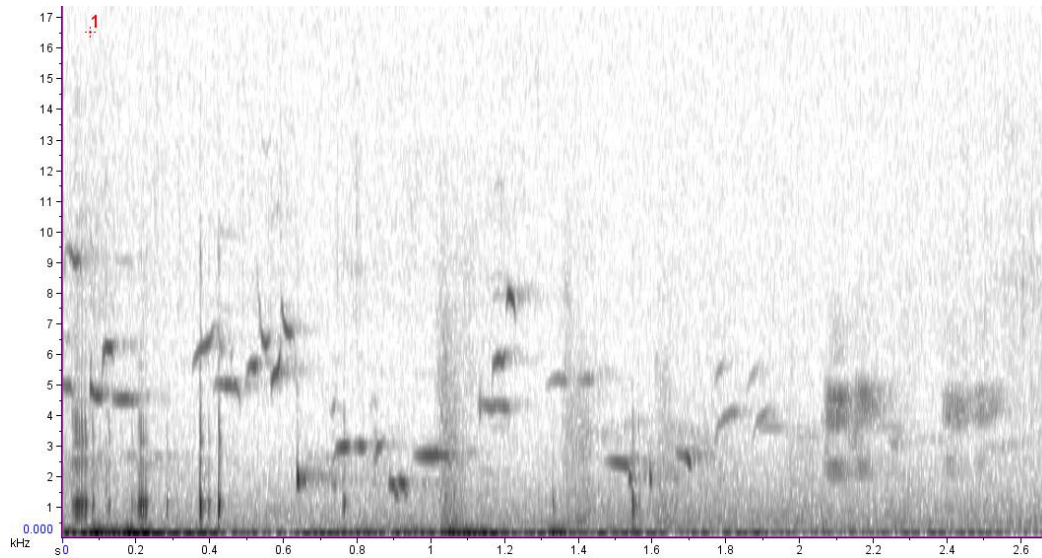
Song 55. October 26th 2010 (9.00h). 030-2010-11-22 06_16_50. A unique trilly component.



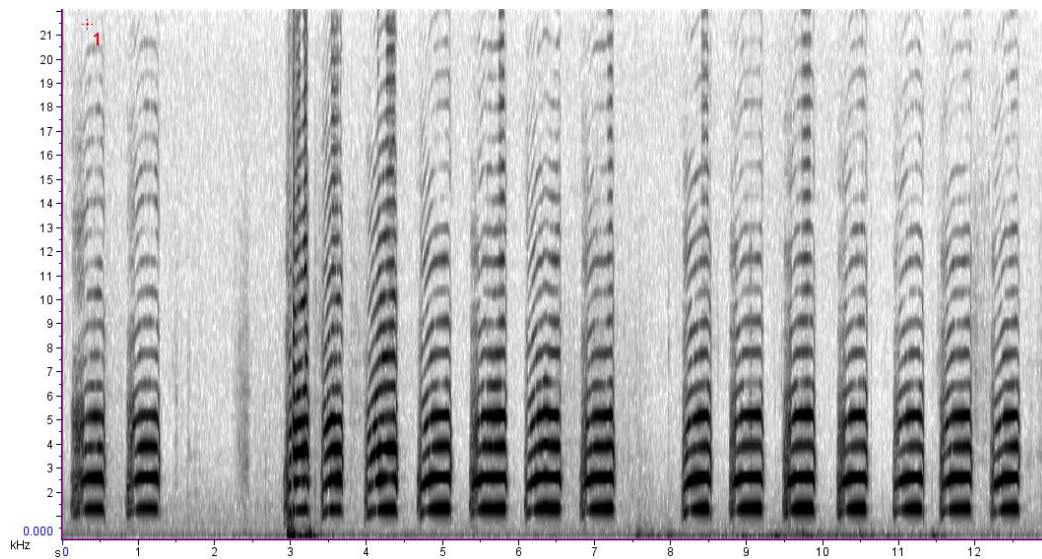
Song 56. October 26th 2010 (9.00h). 030-2010-11-22 06_16_50. An exemplar of a trilly component interspersed with cat sounds and clicks.



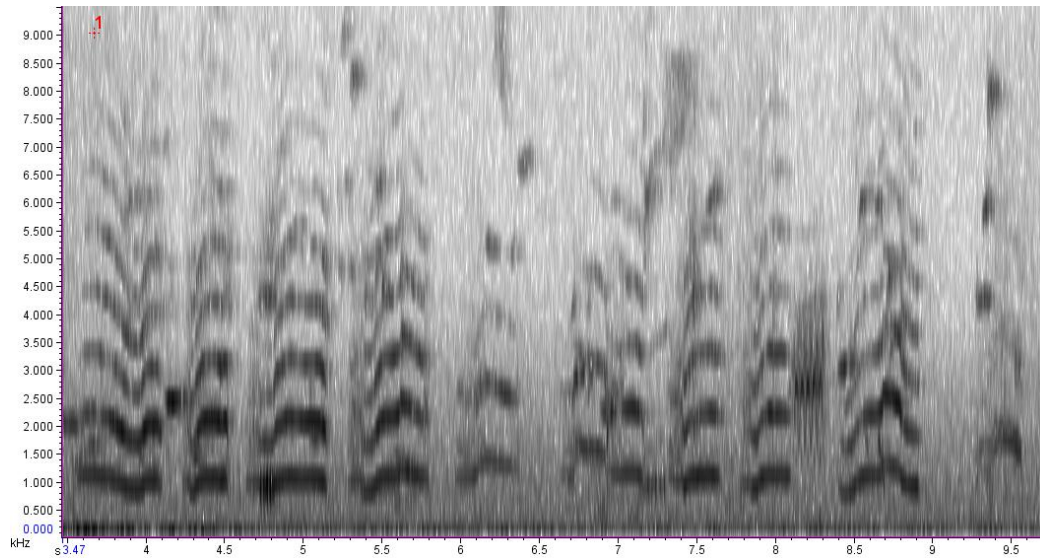
Song 57. October 26th 2010 (11.30h). 007-2010-11-22 06_36_37. An exemplar of a trill component at West Landing/Woolshed Bush interface.



