Most of all living organisms are parasites. This may sound like an exaggeration; however, any single species is infected by numerous parasite species, hence, parasites are key elements of all ecosystems. Coinfections, where several parasites infect the same host, often occur in natural systems. Nevertheless, parasite interactions within a host are not well known in spite of their importance for the outcome of the disease. Until recently, the majority of studies on parasites were focused on “one parasite-one host” systems and current knowledge of coinfections largely results from humans or mice and experimental studies. There is a strong need to move towards an ecosystem view of host–parasite interactions (i.e. multihost-multiparasite), embracing the real complexity of natural systems. A well-suited model to carry out research on coinfections is the amphibian-parasite system. Amphibians are one of the most threatened groups with a threefold increased loss of species in the last 40 years. One of the main causes of their dramatic decline is emerging diseases (epidemic outbreaks caused by previously unknown pathogens). These deadly emerging diseases have been the focus of many studies in the last decades. However, other non-emerging parasites and, especially, coinfections with emerging and non-emerging parasites have received very little attention. In this project, we propose to assess for the first time the role of blood parasites (non-emerging parasites) in amphibian emerging disease dynamics and, hence, in amphibian biodiversity loss. We will combine fieldwork, molecular methods, histological techniques, and experimental procedures to understand coinfection processes in this complex natural system. In particular, we will evaluate: i) the effect of blood parasites on host health; ii) the interactions between blood parasites and emerging pathogens; iii) the ability of amphibians from populations affected by emerging diseases to respond to other parasite infections. To fulfil these objectives, we will sample 40 amphibian communities in two countries (Poland and Spain) including localities infected and non-infected by emerging diseases. We will measure weight and length of amphibians as well as take tissue and blood samples. These samples will allow us to evaluate the immune response of these individuals and to detect and quantify the burden of emerging and non-emerging parasites using histological and molecular techniques. Moreover, we will carry out an experiment in which different groups of tadpoles will be sequentially coinfected with pairs of parasites in different order to assess the importance of the order of coinfection in disease outcome. Our results will determine the host diversity for each blood parasite and whether the blood parasites negatively affect host health. In addition, we will clarify whether blood parasites differ between amphibian populations infected and non-infected by emerging diseases and whether the order of coinfection is important for the outcome of the disease. Finally, we will reveal if amphibians from populations affected by emerging diseases are more vulnerable to assault from other pathogens. This project will help to assess the importance of coinfection in disease dynamics. In particular, it will provide a better understanding of whether native blood parasites can increase the vulnerability of amphibian populations to emerging diseases and inform researchers and policy makers for better management of threatened amphibian populations.