ECO-MALP

Ecological interactions in a community of meso-large mammals

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Interspecific interactions shape biological communities and can influence population-to-ecosystem level processes. Land-use and climatic changes, anthropogenic pressure and dynamic changes of community composition (e.g., through the recovery of apex predators) can affect species ecology and behaviour, with effects on interspecific interactions and coexistence. In turn, monitoring species occurrence, behaviour, and interactions is fundamental to identifying the responses of populations and communities to environmental changes. Implications for the conservation of communities can arise, and consequences for the management of protected areas are expected, especially when species with conservation/management interest are involved. This project will consider a community of meso- and large mammals in the Gran Paradiso National Park (northern Italy) and will investigate the interspecific spatiotemporal interactions between them by using camera trapping as major data collection technique, as well as statistical modelling. A special emphasis will be given to the identification and testing of semi-automated methods for an efficient management and analysis of camera trapping data, to develop protocols for a cost-effective long-term monitoring (e.g., through AI-based approaches). As a case-study, the Alpine chamois *Rupicapra rupicapra* and its interactions with predators, other herbivores, and humans will be considered, also investigating the potential influence of temperature variations on key aspects of its behaviour and ecology (e.g., activity, space use, diet). The ultimate goal of this project will be to get further insights on adaptive mechanisms of coexistence and interactions between medium-sized and large mammals in a complete Alpine ecosystem, including also the potential responses to environmental changes.