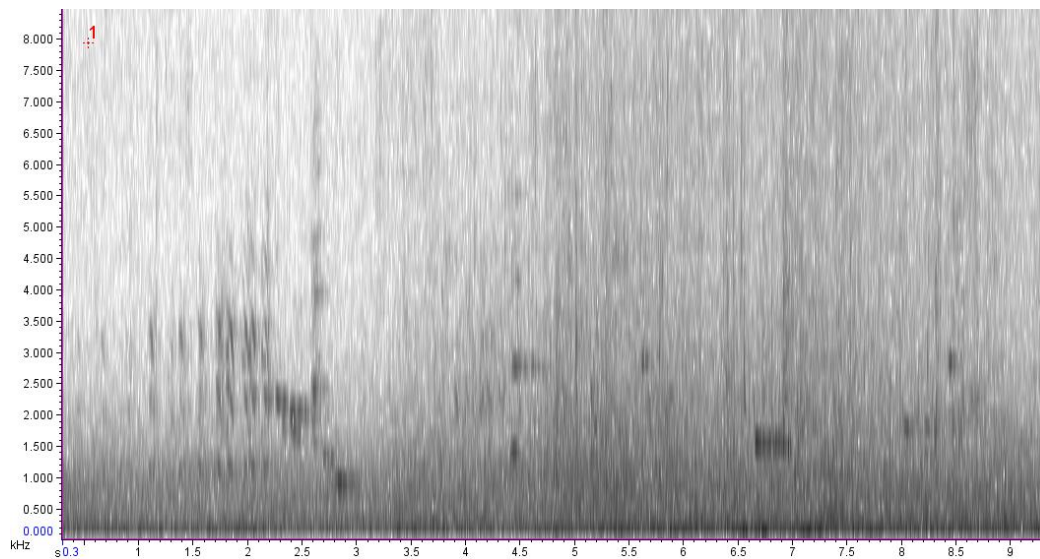
Song 58. October 24th 2010. 048-2010-11-22 05_30_53 (In Chatham Island Disc One, Folder 5). Chatham Island tui alarm/distress call.



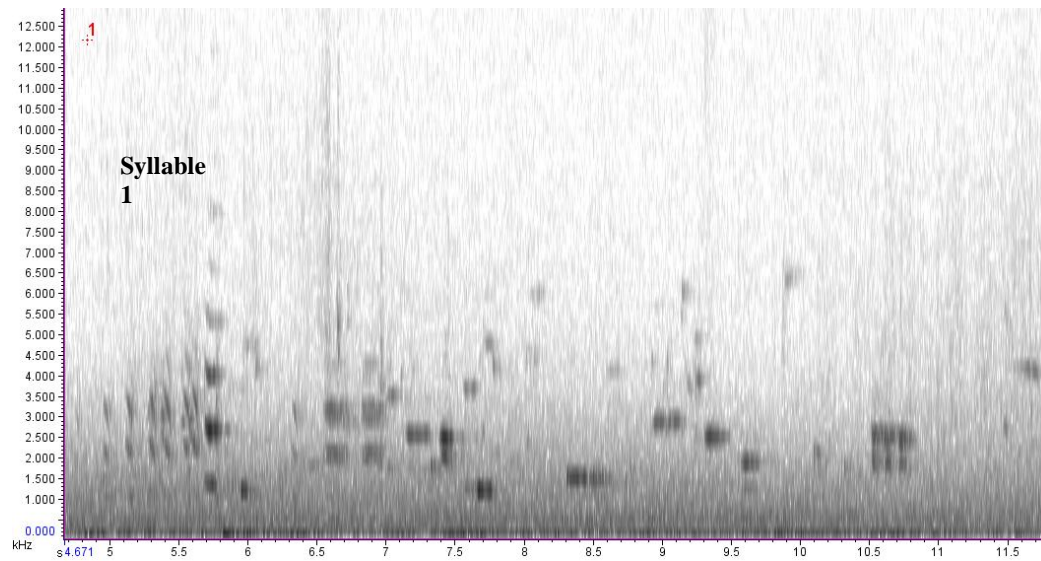
Song 59. October 26th 2010 (8.00h). 020-2010-11-22 06_16_50 (In Chatham Island Disc One, Folder 11). A slightly different Chatham Island tui alarm/distress call, this call was made by a female tui who was being mobbed by two male tui whilst all sitting in a tree in close proximity to one another, possibly prior or even during a copulation event. Note each distress note is either ascending or descending unlike the far more linear notes of the 'common' alarm call (seen above).



