

Supporting Information

Acoustical recording details

From Talude project: 250 meters matrix array Auset® with three-elements (-40 dB, -161 dB re: 1 V / μ Pa) distant five meters from each other, coupled to a digital recorder Fostex® FR-2 LE (sampling frequency of 96 kHz / 24 bits and configured with a high pass filter of 1.592 Hz) - for the 2013 and 2014 surveys. In 2015, it was used a 300 meters matrix array Auset® with three-elements (-40 dB, -161 dB re: 1 V / μ Pa) distant five meters and three meters from each other, respectively. Both were coupled to a digital recorder Fostex® FR-2 LE (sampling frequency of 96 kHz / 24 bits and configured with a high pass filter of 0.499 Hz). Whenever possible, the acoustic signals were transmitted to a digitizer board (Iotech model - PersonalDaq / 3000 Series) sampling at 100 kHz / 24 bits.

From PMC project: 400 meters matrix array Biowaves consisting of an oil filled polyurethane tube with four elements and custom pre-amplifiers, containing a pair of low frequency (LF) hydrophones (APC 42-1021) and a pair of high frequency (HF) hydrophones (Reson TC4013). Only records from the LF hydrophone pair was used for the purpose of this study. The acoustic processing system consisted of amplifiers with adjustable gain and filters. For the LF system the gain was set between 10 to 20 dB and the audio was filtered using an eight-pole bandpass filter between 1 - 48 kHz. A soundcard (ASUS XONAR 7) digitized the audio at 192 kHz/ 16 bit sampling frequency.

