FIRST GENETIC STUDY OF *Pediculus humanus capitis* De Geer, 1767 (ANOPLURA: PEDICULIDAE) FROM RIO DE JANEIRO, BRAZIL

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Pediculus humanus Linnaeus, 1758 (Anoplura: Pediculidae) is an obligate hematophagous and monoxenic human ectoparasite that was phylogenetically inherited from our human ancestors. Lice cause pediculosis with global distribution and high prevalence. In addition, they carry valuable information about their long coevolutionary history with *Homo* species. *Pediculus humanus* is divided into two ecotypes, commonly known as the head louse and body louse, *P. h. capitis* De Geer, 1767 and *P. h. humanus* Linnaeus, 1758, respectively. These ecotypes are genetically classified into six phylogenetic clades, designated A to F, with distinct geographic distributions. There is limited information about the lineages circulating in Brazil. This study investigated for the first time the genetic diversity of *P. h. humanus* from individuals in Rio de Janeiro municipality, RJ state, Brazil. During 2024, pools of adult lice and eggs from 76 individuals were donated by *Piolho Control*, a head lice removal center, which were collected in sterile Falcon tubes. DNA was extracted from one adult louse by individual and genetically analyzed by PCR and Sanger sequencing using the *cyt*b gene (360 bp). Preliminary results revealed PCR positivity in 15/76 individuals, with nucleotide sequences predominantly corresponding to haplotype A5, along with three putative novel haplotypes. Clade A is the *P. humanus* cosmopolitan *cyt*b lineage, and haplotype A5 is the most frequently detected haplotype in the current worldwide molecular epidemiology. In the country, haplotype A5 was only identified in Northern Brazil, and in America, it was found in French Guiana, Chile, Peru, Colombia, Ecuador, Panama, Honduras, Mexico, and the USA. Our findings of three putative novel haplotypes, in addition to the known A5 haplotype, in Rio de Janeiro, contribute novel data into the genetic diversity and distribution of *P. humanus* in Brazil, a continental dimensions country, and globally.

Support: Capes; Faperj; CNPq; Piolho Control; LPIP-IOC/FIOCRUZ.

Keywords: Phylogenetics, Pediculosis, Molecular Epidemiology