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SURVEILLANCE AND MONITORING OF BRUCELLOSIS IN PELAGIC CETACEANS IN BRAZIL (2018-2021)

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Brucellosis is a zoonotic infection caused mainly by *Brucella ceti* in cetaceans and associated with reproductive, neurological, respiratory, cardiac, and osteoarticular impairment. We investigated the occurrence of *Brucella* infection in 21 cetaceans with oceanic distribution found stranded in the states of Ceará, São Paulo, and Santa Catarina, Brazil, during 2018-2021, including the species: goose-beaked whale (*Ziphius cavirostris*, n=1), sperm whale (*Physeter macrocephalus*, n=1), short-finned pilot whale (*Globicephala macrorhynchus*, n=3), pygmy sperm whale (*Kogia breviceps*, n=4), dwarf sperm whale (*Kogia sima*, n=5), and Fraser´s dolphin *(Lagenodelphis hosei*, n=7). Tissue samples were screened for *Brucella* spp. by a PCR targeting the *IS711* gene with positive samples tested through a nested PCR targeting the *bcsp31* gene. Two individuals showed amplicons with the expected size for *Brucella* spp. Case 1: an adult, non-pregnant *L. hosei* female from a mass stranding event in São Sebastião, São Paulo State on 08/24/2021 showed amplicons in both PCR in uterus, vagina, ovary, in abscess found on serosa next to uterine cervix and in regional lymph node. Gross findings included oropharynx ulcers, multicentric lymphadenomegaly, pulmonary hemorrhage, multiorgan congestion and dark urine. Case 2: an adult *K. breviceps* found stranded in Camocim, Ceará State in 01/29/2020 in moderate decomposition had DNA amplification through IS711-PCR in kidney, liver, lung and heart, this last also showing amplification in bcsp31-PCR. Macroscopic findings included an abscess in the thoracic musculature and left lung. According to the preliminary results, the infection in *L. hosei* seems to be restricted to the reproductive tract. Phylogenetic analyses and microbiological culturing of the positive samples are under way to identify the *Brucella* species involved. Histopathological and immunohistochemical analyses are in progress in *L. hosei* to determine associated lesions and *Brucella* distribution.

Keywords: brucellosis**.** marine mammal. pcr. emerging diseases. zoonosis.

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