Supporting Figures

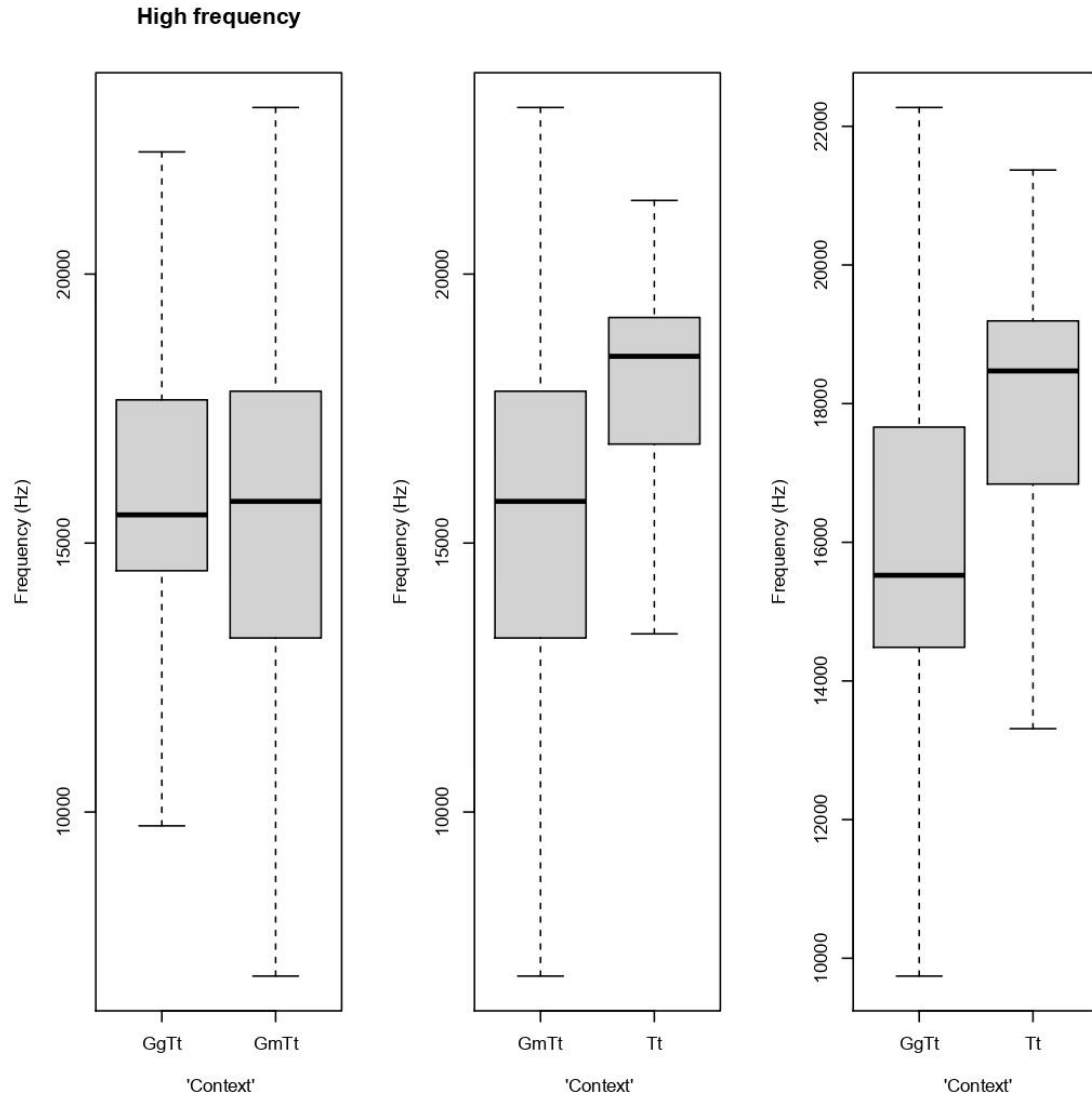


Figure S1. Box plots presenting the median (bar), interquartile range (box) and non-outlier range (whiskers) of high frequency parameter among the contexts. GgTt: *G. griseus* and *T. truncatus* whistles; GmTt: *G. melas* and *T. truncatus* whistles; Tt: *T. truncatus* single species whistles.

