

## Rodent communities in a changing environment: implications for human health in the Alps – an introduction to the project

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Complex human-related environmental changes at the global level are of a particularly high priority in ecological research. Global climate and land-use changes may alter the richness of biodiversity and related changes in distribution of parasites and pathogens may also result in the (re)emergence and spread of zoonoses to humans. As rodents are reservoirs and vectors of several important diseases in Europe and are sensitive to environmental change, the presented project “Rodent communities in a changing environment: implications for human health in the Alps” (ROCOALPS) aims to help our understanding of parasite/pathogen dynamics in complex relations with host communities and environment by using this particular model system: rodents - ectoparasites - helminths - a virus transmissible to humans. In this contribution we provide an introduction to this ongoing project, whose general objective is to develop disease models using empirical data on rodent communities, environmental variables and parasite/pathogen distribution. Such models are adopted to statistically examine parasite and disease transmission between individuals and species in rodent communities. All these data will be obtained from fieldwork conducted in the most common habitat type (forest) of the Autonomous Province of Trento, Italy, during two seasons (2011 and 2012). More specifically, such empirical data will include rodent community composition and diversity analyzed in relation to chosen environmental variables, which reflect human-mediated changes in climate or land-use; social interactions between individuals and species in the communities; and distributions of ectoparasites (ticks, fleas, mites), intestinal parasites (helminths) and a rodent-borne virus (lymphocytic choriomeningitis virus, LCMV).