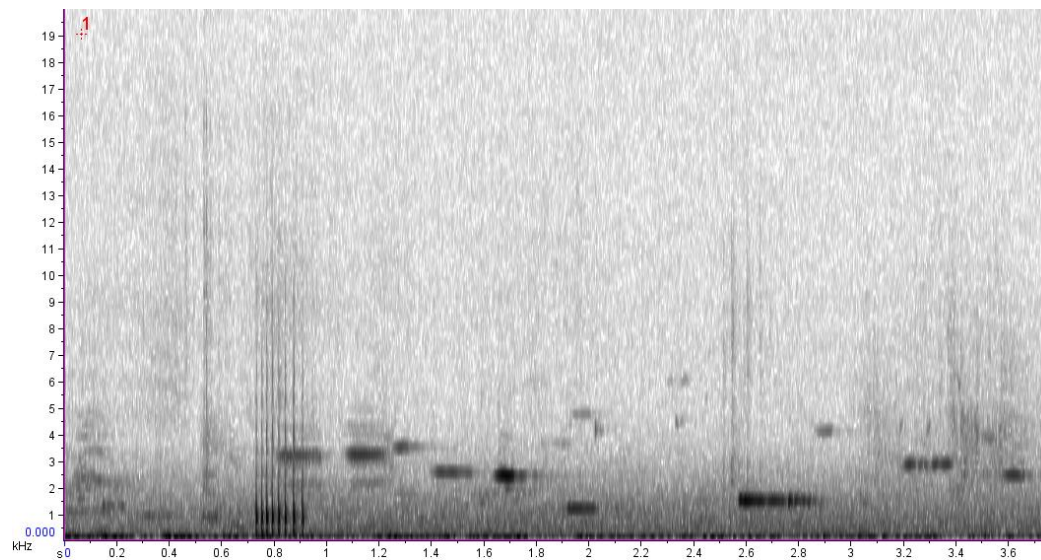
Song 60. October 25th (14.00h). 004-2010-11-22 06_03_12 (In Chatham Island Disc One, Folder 8). 2 Songs from Lower Summit Track, Rangatira (distant). Part of first song that follows the introductory ascending crescendo yapping, sounds a bit like the riff from an ABBA song!



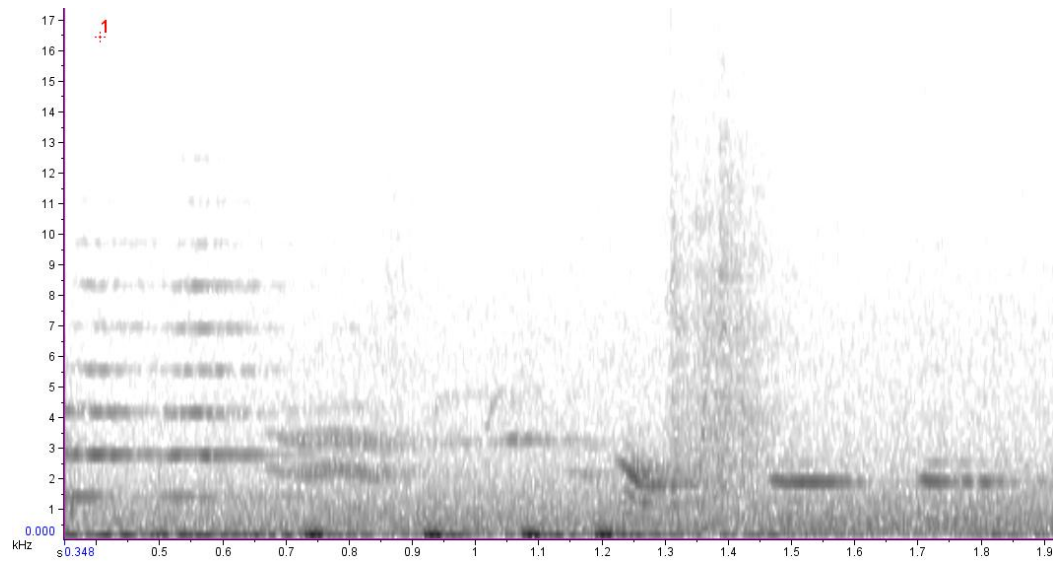
Song 61. October 25th (14.00h). 005-2010-11-22 06_03_12. Another song from Lower Summit Track, Rangatira. Note the preliminary ascending crescendo of 'yapping' heard at the beginning of some Rangatira songs. This has been assigned as *syllable 1*.



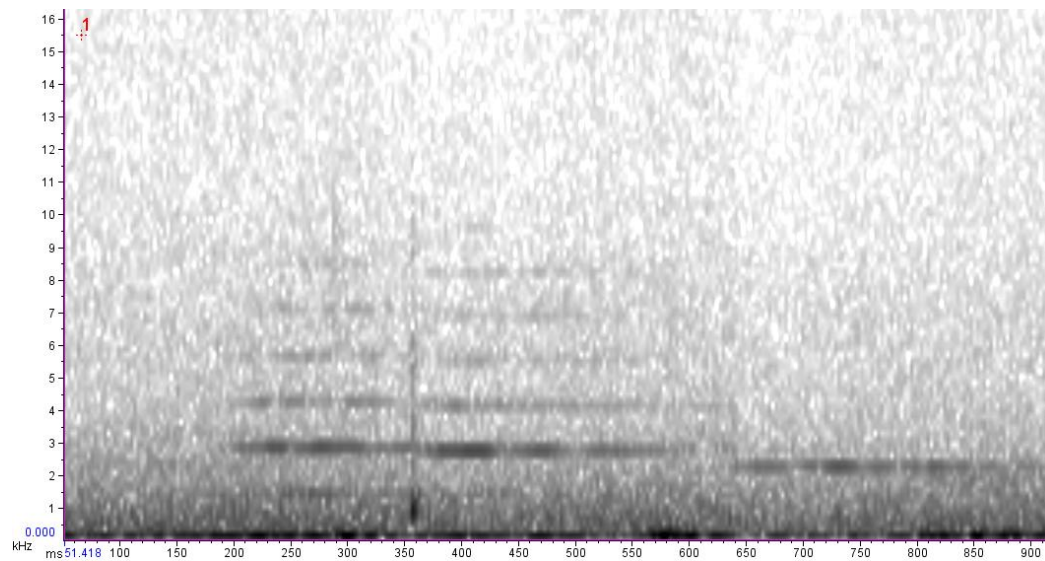
Song 62. October 25th (14.00h). 007-2010-11-22 06_03_12. Another song from Lower Summit Track, Rangatira.