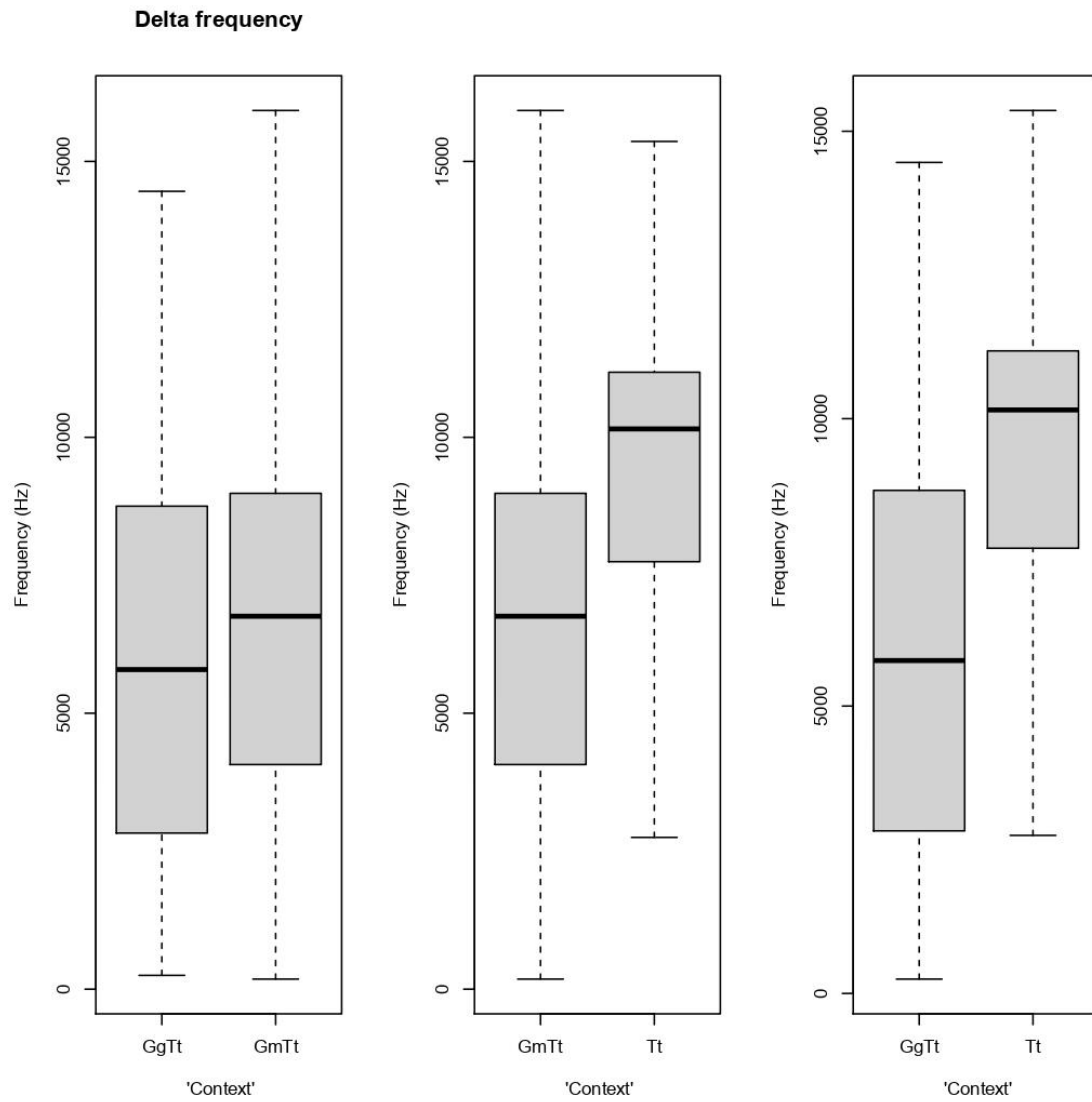


Figure S2. Box plots presenting the median (bar), interquartile range (box) and non-outlier range (whiskers) of delta frequency parameter among the contexts. GgTt: *G. griseus* and *T. truncatus* whistles; GmTt: *G. melas* and *T. truncatus* whistles; Tt: *T. truncatus* single species whistles.

