PREVIR: a multidisciplinary project contributing to epidemiological surveillance and the understanding of the biology of wild birds in Brazil within the context of One Health.

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Introduction:
Infectious emerging diseases pose a threat to the human population, with over half of the involved pathogens having a zoonotic origin. The H1N1 and SARS-CoV-2 influenza pandemics were caused by zoonotic-origin viruses, underscoring the importance of the One Health concept, which emphasizes the interconnection between human health, the health of other animals, and the shared environment. As urbanization continues to rise, zoonoses represent a significant risk to public health and the economy. In this context, the Project "Virus Surveillance Network" (PREVIR-MCTI) aims to establish an active surveillance network to detect and analyze viruses with potential for emergence in various regions of Brazil, primarily focusing on bats and birds. Birds are sentinels for emerging zoonoses due to their global distribution and high dispersal capacity.

Objectives:
In the face of the global spread of avian influenza and its threats, the data generated by PREVIR provide fundamental insights into viruses associated with resident and migratory birds. These insights contribute to public health policies and provide essential information about the biology, distribution, and migratory patterns, which are unknown for many species of wild birds in South America.

Methods:
The monitoring program conducted by PREVIR in the Amazon and the Atlantic Forest has been ongoing continuously since 2019, covering six states and 15 locations. Birds are captured using mist nets and ground traps, and biological samples are collected through oral and cloacal swabs, which are then stored in liquid nitrogen. Birds are individually marked with metal bands and released, with some specimens collected to obtain additional samples. Feather and ectoparasite samples are also collected, along with biometric and biological data. Fieldwork adheres to all biosafety and animal welfare protocols and standards. Biological samples are sent to specialized laboratories, and the determination of virus presence is based on molecular techniques for genetic material extraction, amplification, and sequencing.

Results and Conclusion:
Over the course of 152 days of fieldwork, biological samples were obtained from 1918 birds, representing 354 species across 22 orders and 55 families. This diverse sample includes aquatic, migratory, and forest birds. To date, none of the analyzed samples have indicated the presence of zoonotic potential viruses. Nevertheless, the project has been actively contributing to the production of data concerning the biology of these birds, including aspects such as reproduction, migration, plumage, and ectoparasites. Additionally, the project has played a crucial role in building capacity though the training of young field researchers.
It is essential to maintain and continue investing in multidisciplinary and multi-institutional projects like PREVIR, which are dedicated to establishing networks for epidemiological surveillance and advancing our knowledge of biodiversity in Brazil.