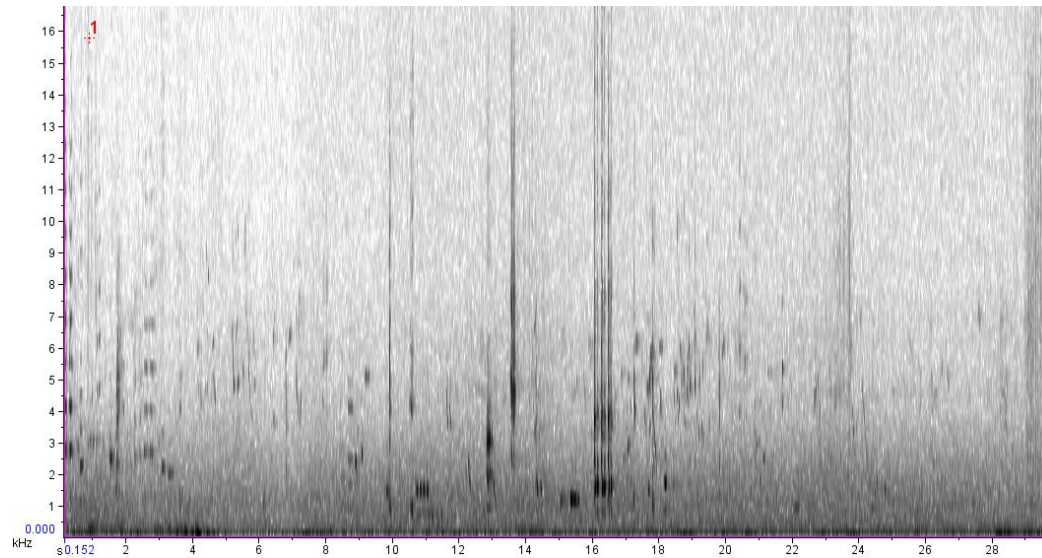
Song 63. October 25th (15.00h). 001-2010-11-22 06_06_47. Another song from Lower Summit Track, Rangatira.



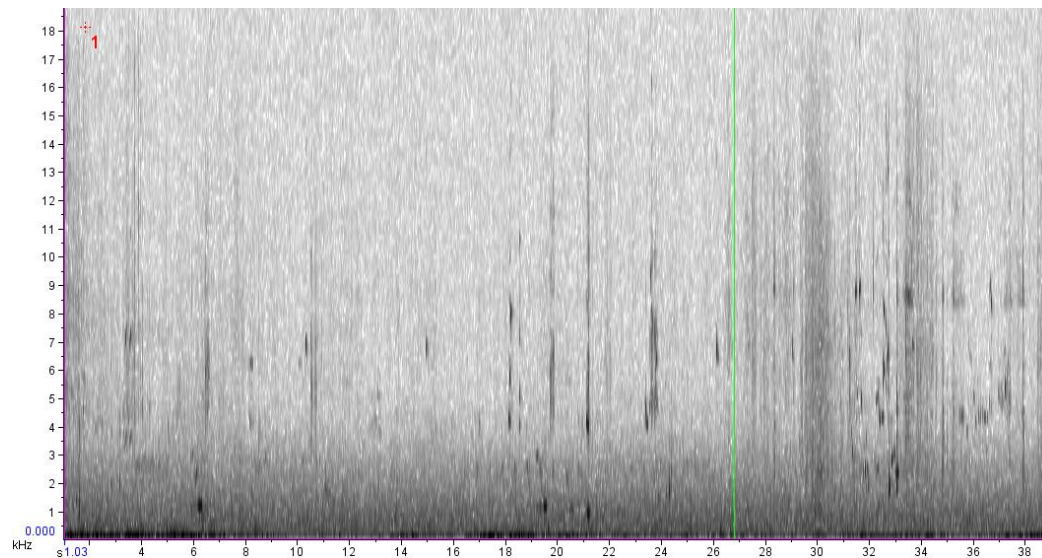
Song 64. October 25th (15.00h). 003-2010-11-22 06_06_47. Short song from Lower Summit Track, Rangatira. Sounds similar to parts of songs heard on Pitt Island.



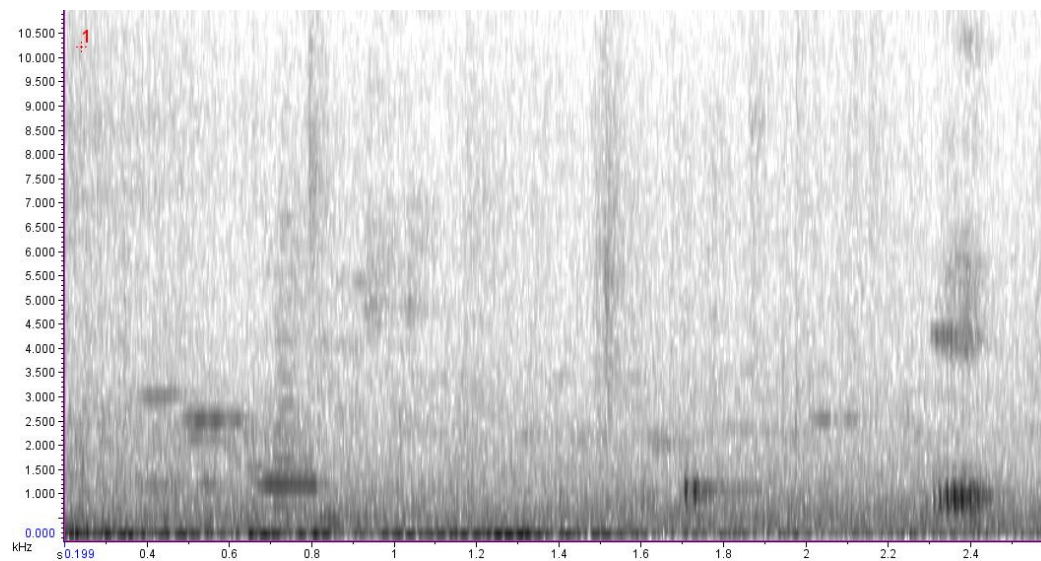
Song 65. October 25th (19.00h). 049-2010-11-22 06_07_25. Song of 2 males on the flax (territorial) at West Landing, Rangatira.