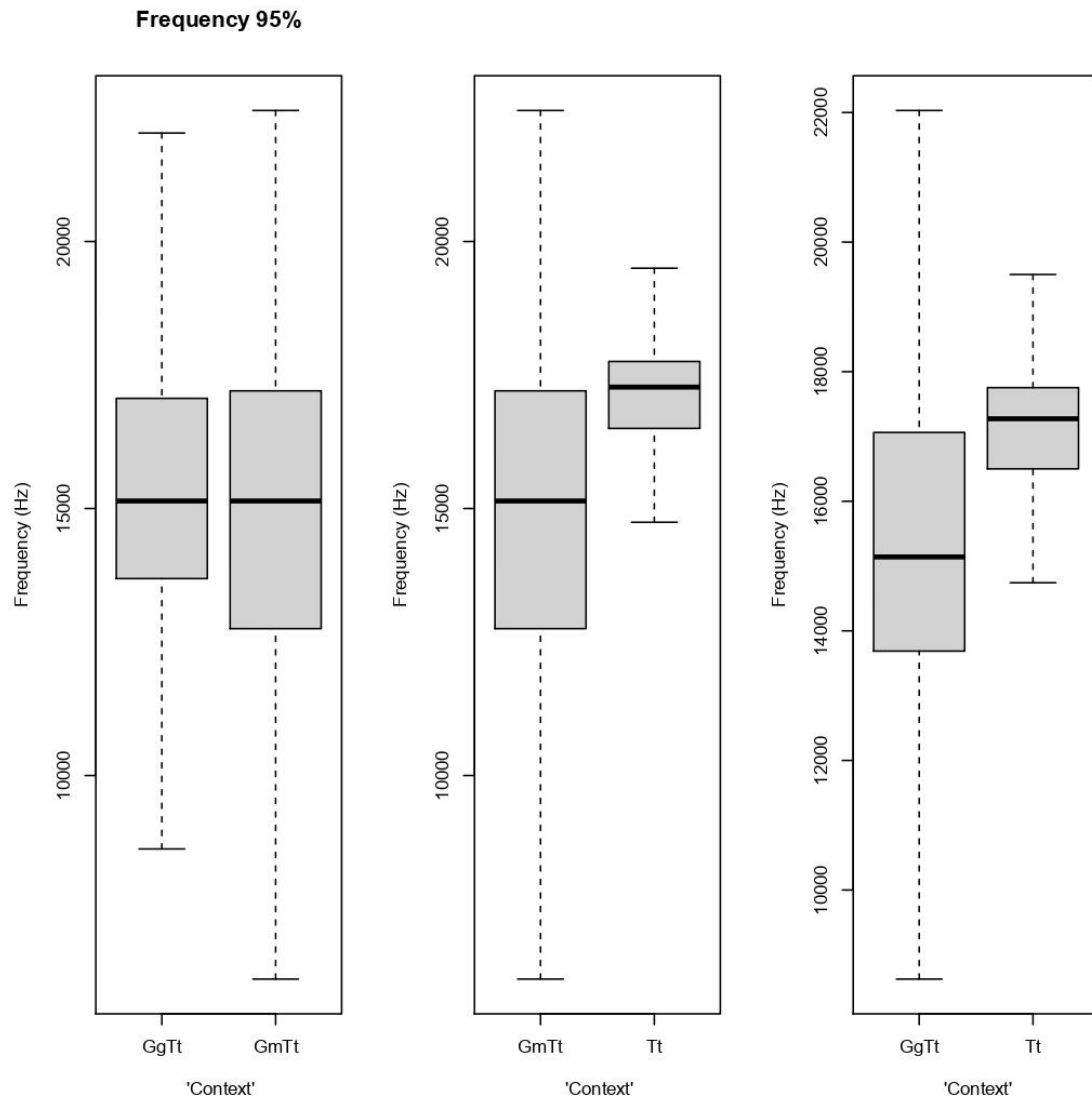


Figure S3. Box plots presenting the median (bar), interquartile range (box) and non-outlier range (whiskers) of frequency 95% parameter among the contexts. GgTt: *G. griseus* and *T. truncatus* whistles; GmTt: *G. melas* and *T. truncatus* whistles; Tt: *T. truncatus* single species whistles.

