

Acoustic Parameters of Guiana Dolphin (*Sotalia guianensis*) Whistles in the Southern Gulf of Venezuela

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Abstract

8 The Guiana dolphin, *Sotalia guianensis*, is widely distributed along the coasts of Central and South
9 America. Similar to other delphinids, this species emits echolocation clicks, burst pulses, and
10 whistles. Although whistling seems to play a major role in the social organisation of dolphins, there
11 is a lack of knowledge about Guiana dolphin whistles outside of populations in Brazil and Costa
12 Rica. In this study, we describe the acoustic structure of Guiana dolphin whistles from the southern
13 Gulf of Venezuela for the first time. We recorded the whistles using an omnidirectional hydrophone
14 (CR1). For each whistle, we measured maximum frequency (kHz), minimum frequency (kHz),
15 starting frequency (kHz), ending frequency (kHz), duration (s), and number of inflection points,
16 using spectrograms created in SpectraLAB 4.32 software (v. 17). Whistles presented an average
17 starting frequency of 10.58 kHz (SD=2.49 kHz), a mean ending frequency of 13.96 kHz (SD=2.60
18 kHz), an average minimum frequency of 10.31 kHz (SD=2.33 kHz), a mean maximum frequency
19 of 13.96 kHz (SD=2.51 kHz), an average duration of 0.27 s (SD=0.14 s), and a maximum of 4
20 inflection points (mode 0). This research provides new insights into the acoustic behaviour of the
21 Guiana dolphin in the Gulf of Venezuela.

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23 **Key Words:** *Sotalia guianensis*, Guiana dolphin, acoustic structure, acoustic parameters, Gulf of
24 Venezuela, cetacean

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