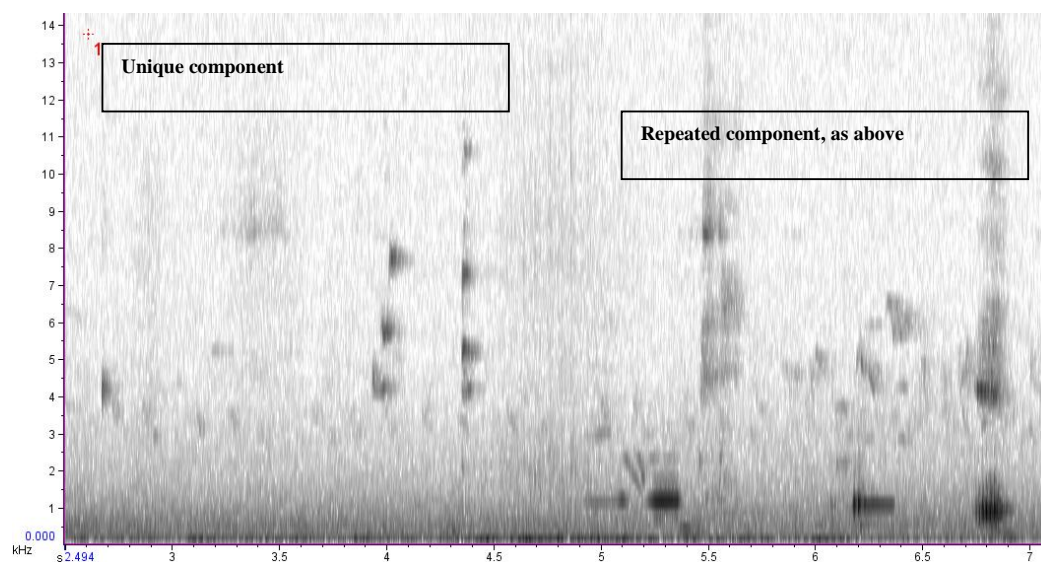
Song 66. October 26th 2010 (07.00h). 001-2010-11-22 06_16_49 (CI Disc One, Folder 11). West Landing, Rangatira. A **long (c. 37s)**, unusual song, sung by one male to another male, possibly a *highly territorial* song (as not heard often at all and sung to another male close by). Includes some low frequency sounds not heard often.



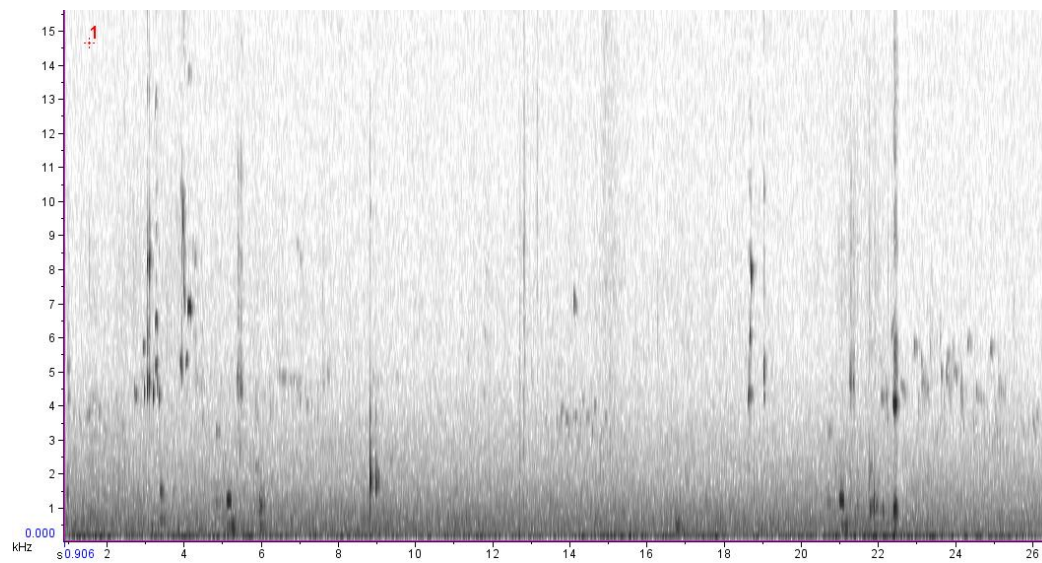
Song 67. October 26th 2010 (8.00h). 009-2010-11-22 06_16_50. West Landing, Rangatira. A short song containing a wheeze, and a few clicks.