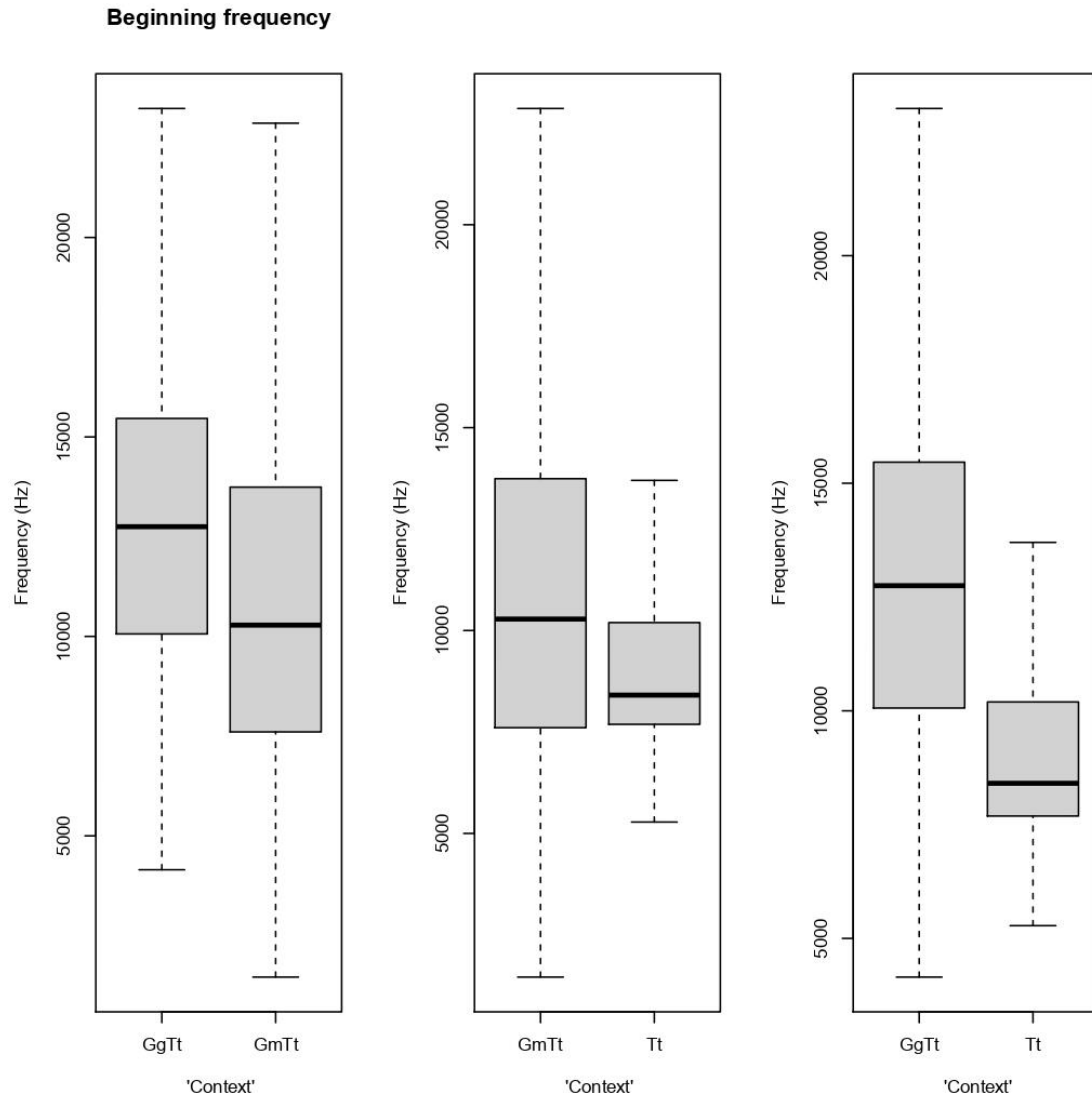


Figure S4. Box plots presenting the median (bar), interquartile range (box) and non-outlier range (whiskers) of beginning frequency parameter among the contexts. GgTt: *G. griseus* and *T. truncatus* whistles; GmTt: *G. melas* and *T. truncatus* whistles; Tt: *T. truncatus* single species whistles.

