

## **Surveys to enhance effectiveness of ants as indicators of change**

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Global change is recognised as having a considerable negative impact on biodiversity. Factors such as habitat transformation, fragmentation, disruption of chemical cycles, biological invasions and global climate change have already fundamentally altered biodiversity and ecosystem services across the globe. Quantifying the impacts of these activities on biodiversity is essential for informing appropriate management to reduce potential negative impacts and where possible rehabilitate degraded systems. An important component of South Africa's response to anticipated climate change is biodiversity monitoring. Ants have been successfully employed as biodiversity indicators worldwide and particularly in Australia and South Africa. They have considerable potential as indicators due to their high taxonomic and functional diversity, sensitivity to environmental changes and relative ease of sampling. Ants have considerable potential as indicators for three areas of biodiversity management in South Africa: 1) for detecting biodiversity changes in response to climate change and, 2) for strategic environmental assessment and in environmental impact assessment, and 3) in rehabilitation monitoring. Although much research has been done on ant diversity, certain areas have potentially high diversity but have been poorly sampled. A better understanding of ant diversity across South Africa is required to ensure wider use of ants as biodiversity indicators. Three areas have been identified that warrant further sampling. These include the Maputaland region of the Maputaland-Pondoland-Albany biodiversity hotspot, Sekhukhuneland and the grasslands of southern KwaZulu-Natal. The project aims to sample two elevational transects in Sekhukhuneland, an elevational transect in KwaZulu-Natal that samples the lower elevations of the established Sani Pass transect. A third region in the poorly sampled Maputaland region will be sampled.