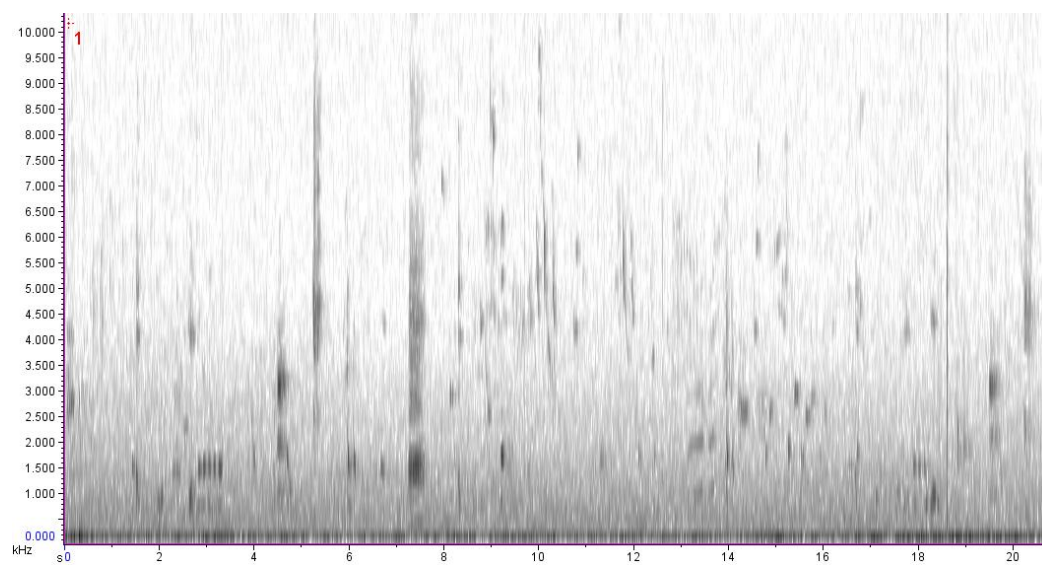
Song 68. October 26th 2010 (8.00h). 011-2010-11-22 06_16_50. West Landing, Rangatira. A short song containing a wheeze, and a few clicks. The last 3 syllables are identical to the figure above (and the correlating 010 file) but the preceding syllables/notes make it a different song within the repertoire of the population.



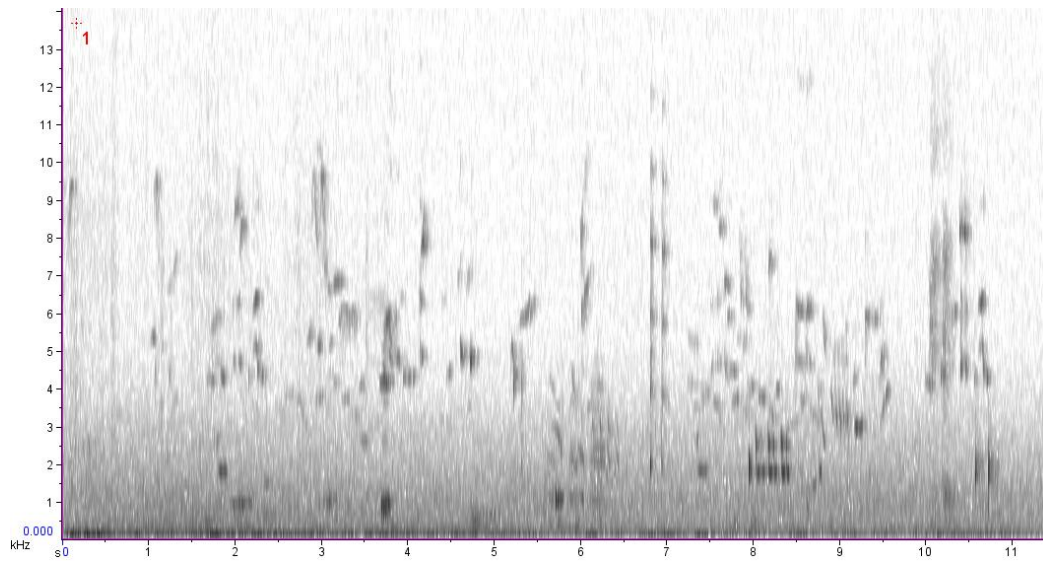
Song 69. October 26th 2010 (9.00h). 025-2010-11-22 06_16_50. Similar to the above figure, containing wheezes and clicks, in a slightly different order. Considered a new song.



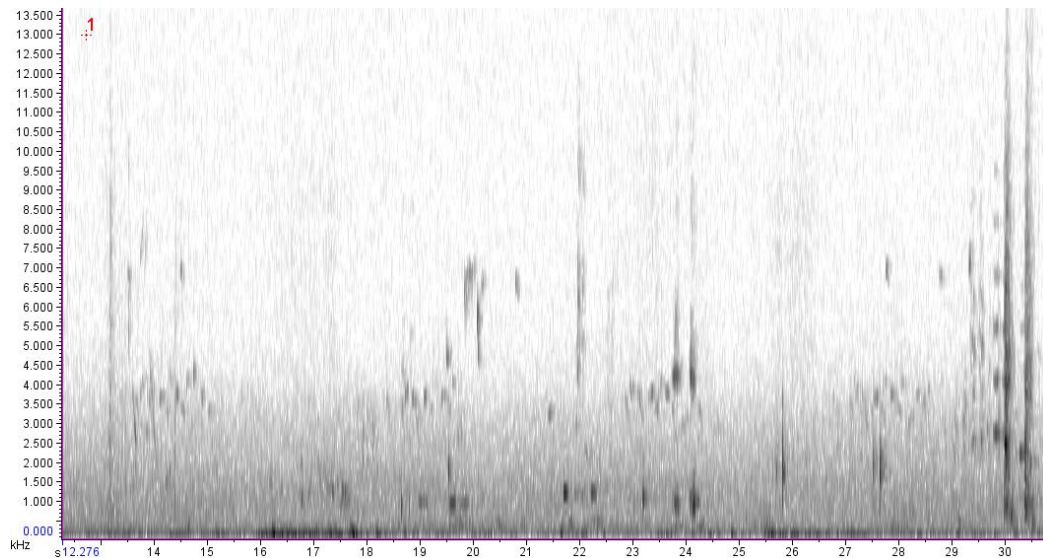
Song 70. October 26th 2010 (8.00h). 018-2010-11-22 06_16_50. An example of a song with lots of clicks, groans, cat noises and a trilly component.



