

Grants in Aid of Research

Breathe for the health of large whales: comparison between Southern Right Whales (*Eubalaena australis*) and Humpback Whales (*Megaptera novaeangliae*)

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ANNUAL SUMMARY REPORT

Monitoring of infectious microorganisms from the respiratory tract of free-living cetaceans is a promising, non-invasive, method for research. This study aimed to investigate potentially pathogenic microorganisms present in the exhaled breath of Southern Right Whales and Humpback Whales in the Brazilian coast. The SMM Grant in Aid of Research helped to cover expenses to travel to the field and perform two boat expeditions to collect exhaled breath condensates from six right whales during the 2014 reproductive season in Santa Catarina, Brazil. Preliminary analysis using molecular techniques were applied to detect *Morbillivirus* in samples from six humpback whales, six right whales and respective negative controls (samples from sea water and air). Samples were preserved in RNAlater® and frozen at -80° until processing. RNA was extracted using Trizol method and RT-PCR technique was applied using specific primers aiming to amplify a conserved region of the P gene of *Morbillivirus*. The first results were negative. Next steps of this project are to collect samples from right whales in the 2015 reproductive season, and improve molecular techniques to detect *Morbillivirus* and selected potentially pathogenic bacteria. Our goal is to test a larger sample size from both whale species for prevalence comparison between the two populations. It is expected the results set insights for epidemiological investigations of various microorganisms in the respiratory tract of large whales. The results may indicate health aspects of large whales and the risks related to respiratory pathogen transmission to other cetaceans and humans.