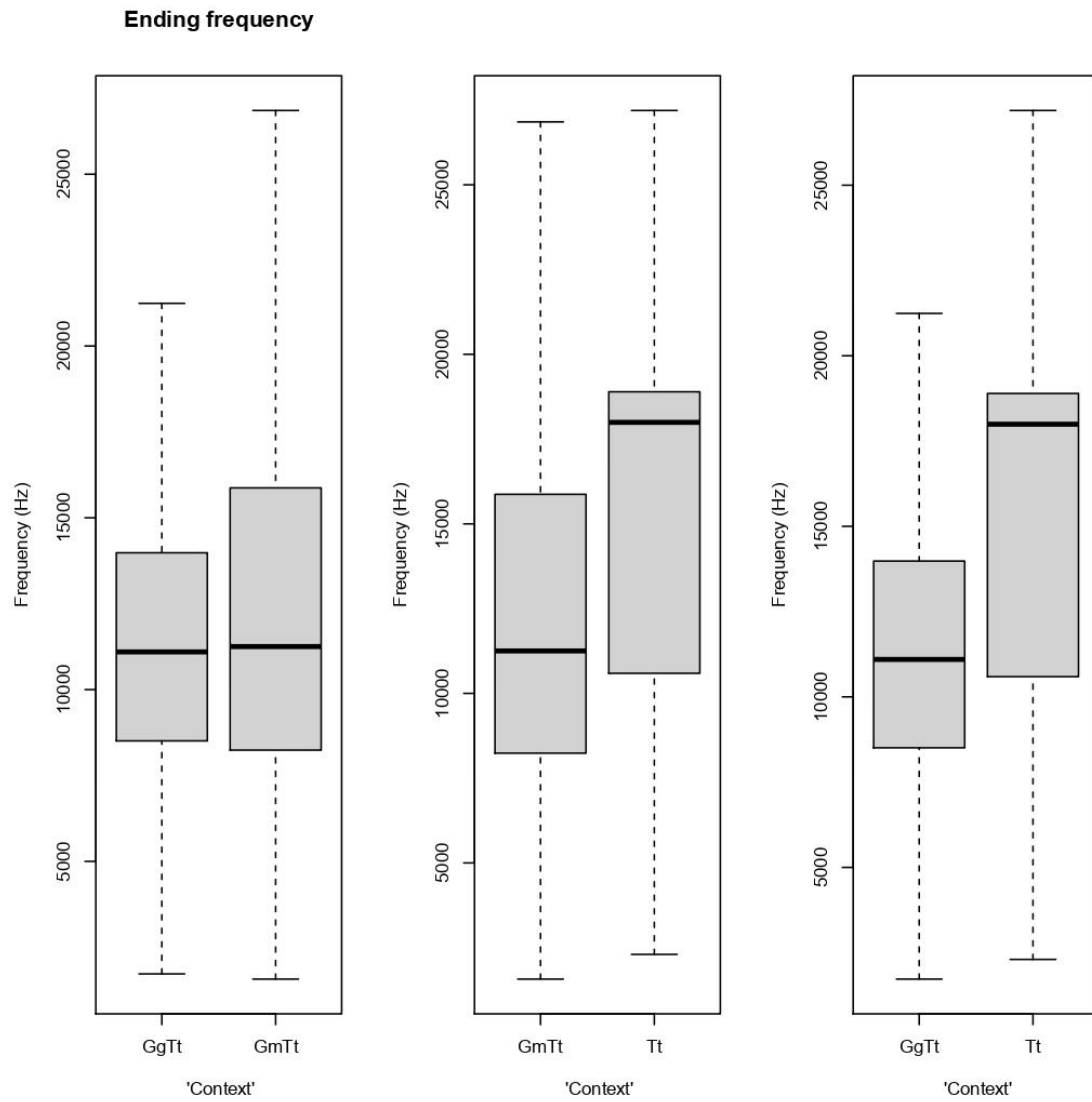


Figure S5. Box plots presenting the median (bar), interquartile range (box) and non-outlier range (whiskers) of ending frequency parameter among the contexts. GgTt: *G. griseus* and *T. truncatus* whistles; GmTt: *G. melas* and *T. truncatus* whistles; Tt: *T. truncatus* single species whistles.

