Incorporating Animal And Succulent Plant Species Information into Conservation Planning



Presented by: Martha Moses

Project Information Page :

https://jrsbiodiversity.org/grants/namibian_nature_foundation/

Introduction

- The JRS Biodiversity Project is a national biodiversity initiative (2023-2027) aimed at improving the quality and availability of species data in Warmbad, Namibia.

- It is implemented through collaboration between:
  - Namibia Nature Foundation (NNF)
  - National Botanical Research Institute (NBRI)
  - National Museum of Namibia (NMN)

Why This Project Matters

- Warmbad falls in the Gariep centre of endemism.
- There is a lack of baseline data for conservation effort in this part of the country.
- Small and less-studied taxa (arthropods, small vertebrates) are often excluded in conservation planning .

As a result:

- Areas of high endemism remain unprotected.
- EIAs and planning processes lack robust biodiversity evidence.



Project Objectives



- Objective 1: Establish a baseline and fill biodiversity gaps for plants, arthropods, and small vertebrates, for south-eastern Namibia.
- Objective 2: Undertake taxonomic and conservation research of plants, arthropods, and small vertebrates, in south-eastern Namibia.
- Objective 3: Share data on open access platforms and conservation platforms.
- Objective 4: Designation of an area within the south-eastern Namibia to an appropriate conservation status or standard.
- Objective 5: Capacity building of Namibians in data management, data collection and conservation techniques.

What We Study:

The project focuses on multiple taxonomic groups, including:

- Succulent plants
- Arthropods (spiders, scorpions).
- Insects
- Reptiles and amphibians
- Aquatic invertebrates (shrimps)
- Small mammals



These groups are important because:

- They represent key components of ecosystem functioning.
- Many are under-documented in Namibia.
- They provide indicators of environmental health .
- They contribute to food webs, soil health, and ecological balance.

Role of the National Museum of Namibia



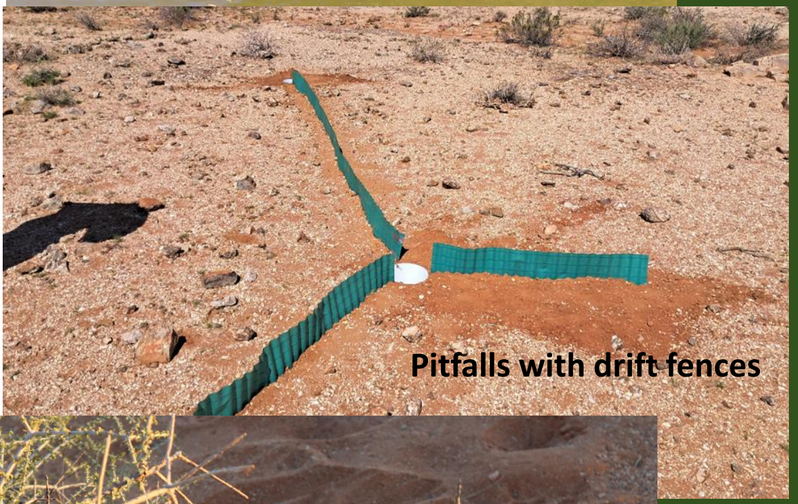
- Conducts zoological biodiversity research within the project
- Responsible for:
  - Field collection of animal specimens
  - Species identification and verification
  - Preservation of specimens in national collections
- Maintains long-term reference collections used for:
  - Taxonomy
  - Research
  - Conservation assessments
- Ensures biodiversity data is scientifically verified and archived for future use.

How Data Is Collected


Dip netting

Biodiversity data is collected through structured field methods, including:

- Pitfall traps for ground-dwelling insects and arachnids.
- Sherman traps for capturing small mammals.
- Active searching and visual encounter surveys for reptiles and amphibians.
- Drift fences to guide movement of small mammals, lizards etc into pitfall traps.
- Dip netting-Aquatic invertebrates sampling in temporary and seasonal water bodies.
- Sweep –netting for flying insects.
- Pan trapping for flying insects-mainly pollinators.


Pitfalls with drift fences


Sherman trap


Pan traps

Key Findings

A wide diversity of organisms was recorded during expeditions . Key groups included:

