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### DISCRIMINATING TWO SPECIES OF ODONTOCETES IN MIXED GROUP THROUGH WHISTLES

Yasmin Viana<sup>1\*</sup>, Thiago Orion Simões Amorim<sup>1,2</sup>, Franciele Rezende de Castro<sup>1,2</sup>, Artur Andriolo<sup>1,2</sup>,

1. Laboratório de Ecologia Comportamental e Bioacústica - LABEC, Instituto de Ciências Biológicas, Universidade Federal de Juiz de Fora, Rua José Lourenço Kelmer, s/n, 36036-900, Juiz de Fora, Minas Gerais, Brazil; 2. Instituto Aqualie, Av. Dr. Paulo Japiassu Coelho n 714, Sala 206, Juiz de Fora, Minas Gerais 36033-310, Brazil. \*Correspondence to yasminviana29@hotmail.com

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Cetaceans have evolved in aquatic habitat and developed acoustical signals to communicate, navigate and find food. When in mixed groups, these animals might have developed mechanisms to favor the communication without competition for acoustic space by establishing an acoustic niche. Considering the communicative function of whistles, here we used such sounds to discriminate two species of odontocetes (*Tursiops truncatus* and *Grampus griseus*). The species were visually confirmed (30°43' S, 48°39' W) during recording with a three-element towed array hydrophone (sampling frequency of 96kHz/24bits) on the western South Atlantic Ocean, at the Brazilian shelf break. A total of 76 whistles were analyzed and the following acoustical parameters were extracted using Raven Pro 1.5: minimum, maximum, center, delta (maximum – minimum), beginning and ending frequencies and whistle duration. The mean and standard deviation for these parameters on *G. griseus* were: 9.47±1.96 kHz for minimum frequency, 13.83±2.93 kHz for maximum, 11.33±2.22 kHz for center, 4.56±2.14 kHz for delta, 13.09±3.00 kHz for beginning, 9.94±2.09 kHz for ending and 0.55±0.30 s for duration. For *T. truncatus* the values were: 9.08±2.40 kHz for minimum frequency, 18.46±2.63 kHz for maximum, 13.77±2.52 kHz for center, 9.37±2.86 kHz for delta, 15.09±3.87 kHz for beginning, 9.63±2.75 kHz for ending and 1.02±0.31 s for duration. Then, a discriminant function analysis was performed with the software JMP 13 resulting in 12.5% of misclassification (Wilks'  $\lambda=0.4$ ;  $F=15.65$ ;  $p<0.0001$ ). The discrimination result suggests that there is a species-specific configuration in the whistles and a qualitative analysis of the mean values showed that maximum and delta frequencies were higher on *T. truncatus* suggesting that a higher bandwidth allows greater flexibility of use of the acoustic space by this species avoiding a total signal jamming. These findings contribute on the knowledge of the dynamics of species vocalizations in the acoustic space.

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