

Revision of two ecologically and economically important ant groups in South Africa

Taxonomy has played an important role in diversity assessment. It provides an understanding of biodiversity components that are essential for making decisions on conservation and sustainable use and is also a foundation for phylogenetic studies. This field of study has played an important role in identifying and describing biodiversity, but the issue of cryptic species has posed many taxonomic challenges. In most taxonomic groups, species with subtle differences and high intraspecific variation are often misidentified when morphological data is not supported by other methods, for example, genetic data. The misidentification of ecologically important species may have a negative impact in conservation decision-making. In addition, overlooking the presence of a new invasive species could cause ecosystem collapse if not detected and controlled in time. This project is aiming to 1) resolve taxonomic challenges in two ant groups: *Anoplolepis* and the *Camponotus fulvopilosus* species-group including the production of updated identification keys for the species; and the description of six new species; 2) resolve the taxonomic challenges in these two ant genera using molecular data, with 285 specimens submitted for barcoding; 3) to understand and update the geographical distribution of species within *Anoplolepis* and the *Camponotus fulvopilosus* species-group; and 4) to investigate the distribution and abundance of an invasive ant species, *A. gracilipes*, and its potential impact on indigenous ant populations. A total of at least 1,500 new records will be added to the collection. In summary, this project will develop scarce skills such as the taxonomic identification and the descriptions of new species, the barcoding of specimens, and the overall revision of these two economically and ecologically important ant groups.