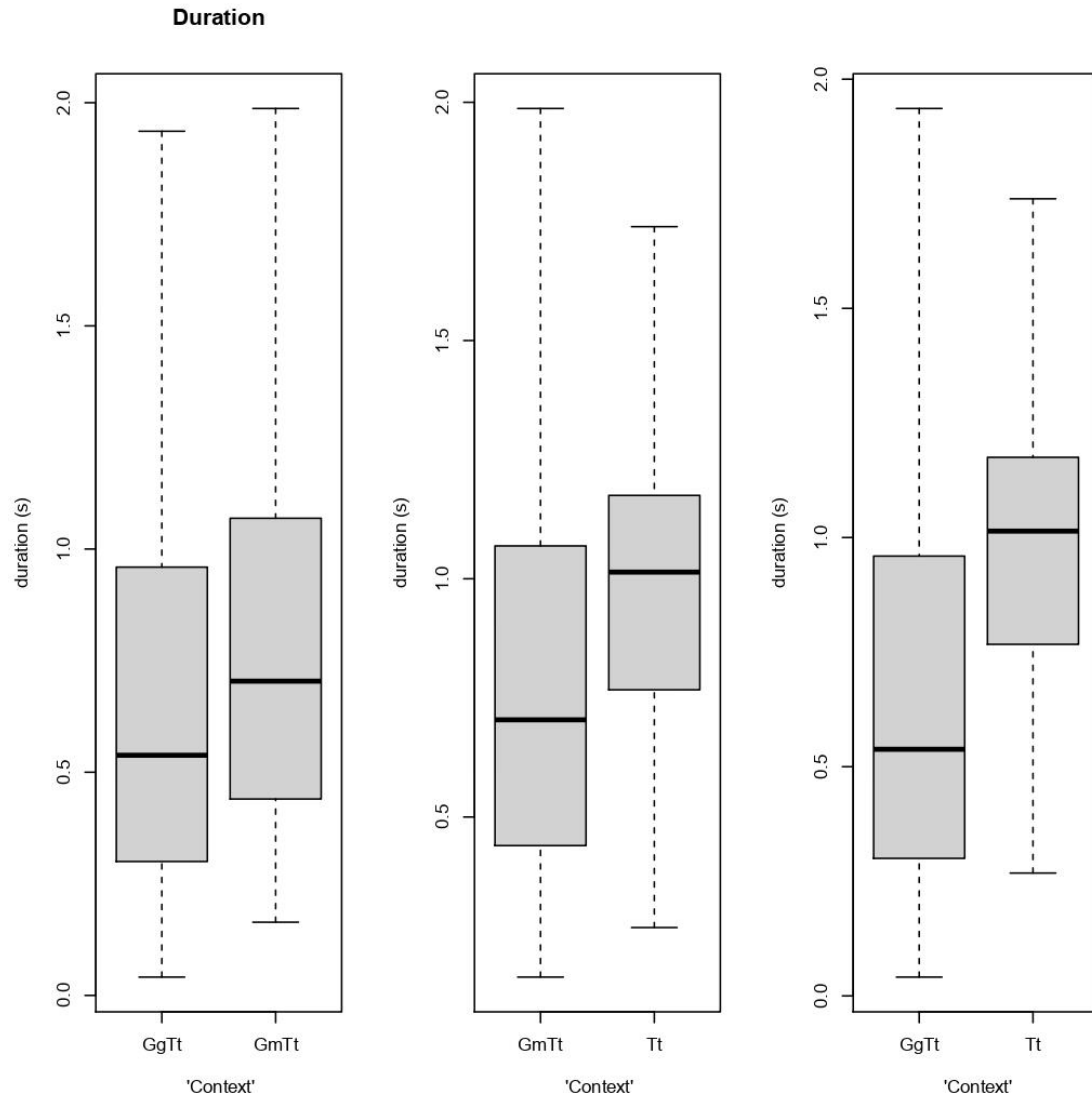


Figure S6. Box plots presenting the median (bar), interquartile range (box) and non-outlier range (whiskers) of duration parameter among the contexts. GgTt: *G. griseus* and *T. truncatus* whistles; GmTt: *G. melas* and *T. truncatus* whistles; Tt: *T. truncatus* single species whistles.

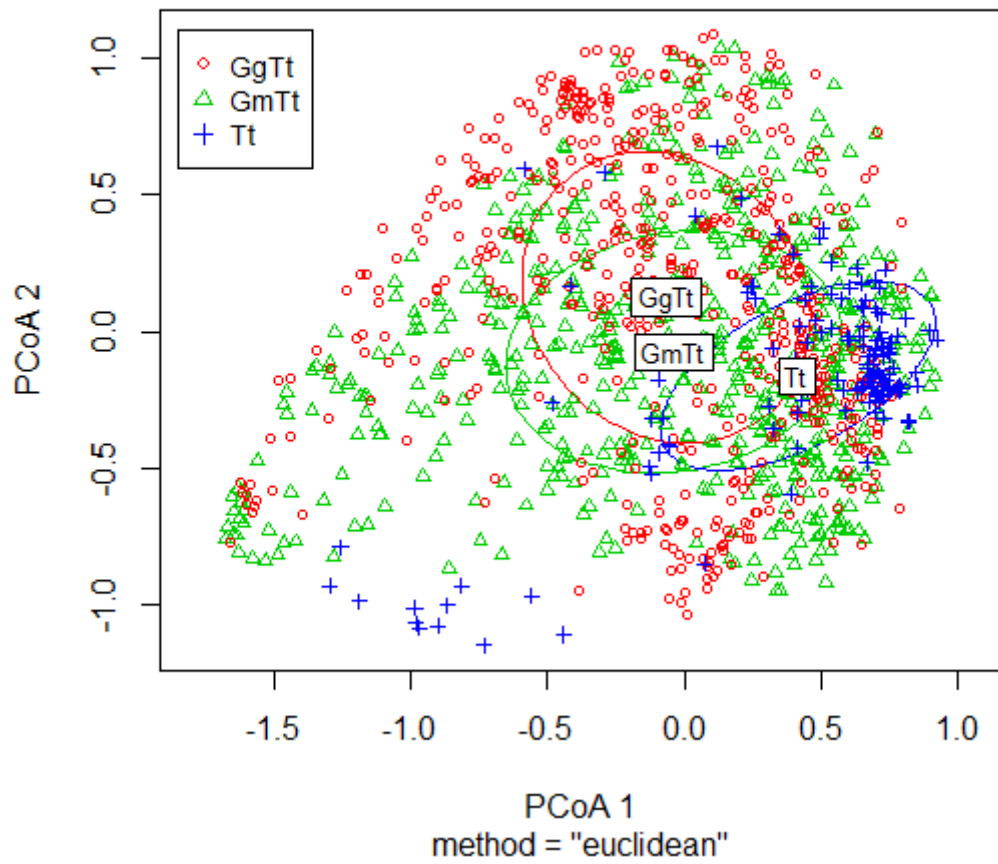


Figure S7. Multivariate dispersion graph with Principal Coordinates 1 and 2 and centroids indicated by groups labels. Distances were calculated using Euclidian distance. GgTt: *G. griseus* + *T. truncatus* whistles; GmTt: *G. melas* + *T. truncatus* whistles; Tt: *T. truncatus* single-species whistles.

