Click trains temporal parameters variability among three delphinid species in the western South Atlantic Ocean

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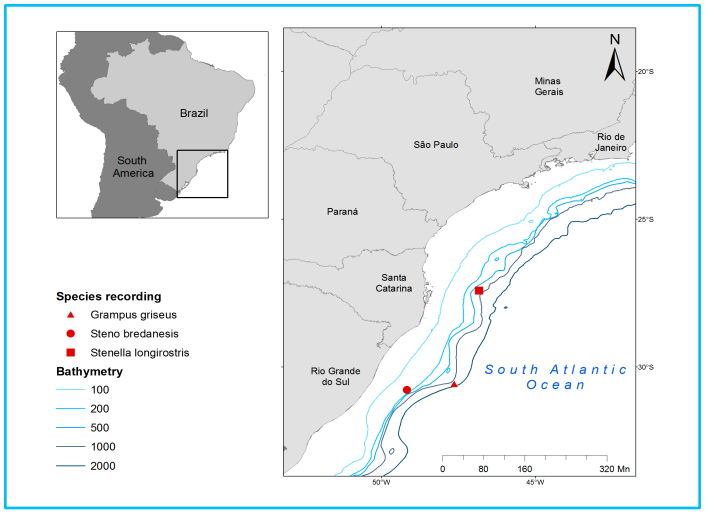
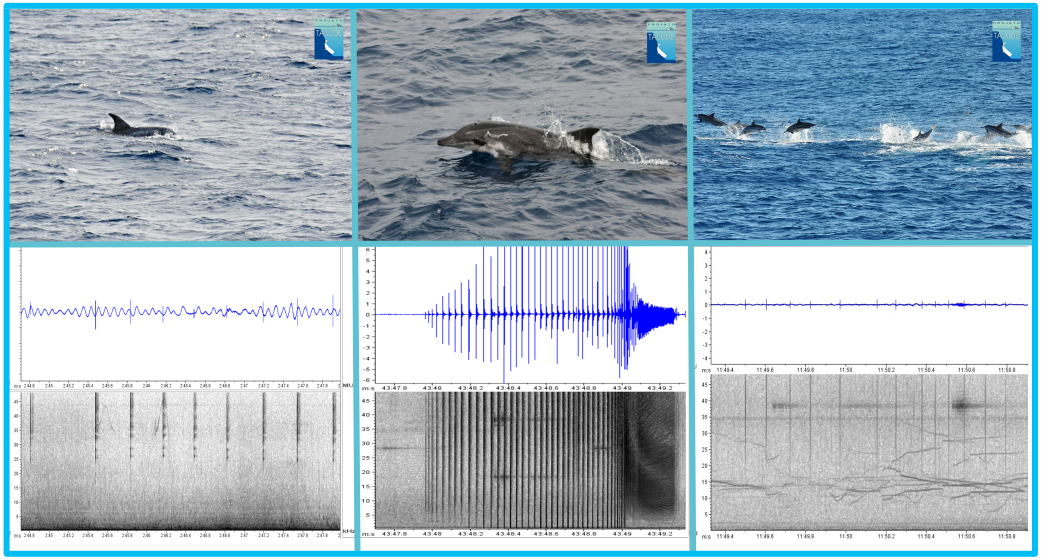
Acoustic recordings were carried out on the South Brazilian continental shelf break



- Spinner dolphin (*Stenella longirostris*)
- Rough-toothed dolphin (*Steno bredanensis*)
- Risso's dolphin (*Grampus griseus*)

Temporal parameters: Inter Click Interval - ICI and click-trains duration



Risso's dolphin Rough-toothed dolphin Spinner dolphin

The most relevant pulsed signals were chosen based upon their signal-to-noise ratio.

On account of the large volume of overlapping click trains:

Species was analyzed from the most distinct echolocation click trains

↓

single animal emission

Kruskal- Wallis test

ICI: H= 243.57, p<0.001

Click- train duration :

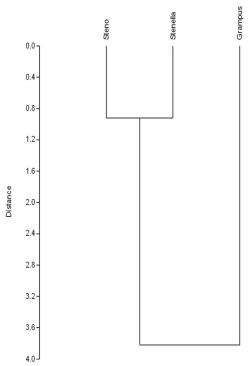
H= 26.80, p < 0.001

When compared in pairs…

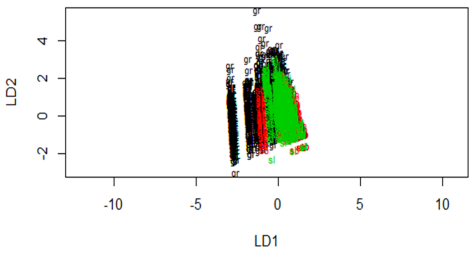
Dunn test

Spinner and Risso's dolphins (ICI): z= -1.31, p=0.096

Cluster analysis



LDA



Subsequent Discriminant Analysis → temporal parameters did not explain *per se* the variation found among these emissions.

⇩

The extraction of additional parameters is required to further explore the results found.

Next steps...

Reduce the off-axis effect → focus on the highest amplitude signals from every click train.

Allow more accurate analysis:

- click duration
- amplitude
- rms
- center frequency
- 3dB bandwidth

THANK YOU

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