

## 2015 GRANTS-IN-AID-OF-RESEARCH, ANNUAL SUMMARY REPORT

### **Survey of *Brucella* spp. in Marine Mammals from the Brazilian Coast: a histopathological, immunohistochemical, serological and molecular approach.**

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Brucellosis is one of the most important and widespread emerging infectious zoonosis that affects marine mammals. However, in South America the information about this disease is very limited. The aim of this study is to contribute to the state of art of knowledge of brucellosis in marine mammals of Brazil by using histopathological, immunohistochemical, serological and molecular approaches. Samples kept at the Marine Mammal Tissues Bank (LAPCOM/VPT/FMVZ/USP) as well as samples collected from fieldwork at Northeastern Brazil (Associação de Pesquisa e Preservação de Ecossistemas Aquáticos-AQUASIS, Ceará and Instituto Baleia Jubarte-IBJ, Bahia) were analyzed. Gross findings, necropsy reports (when available) and histopathology records were studied in order to identify suspicious cases and select target tissues for immunohistochemistry (IHC). Preliminarily, histopathology was performed in various tissues from 185 individuals and 61 cases were select for IHC. For this, 4-5µm slides from selected tissues/specimens were tested using a polyclonal antibody anti-*Brucella abortus* (1:2.500), the Horseradish Peroxidase Polymer System-HRP amplification/detection system, and 3,3'-Diaminobenzidine-DAB as chromogen. Serum samples from 57 cetaceans and 13 manatees were tested by the Bengal Rose (BR) test. Preliminary results indicate five individuals considered suspect through IHC and two cetaceans seropositive through BR. Next steps of this project include to perform molecular and microbiological techniques in the suspect cases as well as to perform the serological confirmatory tests. In addition, a larger sample size will be studied. These preliminary results are promissory once brings evidences of the exposure to and/or infection by *Brucella* spp. in cetaceans from Brazil, as well as arises new concerns about conservation of marine mammals in South America.

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