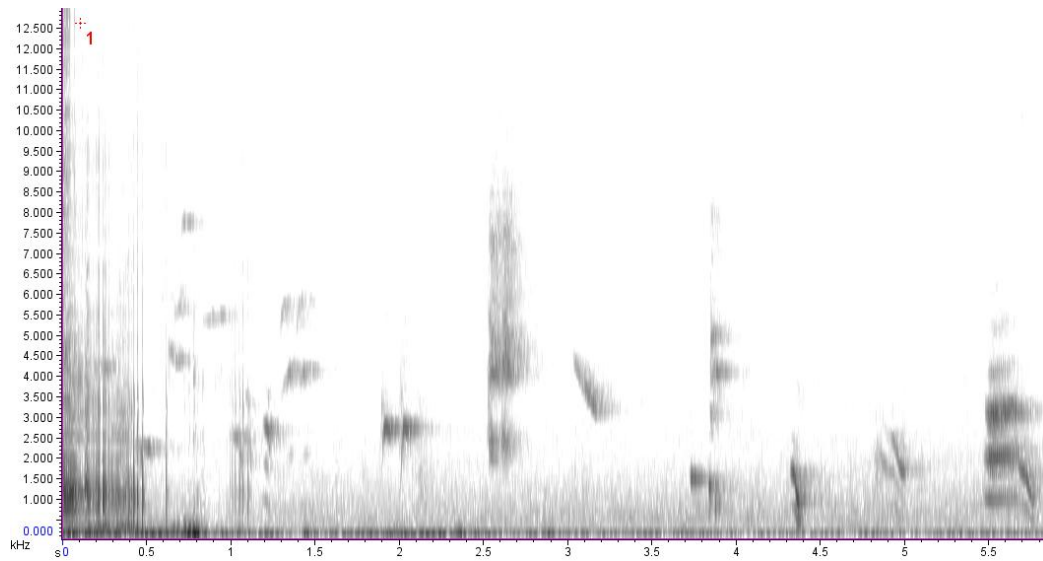
Song 71. October 26th 2010 (9.00h). 027-2010-11-22 06_16_50. Another example of a very complex song with wheezes, clicks, groans, bell sounds, cat noises and a trilly component.



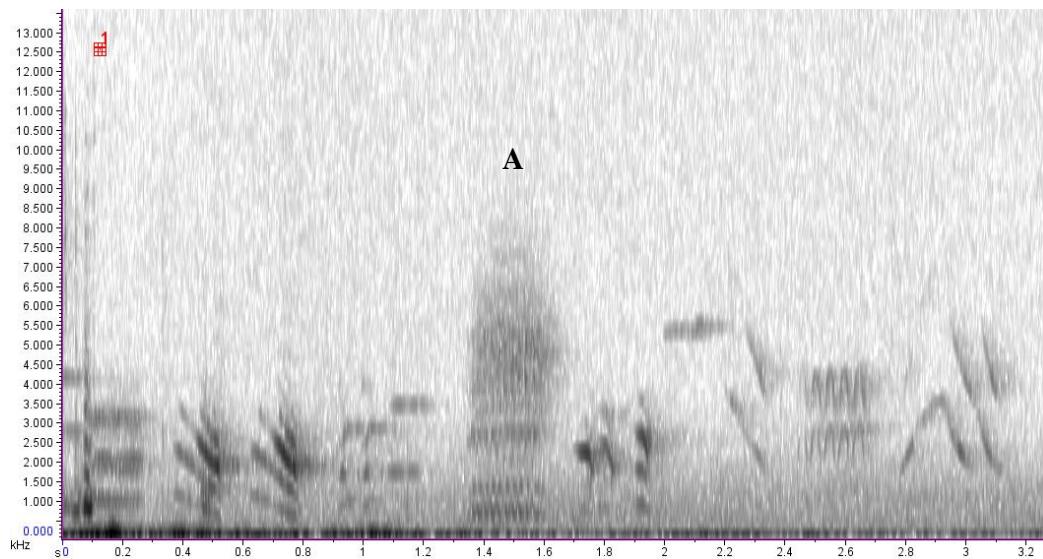
Song 72. October 26th 2010 (9.00h). 027-2010-11-22 06_16_50(2). Another example of a very complex song with wheezes, clicks, groans, bell sounds, a short trilly component and some rare syllables. Especially at 19.5-20s and 21.6-22.3 and 23.8-24.2s. Then the last 2 notes at c. 30-30.5s. This song preceded the male chasing off an intruding male, suggesting it was a highly territorial song. Sung in a tree, as opposed to on a flax plant.



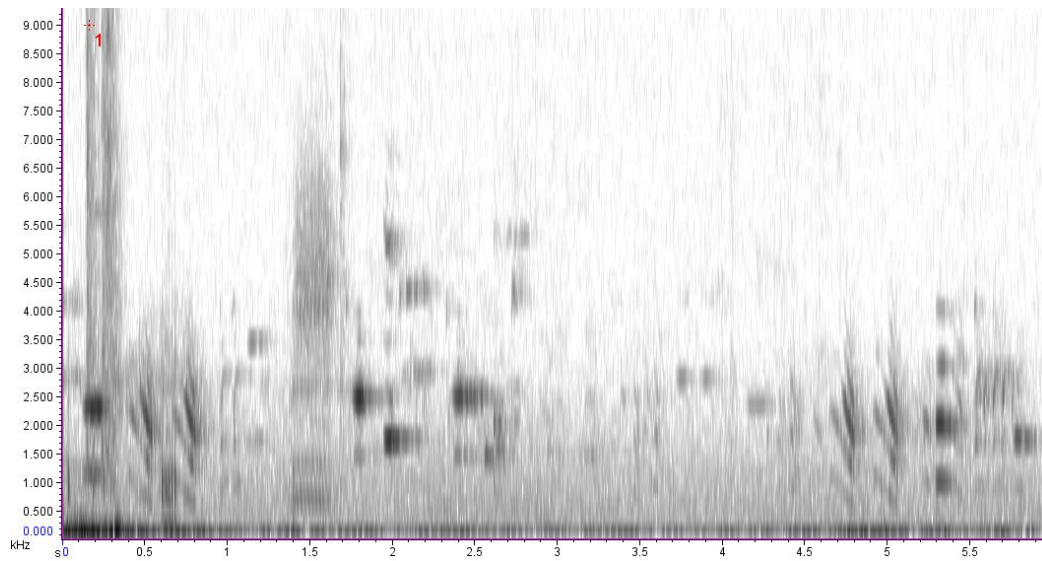
Song 73. October 26th (19.00h). 004-2010-11-22 06_45_40. A song heard by the hut on Rangatira.



