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Bienvenu Balifeli is a PhD student in Parasitology and Ecology, specializing in neglected tropical diseases in the Faculty of Science at the University of Yaoundé I, Cameroon. He is also an intern at the Coordination Organization for the Control of Endemic Diseases in Central Africa where he works with a team of researchers on vector-borne diseases such as malaria, arboviruses and schistosomiasis. Passionate about health research, he holds a Master's degree in Parasitology and is co-author of two scientific publications published in 2022, entitled "Human and Environmental Reservoirs of Intestinal Parasites in the City of Yaounde, Cameroon: An Update in the Context of COVID-19 Pandemic" and "Intestinal parasite infections frequency and associated risk factors in inhabitants of the city of Yaoundé, Cameroon." He belongs to that category of ambitious and dynamic young Africans for whom work is the only guarantee of social ascension.

Project

Evaluating the transmission patterns of schistosomiasis and geohelminthiasis in the Ndikinimeki district of Central-Cameroon

Neglected tropical diseases remain a public health problem in most developing countries where hygiene and sanitation are inadequate. Among these diseases, schistosomiasis and soil-transmitted helminthiasis are the two most prevalent groups that affect poor populations living in hot and humid tropical regions. In Cameroon, the regular lack of drinking water, resulting in the permanent contact of the population with contaminated waterways, who are content to use this water of dubious potability for their needs, as well as insufficient sanitation, could be a consequence of a rise in the prevalence of these diseases. This is the case in the locality of Ndikiniméki where, in spite of the measures implemented, there is a high transmission of schistosomiasis and geohelminthiasis. Given this context, an update of the environmental and human epidemiological data of these diseases as well as an evaluation of the degree of compatibility between schistosomes and the different potential intermediate hosts in the locality of Ndikinimeki allowing to appreciate the epidemiological profile for a better intervention of these diseases will be necessary in the framework of this study.

This descriptive, experimental and longitudinal study will be conducted in the locality of Ndikiniméki, Centre-Cameroon Region on the potential freshwater intermediate hosts of intestinal parasites as well as on the populations living in this area without distinction of age and sex. Sample collection (mollusks, feces, urine and soil) and socio-demographic surveys will be conducted in this area once every four months for a period of one year. The probabilistic technique of convenience will be used. Malacological analyses will include morphological and molecular identification of collected mollusks, cercarial emission tests, study of mollusk-schistosome compatibility and the search for schistosomes in their potential intermediate hosts. As for the parasitological analyses, they will be carried out on the stools, the urine of the populations of our study site as well as on the soils taken in the environment followed by the

quantification of the parasites thanks to the techniques of Mc Master and Ritchie. The analysis of the data and the construction of the graphs will be done with Microsoft Excel version 2013. As for the statistical tests, they will be carried out with the Past version 3 software.

At the end of our study, we expect that: the level of knowledge, attitudes and practices of the populations towards intestinal parasitosis in the Central and West Cameroon Regions are low; the prevalence of intestinal parasitosis is high in both regions contrary to previous work; potential intermediate hosts (after identification) emit cercariae this correlates with the parameters and the risk of transmission is high.