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**Mountain climate change and species interactions**

Around 25% of the global land surface is covered by mountains. Mountain-based resources directly and indirectly maintain over a half of global population. The sustainability of human society also heavily depends on mountain biodiversity because plants and animals in mountain regions may provide current and future generations with new resources to produce food, aesthetic enjoyment, energy, pharmaceuticals, and other desired commodities and services. However, despite its importance, determine the rate of warming in mountainous regions is extremely difficult because there are very limited direct long-term climate data. Similarly, the velocity of mountain climate change is unexpectedly a poor predictor to the shift of distribution of mountain species. There is still no satisfactory explanation for such discrepancy. The lack of predictability of current theories suggests that we still have limited understanding on species range limits and range size, which is fundamental to understand the climatic impact of living organisms. On the other hand, knowledge of the physical environment in the mountain regions and how they will be influenced by climate change are apparently crucial for predicting how climate change will influence mountain species.

**Goals:**

Therefore, to fill these knowledge gaps, the proposed goals of the study are

1. Provide first global assessment of climate change velocity in mountain regions;
2. Investigate how climatic mean and variability and biotic interaction influence the elevational range limits and range size of burying beetles (*Nicrophorus nepalensis*);
3. Study what and how climatic factors determine the species interaction of burying beetles.

**Requirement:**

None.