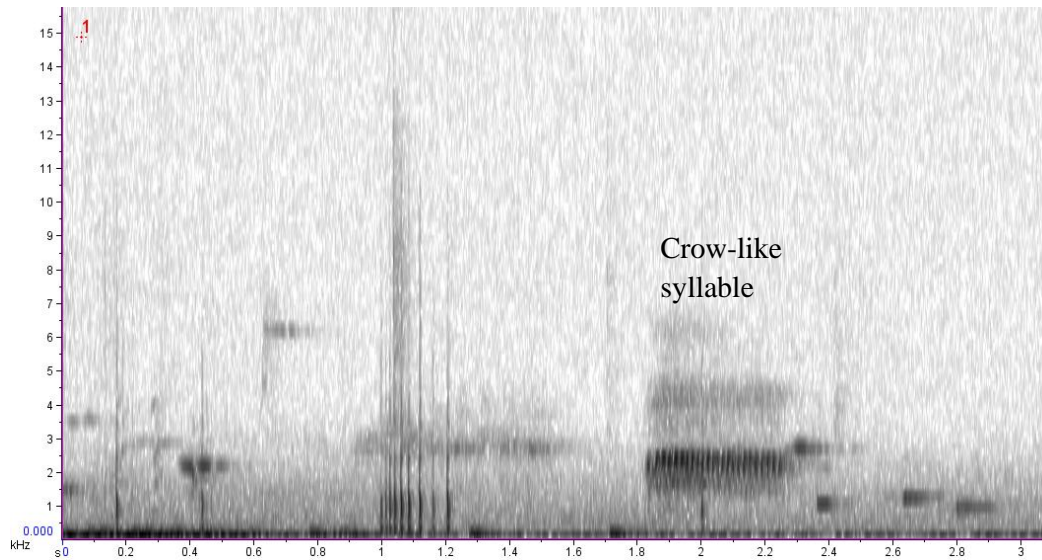
Song 74. October 27th 2010 (12pm). 001-2010-11-22 06_55_03. Near Thinornis Bay, Rangatira. A song containing rare syllables. 'A' is an electrical-type sound.



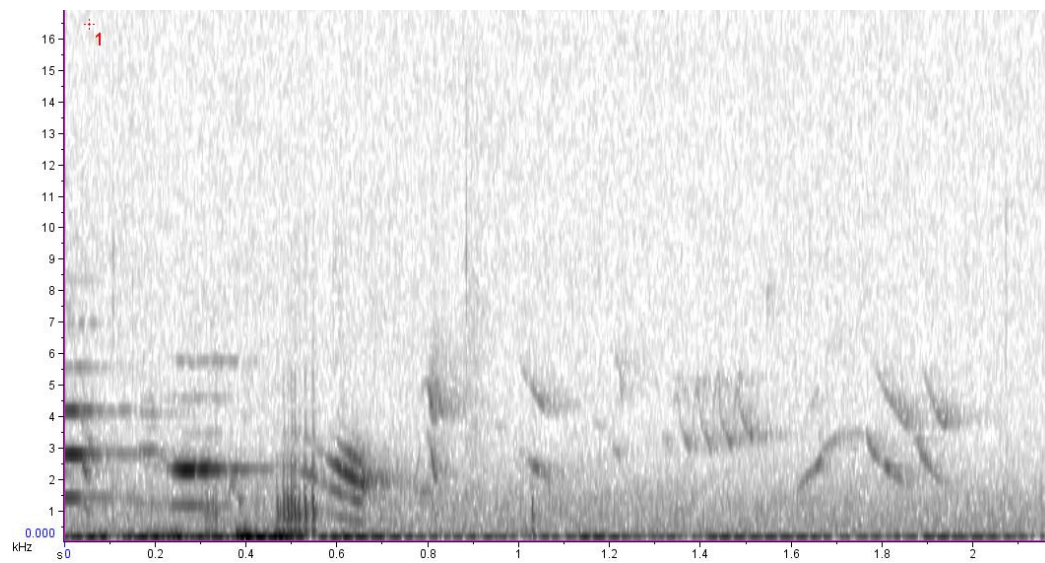
Song 75. October 27th 2010 (12pm). 002-2010-11-22 06_55_03. Near Thinornis Bay, Rangatira. A song containing rare syllables.



Song 76. October 27th 2010 (12pm). 006-2010-11-22 06_55_03. Near Thinornis Bay, Rangatira. A song containing some rare and unique syllables.



Song 77. 007-2010-11-22 06_55_03 and 008-2010-11-22 06_55_03 aligned to show similarities. Only one extra 'note' differentiates the two as separate songs ('A'). Near Thinornis Bay, Rangatira.



Song 78.



Song 79. October 27th 2010 (12.30h). 009-2010-11-22 06_55_03. Near Thinornis Bay. 'A', 'B' and 'C' denote new syllables from song above. The end of the song is similar to the ending of the first common song at West Landing, the beginning is the same as the beginning of the above 2 Thinornis Bay songs. A is very similar to the 'crow-like' syllable heard previously.