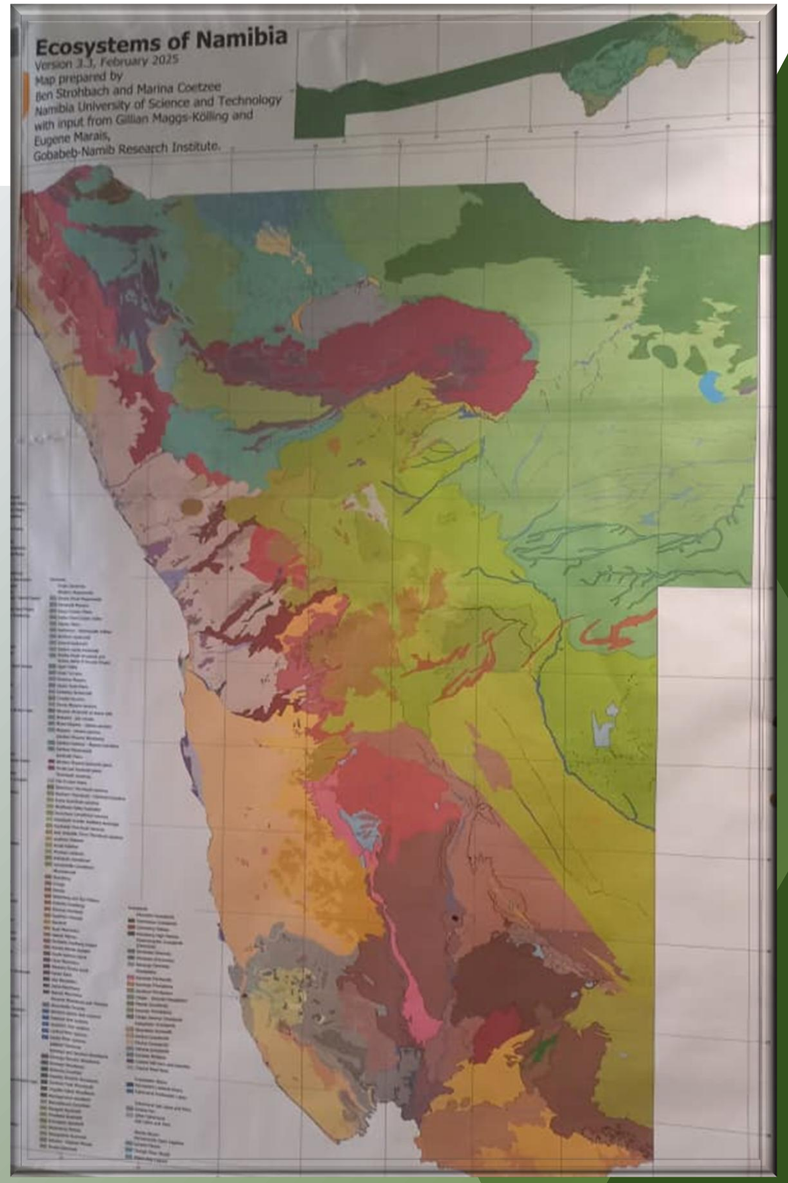
- Small mammals: 6 species of mice (*Gebrilliscus leucogaster, Rhabdomys pumilio, Saccostomus campestris, Rhabdomys bechuanae, Micaelamys namaquensis, Elephantulus rupestris)*
- Insects: 16 orders of insects (Hymenoptera, coleoptera, orthoptera, Diptera, Blattodea, collembola, isoptera etc).
- Aquatic invertebrates : 8 species of aquatic invertebrates (*Branchipodopsis tridens, Triop granaries, Streptocephalus proboscideus, Streptocephalus cafer, Streptocephalus ovamboensis*, *Eulimnadia sp, Leptestheria sp, Cyzicus sp,* 1 possible new species that is yet to be described (Streptocephalus sp)
- Reptiles and Amphibians : 9 gecko species including a new species of barking geckos (*Ptenopus kenkenses*) , 8 species of skinks, 4 frog species
- Arachnids : 7 orders







Data Management and Sharing



- All collected data will recorded, verified, and stored in scientific databases.

- Data is/will shared through platforms such as:
  - o Environmental Information System (EIS)
  - o Global Biodiversity Information Facility (GBIF)
  - o iNaturalist (for citizen science contributions)

- Benefits of data sharing:
  - o Increases accessibility for researchers and policymakers
  - o Improves transparency in conservation planning
  - o Supports global biodiversity research networks
  - o Encourages public participation in biodiversity documentation

What These Results Mean





- Field results contribute to national biodiversity databases.
- Improve species distribution mapping across Namibia.
- Provide baseline data for future ecological studies.
- Support environmental impact assessments.
- Strengthen conservation planning and protected area prioritization.

Ways to Engage

Students, institutions and scientists can engage with the project through:

- Academic seminars and biodiversity discussions
- Guest lectures and knowledge-sharing sessions
- Participation in citizen science platforms (e.g., iNaturalist)
- Skills-based exposure to field methods and data analysis
- Explore conservation-related topics within academic studies and research
- Participate in discussions and awareness initiatives on campus



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Conclusion

- Biodiversity knowledge is the foundation of effective conservation.
- Reliable data leads to better environmental decisions.
- Collaboration between institutions strengthens national research capacity.
- Awareness and participation are key to long-term conservation success.







Thank you!!



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