



## METAL CONTAMINATION IN *Callinectes major* (Say, 1818) (DECAPODA: CALLIANASSIDAE) ON TWO BEACHES OF SÃO PAULO STATE, BRAZIL

SILVA, J.J.<sup>1,\*</sup>; DUARTE, L.F.A.<sup>2</sup>; TREVIZANI, T.H.<sup>3</sup>; SOUZA, F.V.B.<sup>1</sup> & PINHEIRO, M.A.A.<sup>4</sup>

<sup>1</sup> PPG-BAC (UNESP, IB/CLP); <sup>2</sup> UNISANTOS, Santos (SP), Brazil; <sup>3</sup> Instituto Oceanográfico da USP (IO/USP), São Paulo (SP), Brazil; <sup>4</sup> Universidade Estadual Paulista (UNESP), Instituto de Biociências, Campus do Litoral Paulista, São Vicente (SP), Brazil.

\* Corresponding author: [julianojosedsilva@gmail.com](mailto:julianojosedsilva@gmail.com)

Pollution is a major issue in coastal environments, affecting expressively marine life. This study aims to compare metal contamination on two beaches in São Paulo state, Brazil (STS, Santos; and JUR, Juréia Ecological Station), as well as their bioaccumulation in the ghost shrimp *Callinectes major*. Metal contamination was measured in water (sea surface), sediment (15-30cm) and in crustacean tissues (M, musculature; H, hepatopancreas; and G, gonads). Triplicated samples from all these compartments were collected in July 2017 and the metal concentrations (Cu, Cd, Mn, Cr, Pb, Hg and As) were analyzed by an atomic absorption spectrophotometer (in mg/g). Water samples did not indicate metal contamination on both beaches (CONAMA reference values). Most of the STS sediment samples (71.4%) presented five metallic signs (Mn, Cr, Cd, Cu and Hg) and were classified as regular quality, contrasting with three metallic signs in the JUR samples (Mn, Cr and Cu), considered to be of good quality (TEL / PEL reference values). Metallic signs in *C. major* tissues were similar to the sediment (STS: n=5; 71.4%; and JUR: n=4; 57.1%) and 20% lower in JUR than STS. *C. major* tissues have three metals (Cd, Cr and Cu) above the Maximum Tolerated Limit (MTL) established by FAO/WHO (USA) and ANVISA (Brazil) on both beaches. A higher percentage of tissue samples >MTL (92.6%) occurred in STS, and was 1.6 times greater than JUR (59.3%), with cadmium 87.6% greater in STS than JUR. The hierarchy of metal accumulation in tissues was based on the mean percentage of Cd, Cr and Cu, as follows: G (83.6%) > H (59.2%) > M (47.9%). The STS beach had higher levels of metals in sediments, and the consumption of *C. major* by humans can cause health problems. The high contamination on STS was associated with Santos Port and annexed Industrial Complex, while the pristine condition of JUR was guaranteed by the Juréia Ecological Station (JES). The importance of the conservation units is clear to maintain environmental quality and biodiversity conservation.

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