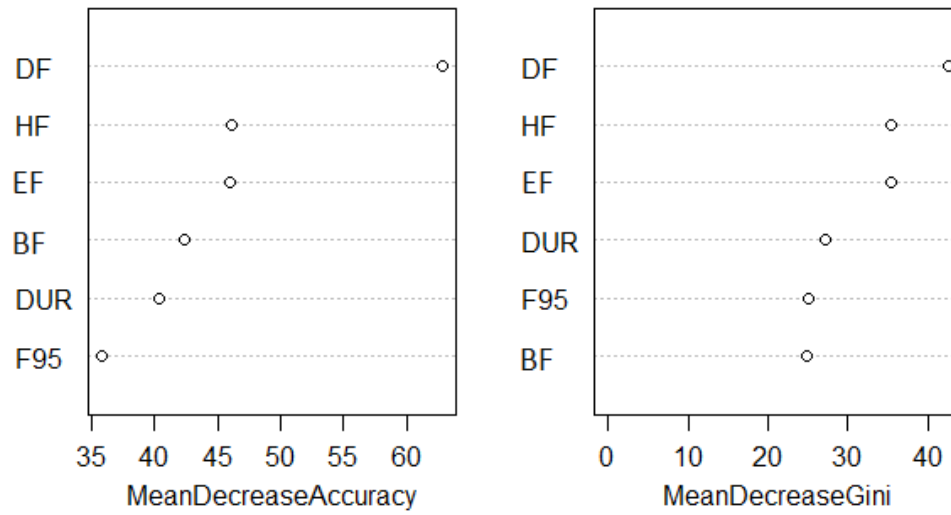


Figure S8. Decrease Accuracy and decrease Gini of each acoustical parameter used to develop the Random Forest model. Frequency 95%, duration and beginning frequency were the parameters that showed the lowest mean decrease accuracy

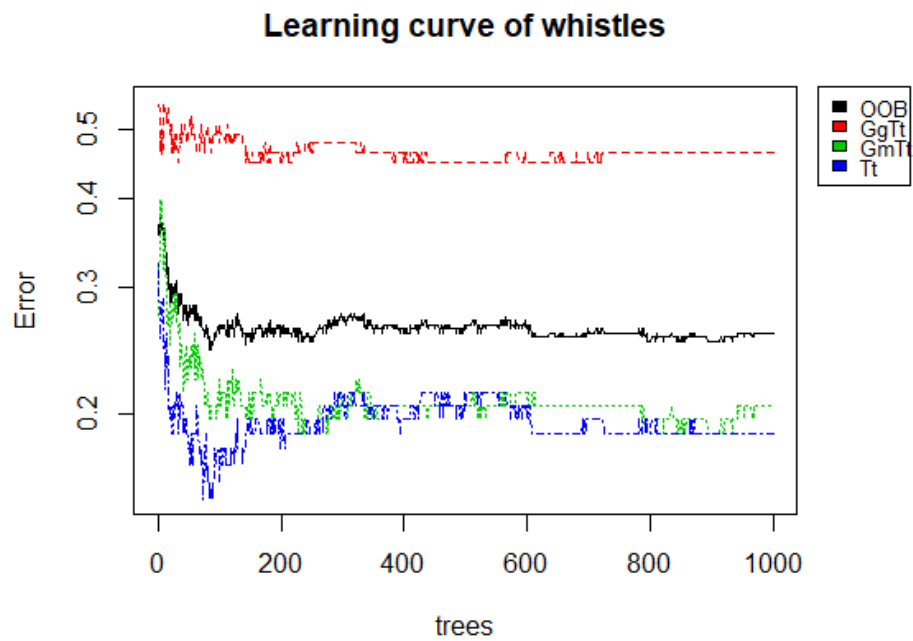


Figure S9. Error associated to each of the 500 trees generated in the Random Forest model. It is represented the Out of Bag (OOB) error and the errors for GgTt: *G. griseus* and *T. truncatus* whistles; GmTt: *G. melas* and *T. truncatus* whistles; Tt: *T. truncatus* single species whistles.