TITLE: OCCURRENCE AND SEROTYPES AND GENETIC DIVERSITY OF *SALMONELLA* SP. IN TROPICAL FARMED FISH.

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ABSTRACT:
The bacteria of the genus *Salmonella* are one of the most important foodborne pathogens worldwide. Recently, the occurrence of those microorganisms have been detected in farmed native fish species and associated with carcass contamination after slaughter. There is no data about the principal serotypes and genetic diversity of *Salmonella* sp. in tropical farmed fish. The aim of this study was to evaluate the occurrence of *S. enterica* in farmed native fish, as well as, to determine the main serotypes and the genetic diversity by MLST technique. 569 samples of carcasses, ration, water of ponds, swabs of gills and feces of tambaqui (*Colossoma macropomum)*, matrinxã (*Brycon sp)*, piau (*Leporinus friderici)*, pintado Amazonico (*Leiarius marmoratus x Pseudoplatystoma fasciatum)*, curimba (*Prochilodus lineatus)* and caranha (*Piaractus mesopotamicus)* were collected in farms located at Tocantins, Mato Grosso and São Paulo. Those samples were inoculated in Rappaport-Vassiliadis broth and incubated at 37 °C for 24 hours. Subsequently, 10 ul of broth were streaked onto Enteric Hektoen Agar and incubated at 37 °C for 24 hours to Salmonella isolation. The *Salmonella* isolates were identified by genus-specific PCR. Serotyping was performed by the conventional method and by MLST. 39 *S. enterica* isolates were obtained from water (n= 2) and fish (n=37) being one of subspecies *arizonae* and 38 of *enterica*. The isolates were classified as serotypes Brandenburg (n = 4), Hadar (n = 20), Heidelberg (n = 7), Panama (n = 3), Saintpaul (n = 3), and one isolate was nonserotypeable. In MLST, the isolates were belonged in 26 Sequence types (ST) , being 21 described by the first time in the present study, and five STs previously characterized from other sources (ST 24, ST 50, ST 112, ST 33 and ST 614). The fish strain of *Salmonella* showed a high serotype and genetic diversity, which may suggest multiple sources of infection and absence host- specific strains.

Keywords: bacteria, foodborne, molecular diagnosis, MLST, serotyping.

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