

DETECTION AND GENOTYPE CHARACTERIZATION OF SALMONELLA TYPHIMURIUM ISOLATED FROM PIGEONS (*COLUMBA LIVIA*) LIVING IN THE ZOO, SAO PAULO, BRAZIL

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Abstract

The pigeons (*Columba livia*) originating from Mediterranean countries, North Africa, Western Asia, the coasts and cliffs in Europe are present worldwide. The growth of pigeon population in large urban areas may increase the risk of pathogen transmission, which can be a problem to public health. Pigeons can act as reservoir of zoonotic diseases, so it is necessary an epidemiological monitoring of these birds to implement control strategies. *Salmonella* spp. belongs to the Enterobacteriaceae family, and is the pathogen more often isolated from birds and associated with intestinal disorders in people, causing important economic losses. Another important aspect is regarding the interaction of these exotic birds with other animals may lead the agent to other flocks. This study aimed to investigate the presence of *Salmonella* spp. in pigeons from Sorocaba Zoo, São Paulo, Brazil, and characterize genotypically. 29 cloacal swabs were evaluated. The samples were subjected to microbiological techniques for isolation of Gram-negative bacteria, after a pre-enrichment step in peptone water, followed by selective enrichment in sodium tetrathionate broth, and plating on selective medium XLT4, incubated at 37 °C for 24-48h. Subsequently, the DNA extraction was performed according Boom. Detection of serotype was performed by Polymerase Chain Reaction (PCR) for Enteritidis and Typhimurium, and genotypic analysis was made by AFLP technique. Five animals (5/29) were positive for *Salmonella* spp (17.29%) and 15 strains were isolated. All strains were positive for the serovar Typhimurium. Through the AFLP it was observed that 14/15 strains are clonal and one strain (1/15) presented a distinct pattern. These results reinforces the zoonotic risk of these synanthropic birds in Zoo, since they can be in direct contact with people or other animal species and contributing to spread the agent in the environment.

Keywords: Pigeons (*Columba livia*), *Salmonella* Typhimurium, synanthropic animals, public health