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Editorial

WATER POLLUTION IN ATLANTIC RAINFOREST (SOUTH AMERICA)

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INTRODUCTION

Water contamination proves to be one of the most concerning human effects on the environment. Industry, urbanization and agriculture often introduce various pollutants including heavy metals, bacteria, agrochemicals, and drugs (WHO, 2011; Hou, 2013; Udeigwe et al., 2015). These pollutants could have direct effects on human health, causing a wide variety of afflictions ranging from diarrhea to cancer. In South America, Industry and urbanization has advanced dramatically in the last few decades, having drastic effects over native forests such as the Atlantic Forest. The Atlantic Forest was one of the largest rainforests of the Americas, originally covering around 150 million ha, with great diverse environmental conditions. Its latitude ranges from approximately 5° to 29°, including both tropical and subtropical regions. The variation in forest composition found in this wide longitudinal range, caused by a decreasing rainfall regime further from the coast (Ribeiro et al., 2009), is highly important to this diverse environment. Currently, most of the remaining Atlantic Forest remains in small fragments (<100 ha) that are isolated from each other (Ranta et al., 1998; Ribeiro et al., 2009). New industrial and urban centers and agriculture and livestock have led to deforestation. Contamination of surface water with fecal-derived pathogens poses a significant threat to human health and represents an important barrier for the utilization of untreated river water for drinking or other domestic purposes. Recently, some pollutants related to antrophic activities like heavy metals and trace elements as Ag, Al, As, Be, Cd, Co, Cr, Cu, Fe, Mn, Ni, Pb, U and Zn (Farias et al., 2007; Freire et al., 2012; Kuhlmann et al., 2014; Avigliano et al., 2015), nutrients, (Kuhlmann et al., 2014), fecal coliform (Casatti et al., 2006; Kuhlmann et al., 2014; Avigliano et al., 2015), and agrochemical such as glyphosate (Armas et al., 2007; Freire et al., 2012; Avigliano et al., 2015), have been found in basins of the Atlantic Forest.

The determination of contaminants in water has many challenges on which to move forward. I can mention the lack of studies about the presence of trace elements in the native species of the region of commercial importance; variability of methodologies applied in the determination of heavy metals which difficult to compare results and follow the medium and long - term problems and limited works on biotransference of elements from the water and the preys to the fishes, among others. These limitations generate weaknesses at the level of basic scientific and technological knowledge on the resources of the region since they generate socioeconomic problems as these water and fish's species are consumed in both internal and external markets. The increased work in this line of research will allow generate guidelines that promote this line and allow developing local capacities to train human resources, institutional strengthening of research and development centers, interdisciplinary work between academic - managers. In this way the human security of water and local products was ensured.

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