

TITLE: BACTERIA ASSOCIATED WITH TAIL DERMATITIS IN CAPTIVE-BRED SEAHORSES (*HIPPOCAMPUS REIDI*)

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ABSTRACT:

Diseases comprise one of the major bottlenecks in seahorse aquaculture, which can lead to high mortality rates, particularly considering bacterial infections. Despite the frequency of tail dermatitis reports in captive-bred seahorses, the pathogenic bacteria associated with those lesions has not been widely studied. Therefore, the aim of this work was to isolate and identify the bacteria associated with ulcerative tail lesions in captive-bred *Hippocampus reidi* seahorses, one of the most important seahorse species in the aquarium trade. Samples were collected from seahorses presenting two types of ulcerative tail lesions. Bacteria were isolated on petri dishes containing Marine Broth supplemented with agar (1.5%) and cycloheximide (0.2 g.L⁻¹) at 30°C, and identified using 16S rRNA gene sequence analysis. Type I lesion evolved from a white discoloration of the tail tip to ulceration and loss of the affected portion of the tail. Bacterial abundance in type I lesion was 59x10⁻² CFU/cm² and three bacteria species were identified: *Bacillus flexus*, *Micrococcus luteus* and *Kocuria palustris*. Type II tail lesion consisted of a circular ulcerative injury infected by two different and less abundant (14x10⁻² CFU/cm²) bacteria, *Roseovarius crassostreae* and *Bacillus cereus*. Seahorses affected by type 1 lesions showed difficulty to swim, contraction of the tail and spasms; individuals with both lesion types showed loss of appetite and died within 24 hours, indicating the high bacteria virulence. Despite *Bacillus cereus* and *Micrococcus luteus* have already been registered as bacteria associated with ulcerative lesions in fish aquacultures, this is the first record of those species infecting seahorses, and the first case of *Kocuria palustris* and of *Roseovarius crassostreae* as a pathogen in a fish species.

Keywords: Longsnout seahorse, aquaculture, skin lesions, 16S gene.