



## MICROBIOLOGICAL ASPECTS OF THE HYGIENIC-SANITARY QUALITY OF ACARÁ-AÇU (*ASTRONOTUS OCELLATUS*) SOLD IN THE LOWER AMAZON, PARÁ INDICATE POOR QUALITY AND THE PRESENCE OF *SALMONELLA* SPP.

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### RESUMO

The North region stands out as Brazil's largest fish per capita consumer. Commercialization is usually carried out in open-air markets, where manipulation and conservation practices are often carried out without adopting sanitary measures, becoming a problem for human health. This pioneering work in Monte Alegre-Pará (PA) aimed to evaluate the hygienic-sanitary quality of the acará-açu (*Astronotus ocellatus*), widely consumed in the municipality. The study was conducted at two city fairs, where 5 fish were sampled. Microbiological analyses were carried out following SDA Normative Instruction nº 62 of 08/26/2003. To assess the presence of *Salmonella* spp. in fish, selective enrichment was carried out in cystine selenite broth (35°C; 24h) and Rappaport Vassiliadis broth at (45°C; 24h), isolation was carried out on bright green red phenol lactose sucrose agar and Salmonella- Shigella. Bergey's key identified typical colonies. Coagulase-positive *Staphylococcus aureus* was quantified on Baird-Parker agar with egg yolk and potassium tellurite (35°C; 48h). Typical colonies with a transparent halo were counted and subjected to catalase and coagulase tests and identified using the Bergey key. Total and thermotolerant coliforms were measured using the most probable number method, lactose lauryl sulfate, 2% bile brilliant green, and EC broths. According to RDC nº 724 of 07/01/2022, *Salmonella* spp. must be absent in 25g of analyzed fish. For thermotolerant, values between 50 - 500 CFU/g indicate intermediate quality and values greater than 500 CFU/g indicate compromised quality. For coagulase-positive *S. aureus*, values between 10<sup>2</sup> - 10<sup>3</sup> CFU/g indicate intermediate quality, and values above 10<sup>3</sup> indicate poor quality. *Salmonella* spp. was found in 60% of the sugarcane analyzed. For thermotolerant coliforms, three fish presented intermediate quality (fish 2 = 240 CFU/g; fish 4 = 460 CFU/g; fish 5 = 460 CFU/g), and two other fish presented poor quality (fish 1 and 3 > 1100 CFU/g). High values of total coliforms were also found (> 1100 CFU/g). For coagulase-positive *S. aureus*, four fish analyzed had intermediate quality (fish 1 = 10<sup>2</sup> CFU/g; fish 2 = zero CFU/g; fish 3 = 3 x 10<sup>2</sup> CFU/g; fish 4 = 10<sup>2</sup> CFU/g; fish 5 = 6 x 10<sup>2</sup> CFU/g). The occurrence of these bacteria in food is a severe danger to public health due to their potential to cause disease. It is urgent to conduct periodic inspections to ensure the microbiological integrity and safety of fish consumed in Monte Alegre-PA. Funding source: FAPESPA/ CNPQ 2022/14379272 and PA04 AmazonBiotec | Inova Amazônia - Tração.

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**PALAVRAS-CHAVE:** acará-açu, *Astronotus ocellatus*, hygienic-sanitary quality, *Salmonella* spp, Lower Amazon

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